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STRATEGIC LINES OF THE "CHILD'S INTERNAL POSITION" FROM THE PERSPECTIVE OF ADAPTATION TO THE SCHOOL ENVIRONMENT

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Abstract: *The issue of the child's internal position from the perspective of adaptation to the school environment requires, in the context of the multifaceted changes occurring in preschool and primary education, a thorough examination of scientific approaches to identify potential foundations and directions in this field. Current practices in this area still appear to be in their early stages. In this article, from a broader perspective, we do not aim to answer what actually works, but rather to understand the child's psychological capacities regarding their internal position and certain mechanisms of adaptation to the school environment. The theoretical vision we aim to support is essentially an attempt to present the concept of the child's internal position starting from the totality of characteristics of a system of internal factors that mediate environmental influences and condition the development of new psychological formations at this stage of life. This approach seeks to answer the question of what is important in children's adaptation to the school environment. A perfect correlation between the child's internal position and adaptation to the school environment ensures success and efficiency in the learning process.*

Keywords: *child's internal position; adaptation to the school environment, motivation, age-related crisis, adaptation crisis, adaptation factors, behavioral indicators.*

Introduction

In recent years, we have witnessed a process of change within the education system, focused on improving quality at all stages of personality development. In this context, various scientific approaches have emerged aiming to integrate preschool education into the framework of modern schooling and to prepare children for school-related activities. However, the issue of preparing children for school and facilitating their adaptation to the school environment remains a

pressing concern. This is evidenced by the large number of first-grade students who encounter difficulties adjusting to the school setting. Despite children's apparent abilities to read, write, and count (even though the preschool curriculum does not formally require this), many are not *psychologically* prepared for the demands of school learning activities.

It is a well-known fact that there is currently an overemphasis on accelerated child development, with a focus on specific school-related preparation at the expense of general readiness. Attempts to structure the forms and content of children's learning preparation according to the school lesson format—and the early introduction of school attributes into preschool education—risk blurring the boundaries between preschool age and early school age. It is becoming increasingly evident that these circumstances require more effective methods to develop the prerequisites for learning readiness during preschool years, which calls for an examination of the ***child's internal position***. At the same time, *the internal position* cannot be examined independently of *the child's development as a subject* (as a person).

The Concept of the Child's/Young Schoolchild's Internal Position

To understand the essential characteristics of the preschool-aged and early school-aged child, the *principles* of "the external through the internal" [14] and "the internal through the external" [10] have been developed. These principles reveal the unity between existence and consciousness, psyche and activity, the outer and inner world of the human being. In this sense, the dynamics of subject formation through the reciprocal relationships and mutual influences of the processes of **internalization** and **externalization** are described as follows: "*Internalization*, as the transition of external actions into internal ones, the formation of the internal plane of activities, unfolds through the accumulation of life and work experience. *Externalization*, as the transition of internal actions and operations into external ones, is not merely objectification, but also the transformation into ideas, the realization of plans for constructing new objects—in general, it is a creative act" [7, p. 56].

In this regard, we can speak of the existence of internal sources of a child's activism. In the context of the *refracting* of the external through the *internal*, the logic of the child's development becomes evident: through activity, the child acquires properties that are not strictly predetermined either by external influences or by innate characteristics. These properties are the result of the child's activity as an integrated system of self-regulation. This system represents subjective reality and possesses relative independence. While it initially forms under the influence of objective conditions, over time, it begins to influence

those very conditions and to create its own "micro-environment of development," which marks the **beginning of the child's activism** [12, pp. 50–67]. Therefore, the culmination of human genesis is the transformation of the individual into a creator of new social experience and a cultivator of their own personality.

In various works on the onset of schooling [F. Golu, 3; E. Crețu, 2; Д. Эльконин, 16; Л. Божович, 8; Е. Е. Кравцова, 9, etc.], the concept of **neoformations** is explored—these are the new psychological structures that mark the child's transition into primary education and appear immediately after the age-seven crisis. In this context, L. Bozhovich establishes a direct link between the beginning of school learning and the emergence of a **new pivot for the child's personality**, a system of formations known as the *internal position*. This internal position reflects a new level of self-awareness and reflection in the child, guiding them toward recognizing their *social self* [8, p. 359]. Thus, the *internal position* presupposes a system of *motives* for acting in relation to the surrounding environment, *the child's self-awareness*, and their attitude toward themselves in the context of relationships with the environment. In other words, it is the result of reflection [ibid., p. 360]. Therefore, the *internal position of the young schoolchild*, which emerges *at the end of the preschool period*, represents a system of needs associated with learning as a serious activity with important social significance.

Other authors argue that ***personality development***, viewed as the process of forming the internal position, can be examined through the lens of acquiring the status of a *subject*, according to the following *stages*:

- The need to act independently *("I want to do it myself")*;
- Independent execution of actions *("I can do it myself")*;
- The ability to formulate goals and regulate one's own actions *("I do it myself")*;
- Awareness of the culture and personal meaning of one's own activity *("I understand why I act")*;
- Creation of new realities of activity and methods of action *("I develop myself through activity for others")* [13, pp. 15–18].

It is evident that these stages of acquiring the status of subject can be examined, on the one hand, in the process of engaging in activities with concrete objects, and on the other hand, within the logic of age-related development. This explains the fundamental intention of becoming a subject at early school age, which develops through the transition from the intention "I want to do it myself" to "I can do it myself." As dominant elements in the manifestation of the internal position at early school age, the following aspects are emphasized: the

directed development of voluntary cognitive processes, activity, behavior; the assimilation of learning strategies; the acquisition of the normativity of activity; the expansion of the sphere of interests and forms of activism; and the development of a learning style.

In the same analytical framework, we point out the complexity of the reciprocal relations and mutual determination between the intentions "I want" and "I can." In some cases, a lack of interest is observed in the child towards what they are not yet able to do. In this sense, the following logic emerges: "Since I cannot do it that way, then I do not want to do it." In other cases, the opposite occurs: "I cannot," and thus "I do not want to." As a result, the lack of personal motivation—outside of social pressure ("you must" from parents/caregivers or teachers)—causes failure in learning activity, even among the most capable children. Recent research shows that the intentions "I can" and "I want" can easily be subordinated to social demands—"you must"—from adults, up until third grade. Starting with fourth grade, the internal position, personal interest, and motivation begin to manifest as real aspects in the pupil's immersion and effectiveness in various creative activities [ibid.].

Therefore, what is determinant in the learning activity of the young schoolchild is the *form of learning*, *not the content*. Establishing the correlation between the emotional-motivational, cognitive, and social-communicative aspects of the child's vital activity requires special attention in selecting the forms of learning organization and the style of pedagogical communication. Thus, activities must be organized in such a way that the alternation of reproductive and productive forms of activism interact with each other, the correlation between the known and the unknown is respected, the pupil receives positive and emotional support in case of failure, but also has the opportunity to enjoy the successes achieved.

Often, the concept of *internal position* is used as a neoformation that marks the conception of the child's personality around the age of 6–7. At the same time, we can use this concept as a personality characteristic within a broader age range. This personality feature appears in ontogenesis as a result of external influences, reflecting on the structure of previously established psychological characteristics in the child, being brought together into a new formation that characterizes the child's personality as a whole. *The internal position* defines the *child's behavior and activity*, as well as the entire system of their relationship with reality, with themselves, and with the people around them. Research shows that the internal position, which emerged as a new *personal formation* in late preschool age, does not disappear in the following stage; only its content changes. This interpretation of

the internal position gives us grounds to approach the *young schoolchild's internal position* as a specific variant of the broader concept of internal position, characteristic of children aged 6–7. The *internal position* of the young schoolchild implies an active attitude toward two facets of reality: *learning activity and social relationships*.

In the *first case*, it refers to the directed attitude toward content, toward activity, and to the adoption of a certain position within that activity. Once directed, the child's learning activity gains an independently stimulating character. The child does not wish to grow up just to go to school, but insists on going to school in order to learn to write, read, etc. In the *second case*, it concerns the child's conscious desire to occupy a social position, to structure relationships with members of various social situations. The manifestations of the awareness of socially oriented motives turn the child into a subject of social relationships. In this sense, the child strives to occupy a position within the multitude of social relations, building relationships with other participants in those situations. Therefore, social motivation is complemented by the conscious tendency to act "properly," in a way that meets the adult's expectations. By the end of preschool age, the awareness of motives becomes an independent driving force not only in relationships with close adults (parents), but also with more distant adults (teachers). Thus, the essence of the change in the social development context for the young schoolchild lies in the transformation of relationships with adults and in the expansion of the repertoire of these relationships. Relations with adults become not so much emotional in nature as *normative-social*.

Correlative with the internal position is the phenomenon of crisis, examined as a norm of age-related development during the change in social circumstances of development. As mentioned earlier, crisis situations are triggered as a result of discrepancies between the operational component and the needs of the child's activity. This situation can be described as follows: the "I want" has already emerged, but the "I can" has not yet been formed. However, it is important to note that the emergence of the new "I want" and the acquisition of the new "I can" most often require the renunciation of previous needs, desires, and action strategies.

The formation of neoformations during the crisis process occurs in two stages: the assimilation of the action situation within its "interior," and the emergence of the feeling of one's own activism. Thus, the age-related crisis goes through the following phases:

1. *Anticritical* – incomplete forms of vital activity open up to the child, which leads to the emergence of perceptions of another, ideal form. For the older preschool child, these circumstances

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largely involve the ideal image of the social role of the schoolchild, the desire to assimilate new types of activity (learning), and new spaces (school).

2. ***Critical*** – the child develops as a subject through activity, as follows:

(a) *Mythological* – the attempt to directly materialize the ideal form;

(b) *Conflict* – the external opposition of the child and the reaction   of   the   environment;

(c) *Reflection* – the emergence of an attitude toward one's own actions in various situations (the internalization of the conflict between desires and reality). Upon entering first grade, it often happens that the child's imaginary conceptions about school and the roles of a schoolchild fall apart; their needs, expectations, and desires come into contradiction with the adult's demands and expectations; the teacher's and parents' demands may not coincide.

3. ***Postcritical*** – the creation of new developmental circumstances – marks the final transition from "real-ideal" and "mine-other," as new cultural forms are recognized to translate the ideal form (the new basic form of activity), and novelty is sought in what is "significant to the other." The postcritical stage is defined by the internal acceptance of the new social role and the assimilation of new social norms and the demands of new types of activity.

The fundamental peculiarity of the transition from the preschool period to early school age is the "loss of immediate childhood," due to the child acquiring the ability to *differentiate the inner life* (desires, experiences, etc.). The loss of the status of "immediate childhood" is evidence of the intervention in the child's behavior and actions of the intellectual component, voluntary regulation, and the meaning of experiences.

Drawing on Vygotsky's idea, we can affirm that the notion of "*internal position*" is revealed based on the cultural-historical approach to personality. As an entity for examining personality and environment, the concept of "*experiences*" is used, which connects personality with the environment, but at the same time does not entirely belong to either personality or environment [6, p. 281]. Therefore, at the base of the *internal position* lies the conscious orientation toward one's own experiences, or the "logic of feelings," voluntary behavior, and the new formation – the activity of personal-nonsituational communication (perceptions about the social environment and the child's place in this environment). The child's creation of an imaginary situation during

play and adherence to established rules not only develops voluntary behavior but also encourages the development of reflection, necessary to separate the imaginary play situation from the real one, which is also a premise for the development of the internal position.

Therefore, the *internal position* represents the *totality of characteristics of a system of internal factors that mediate environmental influences and condition the development in the child of new psychological formations during this age period*. At the same time, a change in the child's social position is not sufficient to change the direction and content of their development. Thus, it is necessary that the new position be adopted and consciously reflected upon by the child, to be reflected in the accumulation of new meanings in learning activity and the new system of school connections. From this point of view, the internal position acts *as a central component in preparing the child for school*. As a result, at the threshold of school entry, the *child's psychological profile* changes, such as orientation toward a specific goal and the tendency to achieve it, voluntary regulation of activity, and stability in prioritizing learning activity over play. Hence, the conclusion that the internal position ensures the creation of a *motivational* vector orienting the child toward mastering new forms of activity and collaboration through self-affirmation within the new social status, facilitating children's smoother adaptation to the school environment.

At the same time, success in learning, cognitive motivation, initiative, and many other psychological aspects are very important for learning activity, which depend on the learning style and the teacher's communication with the student. It is well known that *distancing*, lack of *affectivity*, and an *authoritarian learning style* have a negative impact on the student and adversely affect the *child's adaptation process* to school. The advantages of adaptation lie in the fact that it can be used to examine the *changes* occurring at different stages of the child's development, their *transition from one social development environment to another, including the transition from preschool to early school age.*

Discussions about theories and models related to school adaptation
An original concept in the field of adaptation is formulated by some psychologists through the idea of an "*adaptation crisis*," which is approached very diversely. Most often, this concept implies *dysfunction* in adaptation. Symptoms of adaptation dysfunctions can be *emotional, behavioral, physical*, or a combination of these, and may have an individual or group character. Traditionally, psychology distinguishes between *normative and non-normative crises*. The first have an *age-related character*, are relatively expressed, and are not

always *conflicts*. Their dominant tendency is personality development. Normative crisis periods during learning adaptation, on the one hand, are stressful periods for students, and on the other hand, are periods of acquiring new activity procedures as subjects of this activity [11].

Examining the problem of "crisis" leads C. Jung to the idea that the main feature of the transition from one age stage to another lies not so much in external programs but in their internal transformations, the emergence of [4, p. 208]. The author notes that transitions are conditioned by several factors: the individual's unpreparedness, mismatch between subjective expectations and external conditions, underestimation of external difficulties, unjustified optimism, and negativism. Problems can also provoke internal soul difficulties (feelings of unfulfillment, disturbance of soul balance) related to previous stages. Moreover, internal conflicts may exist even when successful adaptation to external conditions occurs. Problems are solved through accommodation of what was accumulated in the past to future possibilities and demands. In this regard, the question arises: how to ensure that during adaptation to the new reality, the new stage, "that important part of the past" and "no less precious part of the future" are not lost. Thus, any movement in the child's personality development brings simultaneously both new possibilities for adaptation and the loss of some previously accumulated possibilities and capacities.

Through the analytical reflections above, we observe that the periods of overcoming difficulties, *and simultaneously, the children's adaptation to the new learning environment, represent a decisive moment in consolidating the level reached and forming the internal position of the young schoolchild*. If the child manages to independently overcome the crisis, with the transition to the next learning level, this will contribute to the development of self-confidence. Otherwise, distortion of the child's personal profile configuration occurs due to the extinction of some positive attitudes and the intensification of negative attitudes toward the self, which negatively impacts learning activity. Therefore, school adaptation can be defined as the process of *transformation* and adjustment of the *child's behavior* according to the rigors of the instructional-educational process, in order to respond appropriately to them. On the other hand, school adaptation implies the modification, regulation, and adjustment of the instructional-educational process according to the psycho-individual potential and capacities of the children. In this context, adaptation is considered the action of modifying, adjusting, and transforming the child to be: *fit for* (school); *capable of* (meeting the demands of the school environment); compatible (in terms of bio-

psycho-social availability); *in accordance with* (the norms and rules of the school) [1, p. 8].

It is important to note that periods of overcoming difficulties, including adaptation challenges in the new educational environment, are defining moments for consolidating the child's level attained in preschool institutions. While the child succeeds in independently overcoming the crisis during the transition to the next level of education (first grade), this will enhance the formation of personal qualities and increase self-confidence. Otherwise, *distortion of the personality profile configuration* may occur, disappearance of *positive attitudes*, intensification of negative attitudes toward self and others, which negatively influences productive learning activity and reduces motivation for it. Thus, the impact of the new educational environment on the student causes various behavioral reactions that lead to success or failure, influencing both learning activity and accumulated experience.

At the same time, it must be emphasized that the learning process also includes difficulties. It would be a pedagogical mistake to eliminate obstacles entirely from the life of the young schoolchild. Moreover, the essence of development lies in overcoming these difficulties. However, the child's cognitive need disappears in conditions of imperative learning, when they are forced or compelled to learn. For learning to have meaning for the child, it is necessary that their desires and the learning goal coincide; namely, that the activities proposed by the teacher are perceived and experienced as their own desire. In this case, the child more easily submits to pedagogical influences, is willing to cooperate with the teacher, accept their help, and becomes actively and interestedly involved in the learning process.

In other words, if the pedagogical system changes, but the new age-related formations to which this system is oriented have not yet matured, then the ideal education system must be based on the changes occurring in the child's development so that the "external" development conditions adjust according to the child's "internal" needs. Furthermore, the *child's school debut* inherently involves significant environmental changes and various social development circumstances. Thus, entering a new educational environment, the child faces adaptation problems. There are significant differences between the preschool and early school age periods regarding the general conditions of organizing children's activities. The new daily routine, reduction in sleep and rest time cause children to become overtired, with a sharp decrease in work capacity and cognitive functions. Meeting the teacher's requirements demands a high level of voluntary behavior and intellectual activity, but the material content

does not always interest the child; as a result, motivation for learning and cognitive engagement decreases.

Observations of children at school entry show that the new educational environment causes stress states, manifested by the tension of all functional systems of the body. Some children show motor hyperactivity, or conversely, inhibition, insomnia, loss of appetite, frequent complaints of fatigue, and headaches. By the end of the first trimester, *some children lose body weight, work capacity indicators worsen, and complaints of fatigue and headaches persist*.

In this regard, it is important to specify that the *negative adaptation practices* of some children to school are determined by *stressful pedagogical influence tactics*, *excessive intensification* of the learning process, educational strategies *inadequate to the age-related* and functional capabilities of the children, and *irrational* organization of the learning process. All these factors negatively influence the process of children's adaptation to school learning. Additionally, the demands on the student increase, including their capacity to utilize available resources to solve tasks. *The normative adaptation crisis* can be considered a challenge for the student. From this perspective, the relationship between the time intervals regarding the passage of the age crisis and the learning crisis is of particular importance for the "birth crises" (according to age periodization, which includes the crisis at 6–7 years).

The beginning of learning at school temporally coincides with the age crisis of children aged 6–8 years, the "*birth crisis*," as defined by some psychologists. On the other hand, the period during which the age crisis manifests is individual and conditioned by the physiological and social developmental characteristics of each child. In this regard, different periods of manifestation of the *age crisis and adaptation crisis* relative to school learning activity are possible [15, p. 20], as reflected in **Table 1**.

Table 1. Manifestation of the school adaptation crisis

Variants	Manifestation over time		
	Age crisis (7 years)	Internal position	School adaptation crisis
I	The age crisis manifests until the child leaves for school	By the beginning of school learning, the child has	The adaptation crisis occurs at the beginning of the school year

		formed the internal position of the pupil	
II	The age crisis manifests at the beginning of the school year	The internal position is formed in the first half of the school year (1st grade)	The adaptation crisis coincides with the age crisis
III	The age crisis is delayed; children perceive the beginning of the school year as a continuation of preschool games	The internal position is not formed during the school year (1st grade)	The adaptation crisis lasts throughout the entire school year

As mentioned, beyond the "crisis at 7 years," at school entry, the child faces multiple, sometimes sudden transformations occurring on two levels: the bio-psycho-social development level and the instructional-educational activity level. From this perspective, the adaptation process involves the interaction of a set of factors that can be grouped into two categories: *internal* (biopsychological) factors and *external* (social) factors. Internal factors refer to the anatomical-physiological characteristics and psychological variables of the child's personality and are considered subjective conditions, whereas external factors are independent of the child, representing objective conditions and demands external to the child. The factors included in these two categories interact, each playing a complementary role. It is not possible to identify a single factor whose action would be decisive in ensuring school adaptation. Each of these factors conditions, to a greater or lesser extent, the child's academic outcomes as well as their capacity to internalize norms, rules, and to relate to others [5, p. 38].

From this viewpoint, we emphasize that one of the key factors determining adaptation efficiency is the child's functional state within the learning activity, which constitutes the background on which this activity takes place. Thus, any activity can be more or less efficient depending on the functional condition of the child's central nervous system. It is well known that a high level of anxiety in young schoolchildren correlates with poor academic performance and their level of intellectual development.

Therefore, based on the considerations mentioned above, we have established that one of the *key mechanisms* driving the child's success in adapting to learning activities is their *motivation* for learning. Observation results show that motivation toward learning begins to form even before school entry (in kindergarten). However, schooling can influence motivation, either intensifying or diminishing the interest in learning.

Referring to motivation, it is important to note that it is determined by a series of factors specific to this activity, conditioned by: the education system; the organization of the learning process; the characteristics of the students; and the teacher's competencies. Learning motivation has a systemic character, defined by *direction, stability, and dynamism*. With age, the interaction between motives and needs develops, the dominance of needs changes, and their hierarchy is reorganized. At the same time, children's motives should not be simply approached as a change in attitude toward learning but also from the perspective of expanding the structure of the motivational sphere.

As a motivation *tactic* in the process of school adaptation, the teacher can leverage several factors such as: removing *grading* and *constraints*; *democratic* communication style; creating *choice* situations; *personal valorization*; *creative and productive* communication style, etc.

It is important to mention that adaptation to the school environment involves restructuring the cognitive, motivational, and emotional-volitional spheres of the young pupil. Therefore, schooling requires a certain level of cognitive development in the child, voluntary behavior regulation, communication skills, and so forth. These characteristics are considered by researchers in the field as defining for learning activity but also for the formation of the young pupil's identity.

On the other hand, adaptation to the school environment represents a complex process, as it integrates adaptive changes that occur at the previous (preschool) stage of organizing children's activities; it is a decisive phase in consolidating the i*nternal position of the young schoolchild*. However, it is not sufficient to limit ourselves only to examining this dimension, as we would not be able to evaluate the role of this phenomenon in the process of forming the identity of the young schoolchild.

Result

The effectiveness of the adaptation process, in our opinion, will be assessed based on the changes that occur within the system of indicators [*Table 2*]. Nevertheless, it is important to consider that changes in some components may lead to a misinterpretation of the efficiency of the adaptation process, because modifications in some

indicators inevitably condition compensatory movements of other interacting indicators.

Table 2. Behavioral Indicators Regarding Adaptation to the School Environment

Adaptation Levels	Behavioral Indicators
High	- Listens attentively to the teacher - Understands and adequately meets requirements - Does not encounter difficulties in assimilating material - Solves tasks of a high degree of difficulty - Shows interest in individual work - Does not require additional supervision - Completes homework
Medium	- Positive attitude toward school - Generally understands the teacher's explanations - Acquires the general content of the curriculum - Independently solves typical tasks - Maintains attention only if interested - Is willing to cooperate with the teacher and peers
Low	- Has a negative attitude or indifference toward school - Reports health problems - Low emotional state - Violates discipline - Encounters difficulties during individual work - Shows no interest in the lesson - Requires constant supervision - Has no friends among classmates

One of the key factors determining the efficiency of adaptation is the child's state during the learning activity, which constitutes the background on which this activity takes place. Thus, any activity can be more or less effective depending on the functioning conditions of the child's central nervous system. It is well known that a high level of

anxiety in young schoolchildren correlates with low learning performance and their level of intellectual development.

Therefore, based on the considerations mentioned above, we found that one of the key mechanisms driving the success of a child's adaptation to learning activities is their *motivation* to learn. Observational results demonstrate that the formation of motivation towards learning begins before school starts (during kindergarten). However, school learning can influence motivation, either intensifying or diminishing the interest in learning.

Referring to motivation, it must be noted that it is determined by a series of factors specific to this activity, conditioned by: the education system; the organization of the learning process; the particularities of the students; and the teacher's competencies. Learning motivation has a systemic character, with *direction, stability, and dynamism* being defining features. With age, the interaction between motives and needs develops, the dynamics of needs change, as well as their hierarchy. At the same time, motives should not be approached simply as a change in attitude toward learning, but also from the perspective of expanding the structure of the motivational sphere. Thus, a connection is observed between positive motivational tendencies and a high level of cognitive development of the student, and vice versa.

As a *tactic to motivate* children in the school adaptation process, the teacher can utilize several factors, such as: *eliminating grading* and *constraints*; a *democratic* communication style; creating situations that *allow choice*; *personal valorization*; *a creative and productive communication style*, etc.

From this perspective, the formation of the young schoolchild's identity largely depends on the *teacher's* ability to help the child adapt to the learning activity. In this sense, the teacher's personality, as a central factor in enhancing the adaptive capacity of the young schoolchild, refers to the fact that, through the specifics of the profession, their own potential is demonstrated and converted into a "positive didactic style" and professional components. Through continuous adaptive effort, the teacher must adopt a teaching style that manifests originality, uses *preferential strategies* adapted to the psycho-individual characteristics of the students, conducts nuanced activities in the classroom that induce varied learning behaviors, and contributes to shaping the students' intellectual work styles.

From the reflections presented in this research, we can draw the following **conclusions**:

- The internal position emerges as a new *personal formation* in late preschool age; it does not disappear at the next stage but only its content changes; it defines the child's *behavior* and

activity, as well as the entire system of their *relationship* with reality, with themselves, and with the people around them.

- The internal position ensures the creation of a *motivational* vector orienting the child to acquire new forms of activity and collaboration through self-affirmation within the new social status, facilitating the child's easier adaptation to the school environment.
- The internal position of the young schoolchild encompasses all *previous lines of personality development*, being characterized by the child's positive attitude towards learning activities.
- The key mechanisms driving the success of the child's adaptation to learning activities at school are their *motivation* to learn.
- The central factor enhancing the *adaptive potential* of the young schoolchild is the *teacher*, who will use preferential strategies adapted to the psycho-individual characteristics of the children, induce varied learning behaviors, and contribute to shaping the students' intellectual work styles.

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EXPLORING OTHERNESS THROUGH SOCIAL EMOTIONAL LEARNING (SEL): AN ANALYSIS OF STUDENTS' REFLECTIONS AND CHOICE OF TOPIC

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Abstract: *This article will explore students' choice of topics and their reflections in a course on Otherness taught to a class of pre-service teachers of English as a Foreign Language (EFL). Tenets of Social Emotional Learning (SEL) were used in teaching a seminar in English (the students' L2), focusing on self-awareness, self-management and social awareness. Several theories of Otherness coupled with literary and media examples were presented, and the students then had a free choice of topics for research from eight categories of Otherness: age, gender, disability, race/ethnicity, sexual orientation, economic status, religion, and supernatural Otherness. The students' (N=90) choice of topics between 2020-2023 revealed that most students avoided culturally sensitive topics such as religion and sexual orientation, and mostly opted for professionally motivated research subjects in the field of education such as mental and physical disability. A qualitative analysis of their reasons for choosing the topics revealed three categories: personal, professional and ethical. In addition, students' responses to the course revealed that choosing their own topic led to both motivation and enjoyment of the course. Finally, the importance of allowing students to choose a topic in Higher Education will be discussed, as well as the implications for SEL in the EFL classroom.*

Keywords: *social emotional learning (SEL), otherness, teacher education, student writing, English as a foreign language (EFL).*

Introduction

Understanding students' reasons for choosing a topic is an important step towards curriculum design and course planning and can offer insights into the motivational advantages of Social Emotional Learning

(SEL) in education. A recent white paper published by leading scientists has pointed to the multiple advantages of SEL in the literacy classroom (Pearson et al., 2024). Research has also shown that choice increases motivation among students (Patall et al., 2010; Reeve, 2002) and that student who cared about their chosen topic fared better in terms of confidence and motivation (Andolina & Conklin, 2020). It is therefore important to understand why students choose their topics in order to design courses and assignments that increase motivation and promote personal and academic success in accordance with the goals of SEL.

This paper explores choice of topic and the reasons behind the choice in a course on Otherness in English literature and media delivered from 2020 to 2023 to pre-service English teachers enrolled in a college of Education. SEL pedagogy focusing on self-awareness and social awareness was implemented in the hope of creating a safe environment in which students can think more deeply about issues of Otherness and explore representations of fictional and real-world others (Linder, 2021; Schrijvers et al., 2019). The results present the choice of topics made by the 90 students who took the course, their reasons for choosing these topics and their reflections on the course.

Finally, I will present the implications of the findings for teaching about Otherness in Higher Education through tenets of SEL. Hopefully, this article will help others by showing how SEL pedagogy focusing on allowing students to choose their own topic can enhance students' understanding of Otherness in different college environments.

Literature Review

Advantages of SEL

The importance of Social Emotional Learning (SEL) in education has been gaining recognition and empirical support in the last three decades, gradually becoming an essential component of pedagogy today (Cohen, 2006; Mahoney et al, 2018; Oberle et al, 2016; Weissberg, R. P. et al., 2015). SEL is a student-centered approach defined as "the development of information, mindsets, and skills that allow individuals to identify and manage their emotions, enhance their awareness of and empathy for others, and establish and work towards personal goals" (Gallagher & Stocker, 2018, p.7). The Collaborative for Academic, Social and Emotional Learning (CASEL) was established in 1994 by educators and researchers hoping to promote social and emotional skills along with academic achievement in order to support personal development within an ethical framework of a just, caring and productive democratic society. In 2015, Weissberg et al. present an updated framework that focusses on five domains of Social

Emotional Learning, and on the strategies and policies that derive from the most updated research. The five domains delineated by Weissberg et al, include:

A. Self-awareness: Being able to discern and understand one's abilities, goals, values, and emotions in order to function well in academic and social environments.

B. Self-management: the ability to regulate emotions and behaviour in order to achieve academic and personal goals.

C. Social awareness: the ability to acknowledge and empathise with different points of view, including those from different cultures.

D. Relationship skills: the ability to form and maintain healthy interpersonal relationships that include cooperation and communication.

E. Decision-making skills: the ability to make healthy and constructive choices for oneself and for others based on realistic evaluations of diverse settings.

To achieve their full effect, these five SEL skills should be promoted through strategies applied from the classroom and school environments to family and community levels (CASEL, 2023). A growing body of research, using rigorous research methods and published in top tier journals, has shown the multiple benefits of SEL to students' academic and personal achievements (Pearson et al., 2024). For example, in 2018, a meta-analysis of school based SEL programs based on 459 studies/interventions revealed "positive benefits for the participating students on a range of behavioral, attitudinal, emotional, and academic outcomes that are evident both immediately after the intervention and during various follow-up periods, depending on the specific outcome in question" (Mahoney et al., 2018, p.22). The most prominent short-term outcome addressed "positive attitudes towards self and others", which is relevant to this course and the current research (p.19). In addition, a CASEL white paper concludes that "Current research in the fields of human development, learning sciences, and neurosciences builds upon each other and demonstrates that learning environments and instruction must support students' social and emotional development and well-being to drive student literacy development" (Pearson et al., 2024, p.3).

In the last few years SEL has infiltrated institutions of Higher Education (HE) after having been embedded and researched in school settings (Wilson et al, 2024). Since literacy is highly relevant to SEL (Tussey & Haas, 2021), SEL strategies are well suited for the literacy classroom in HE, and especially beneficial for students of education

who can carry the torch forward and implement SEL with their own students.

This paper will focus on the implementation of the first three components of the CASEL model (self-awareness, self-management and social awareness), to a group of preservice teachers at a college of education in Israel. The aim of this course was to facilitate an understanding of Otherness and its representations in literature and media while encouraging a social emotional process in the classroom. The following paragraphs will delineate some of the SEL strategies used in this course and their advantages.

A. Promoting self-awareness and social awareness

Research has shown that SEL pedagogy in the literacy classroom can enhance self and social awareness (Aerila, 2021; Garling et al., 2021; Linder, 2021). Self-awareness is enhanced when students encounter texts and activities that draw attention to their own feelings and thoughts, or to characters that are similar to the students in one or more elements of their identities. Social awareness can be promoted by engaging with texts or utterances from other points of view, dissimilar to those of the students. As Martha Nussbaum (2010) has claimed, by teaching the humanities students develop the capacity to perceive the world from other points of view, a capacity which is essential for democratic societies that strive for fairness and decency. Similarly, Bishop's (1990) metaphors of the "Mirror" and the "Window" for the use of literature in the classroom are highly appropriate for the promotion of self-awareness and social awareness in the literacy classroom today. The text can act as a mirror, reflecting our own existence, and allowing us to better understand ourselves. It can also, as Nussbaum would have it, serve as a window, allowing us to view the world from the different points of view created by the author (Bishop, 1990).

B. Promoting Self-management: student autonomy and agency

Student autonomy has been shown to improve motivation and academic success (Reeve, 2002). When students choose their own topics, with the right encouragement from the teacher, they choose topics that they care deeply about (Andolina & Conklin, 2020; Weissberg, 2015). However, some studies have shown that students' autonomous choice of topic is not always welcome in higher education (Harmer and Stokes, 2016). Thus, the literature on the subject seems to suggest that a mixed approach should be implemented with regard to choosing a topic: allowing for student autonomy and agency in education but also providing some limitations and a structure for the students' academic work.

Agency is a concept closely connected to student autonomy, and is an important component of self-management, the second aspect of SEL (CASEL, 2023; Jagers, 2019). Agency is the feeling of control over our actions and their consequences (Moore, 2016). According to Firth (2013), this perception can be interpreted as an illusion or a conscious action of free will and is defined according to two elements. The first is an "intentional binding which creates a perception of agency, linking an intentional action to its outcome". The second element derives "from the counterfactual reasoning that we could have chosen some other action" (Frith, 2013, 1). Students' agency should be acknowledged by allowing students to choose their own topics and addressing emotional engagement to the topic and diverse points of view (Canziani et al, 2021).

Bandura (2001) delineates four core elements of human agency which were applied to the teaching of this course. The first is intentionality, which pertains to the "representation of a future course of action to be performed" (p. 6). Within the context of this article, this means that students are actively committed to the course with the anticipation of writing a seminar paper in order to gain a degree in Education. In the first four weeks of the semester, students are asked to commit to a topic of their choice, which related to Otherness and to literature and/or media in English. The second core elements of agency according to Bandura (2001) is "Forethought", which refers to the planning ahead and adapting a course of action (p.7). This element is reflected in the syllabus via an outline and set of dates which is structured by the teacher and filled in by the student. The student makes specific and detailed plans on how to complete the writing of the paper, and what to focus on in each section. The third element is "Self-reactiveness" which is "the ability to give shape to appropriate courses of action and to motivate and regulate their execution" (p.8). This element was embodied in the students' work on the assignments they were given throughout the course. The fourth element is "Self-Reflectiveness", namely the capability to reflect and self-examine your previous plans, as well as your functioning and efficacy, and to choose one course of action over an other in order to achieve your goal or to alter it according to the outcomes you have achieved or not (p.10). This element was implemented through drafting, writing, receiving feedback, and then rewriting several times throughout the course.

Having discussed the SEL categories promoted in this course, the next section will explain how literary texts on the theme of Otherness can facilitate the ability to understand other people's points of view, including those of view of individuals from other cultures and

backgrounds (Aerila, 2021; Garling et al., 2021; Linder, 2021; Schrijvers et al., 2019).

Grasping Otherness through Literature and media in the College Classroom

Otherness, a concept derived from nineteenth century philosophy and later adapted by the social sciences and the humanities, has been defined by numerous philosophers, psychologists, anthropologists, and sociologists. Staszak (2020) offers the following overall definition of the Other which may apply to both the social sciences and humanities:

Other: a member of a dominated out-group whose identity is considered lacking and who may be subject to discrimination by the in-group…Otherness is due less to the difference of the Other than to the point of view and the discourse of the person who perceives the Other as such. Opposing Us, the Self, and Them, the Other, is to choose a criterion that allows humanity to be divided into two groups: one that embodies the norm and whose identity is valued and another that is defined by its faults, devalued and susceptible to discrimination (p.25).

Within the context of the college classroom, Otherness is defined as any individual and/or group which deviates from the dominant norms of a certain society. The Other is perceived as opposed to the Self and the constructed group identity. Thus, identity is a socially constructed term, as Beverley Tatum (2000) explains, where one can be part of one group associated with the self, and simultaneously the Other as far as a different group is concerned:

While there may be countless ways one might be defined as exceptional, there are at least seven categories of "otherness" commonly experienced in U.S. society. People are commonly defined as other on the basis of race or ethnicity, gender, religion, sexual orientation, socioeconomic status, age, and physical or mental ability (p.10).

Otherness is also interpreted from a psychoanalytical point of view. Carl Gustav Jung (1968) discusses the archetype of the Shadow, which is defined as all that we do not wish to identify or associate with ourselves (Jung, 1959; Perry & Tower, 2023). Jung continues to claim that it is only once we acknowledge and accept our own shadow, as an individual or as a culture, that we stop demonizing the Other. Julia Kristeva (1993) continues this idea by stating that "the foreigner lives within us: he is the hidden face of our identity, the space that wrecks our abode, the time in which understanding and affinity flounder. By recognising him within ourselves, we are spared detesting him in himself" (p. 1).

Whereas Otherness as a term usually refers to real life individuals or groups, with a difference real or imagined, another category of

Otherness has been added to this course and presented to the students: imaginary and fictional Otherness. Richard Kearney (2003) delineates more "figures of Otherness", namely, "strangers, gods and monsters" (p.3). This category of Otherness includes aliens, ghosts, dragons and vampires, to name but a few. Kearney's (2003) psychoanalytical approach perceives these Others as projections of what we recoil from and resides within our unconscious.

Otherness is a perennial theme in literature and media. Exploring themes of Otherness in the language arts/literacy classroom encourages the crossing of boundaries, both personal and collective, and lends itself to multicultural literacy. Research has shown that nearly all students who engaged with literature in the classroom reported that they gained insight into themselves and others in the process (Schrijvers et al., 2016). Reading about characters who are both similar and different to the reader's perceived identity can allow for more understanding of other points of view. These skills promote the goals of the SEL categories of self and social awareness (Linder, 2021). Research has also shown that literature must be taught through multi-modal texts in order to be to be taught efficiently in the language classroom (Pieper, 2023). Thus, the teaching of Otherness through SEL is enhanced when involving multi-modal texts such as songs, videos, comics and films, rather than focusing solely on canonical texts and traditional reading materials (Garlin et al, 2021; Visko et al, 2021).

Research questions:

1. Which topics were chosen by the students, and what can be learnt from their preferences?
2. What reasons emerge from students' reflections on their choice of topic?
3. What can be learned from student feedback on this course?

Methodology
Research context
The students
The students who participated in this research are third- and fourth-year students going through a four-year training course for a B.Ed. degree in order to teach in Israeli schools. English is one of the three formal languages in Israel, and Israeli students and parents perceive it as one of the most important subjects in the curriculum. Most pre-service English teachers studying for a B.Ed. are non-native speakers of English. Thus, the teaching of pre-service English teachers takes place in an English as a foreign Language (EFL) classroom, with

students whose L1 is in most part Hebrew and Arabic, with some immigrants who are native speakers of European languages.

All in all, 90 students completed the course successfully (F:81, M:9). Most of the students were Jewish (84), out of whom 10 were immigrants (9 from countries of the former Soviet Union and 1 from France), and there were 6 Arab students (6.66%). All the participants were 3rd and 4th year student teachers, studying to gain a B. Ed. and a teaching certificate for teaching English in Israel.

2020/2021: 39 students (33F, 6M)
2021/2022: 28 students (26F, 2M)
2022/2023: 23 students (22F, 1M)

Prior requirements: The students had taken a course in literary analysis in their first or second year of study and were therefore acquainted with basic literary terms needed for analysis such as setting, plot, characterization, point of view, and theme.

The course: "The Other"

The findings in this research derive from the responses of 90 students enrolled in the course "The Other" from October 2020 to August 2023 at the Levinsky-Wingate Academic Center in Tel Aviv, Israel. The course was taught using student centered SEL pedagogy, focusing on three main domains: Self-awareness, Self-management and Social awareness. Students were offered a choice of topics, from eight categories of Otherness: age, gender, disability, race/ethnicity, sexual orientation, economic status, religion, and imaginary Otherness. The course was an annual one, comprising of two semesters, each one 14 weeks long. The course was taught in hybrid format, with two thirds of sessions taught frontally on campus, and the rest synchronously on-line. The syllabus, lesson plans and assignments were identical for the three academic years referred to in this article.

Course content: The first semester focused on understanding definitions of Otherness and exemplifying them through literary and media texts. The second semester was devoted to the writing process of a research paper of approximately 5000 words on the student's chosen topic.

Activities in the first semester: The first semester began with a discussion of Otherness based on sharing one's emotions and listening to different points of view, thus hoping to promote self-awareness and social awareness. In this initial activity, students were asked to think about a situation in which they were the Other - the one who was different, outside of the norm - within a dominant group. Students were asked to ruminate about the experience for a few minutes, and then to share it with their classmates in an accepting and non-judgmental environment. This activity was meant to elicit an emotional response

from the students which is associated with the theme of Otherness. The different perspectives which emerged during the class discussion promoted an awareness of other people's feelings of Otherness, and hopefully also prompted social awareness. In the final sessions of this annual course, students shared their research paper by presenting it to the entire class. Students were encouraged to be supportive and empathetic towards the presenters and their research topics.

This initial activity was followed by some academic reading about Otherness. We began by reading a definition of Otherness by Staszak (2020), followed by excerpts from Julia Kristeva, Carl Gustav Jung, James Kearney, Beverley Tatum and Martha Nussbaum. Several sources on literature and Otherness were presented as well. Next, eight categories of Otherness, based on Tatum's (2000) delineation, were introduced to the students, and examples from literature and media were given in each category:

1. Age: Otherness related to age refers to constructions of different age groups, such as childhood, adolescence and old age, and the values and attitudes associated with them in diverse social settings
2. Gender/Sex: gender discrimination and constructions of femininity and masculinity from diverse sources were presented to the students, and expectations from men and women in the students' worlds were explored.
3. Physical and mental ability: Definitions of physical and mental disabilities were presented, including a perspective of disability as defined by society rather than physical and/or mental attributes.
4. Race and ethnicity: Definitions of racial and ethnic identities were discussed, as well as discrimination against racial and ethnic minorities.
5. Sexual orientation: Representations of Gay and Lesbian characters in literature and the media were discussed, focusing on social discrimination.
6. Economic status / class: Representations of poverty and homelessness in literature and the media were discussed, presenting differing attitudes towards these issues.
7. Religion / spiritual beliefs: Judaism, Islam, Christianity and other religious beliefs were presented in terms of their representations in the literature and the media.
8. Supernatural others: Fantastical and imaginary characters, who embody a supernatural element, were presented and explored. For example: superheroes, vampires, trolls.

Activities in the second semester: By the beginning of the second semester, students would have received feedback on their chosen topic and related research articles. The second semester is devoted to the writing process, which takes place at home and in the computer lab on campus. The writing process is structured by the teacher and based on short lectures, group discussions and personal mentorship. Short lectures were given on the following topics: the different parts of a research paper, writing a literature review / thesis statement / results / discussion, and different aspects of academic writing (paragraph structure, academic vocabulary, references, plagiarism, etc).

Methods Used

Towards the end of the course, along with their submission of the final paper, students were asked to provide their reflections. The prompt for reflections was:

Explain why you chose this topic and describe the process you went through while writing this paper.

A qualitative analysis was conducted on the reflections produced by the students, using coding and categories in search of themes (Chi, 1997; Terry et al, 2017).

In addition, students were sent an anonymous questionnaire on the course through Google forms. Unfortunately, only 27 students responded out of the 90 who took the course (30%).

The prompt for student questionnaire on the course was:

What is the most memorable element from the course on the Other?

Findings

Chosen topics

The results show that the most popular topic, chosen by 37 students (41%) was Otherness in terms of physical and mental ability, with autism spectrum disorder (ASD), Attention Deficit Disorder (ADD) and Learning Disability (LD) leading the choice of topics. This choice aligns with the fact that these students are studying education and are acquainted with these topics in advance.

The second most popular choice was racial Otherness, chosen by 24 students (27%). The most popular topic within this category was representations of African Americans as Others in literature and media. Topics related to gender were chosen by 23 students (25.55%) with most papers focusing on gender roles, body image and issues of representation of women.

Age related topics were chosen by 11 students (12.22%), whereas those related to class and social status were chosen by 8 students (8.88%).

Religion and supernatural topics take the last place in students' choices. As far as religion is concerned, only 6 students (6.66%) in the past 3 years chose to focus on Jews or Muslims as the Other. The least

chosen topic is sexual orientation. Only 2 students out of 90 (2.22%) chose this topic, probably because it remains a volatile topic in Israeli society.

Some of the papers refer to two topics, so the number of cases (94) exceeds the number of students (90). For example: a paper entitled "Feminism in Mulan" belongs to two categories- gender and ethnicity- whereas a paper on African American Women belongs to the categories gender and race.

	age	gender	disability	Race ethnicity	Sexual orientation	class	religion	supernatural
2020-1	5	13	14	14	1	2	2	5
2021-2	5	7	11	4	1	3	2	0
2022-3	1	3	12	6	0	3	0	4

Qualitative analysis

This analysis provides a categorization of the reasons students chose their specific topics. The responses were given as a reply to the question: *Why did you choose this topic and what did you learn in the process of writing the paper?* Keep in mind that some students may fall into multiple categories, as their motivations can be multifaceted. Three broad categories emerged from the reflections: A personal connection to the topic chosen by 36 students (40%), a professional/educational interest in the topic chosen by 32 students (35.55%), and an ethical consideration regarding the topic was chosen by 75 students (83.33%). All in all, 143 reasons were found in the reflections. 28 students (31.11%) chose only one reason in their reflections, 43 students (47.77%) chose two reasons, and in some reflections all three reasons were mentioned (6 students; 6.66%).

Examples of personal reasons: As mentioned previously, 36 students (40%) mentioned personal reasons in relation to their topic of choice. The personal connection is to the students' identity and/or experience. For example, D., chose to explore the representations of women with a Hijab in the media from a critical point of view:

"As a Muslim woman that wearing the hijab[1] I have seen few clips from the show". This show has triggered and inspired me to explore on the representation women on the media and I have seen that most of

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[1] The grammatical errors appear in the students' reflections. English is the students' L2 or L3, and I have chosen not to correct their writing for the purpose of authenticity.

the shows present taking off the hijab as a way of "freedom", and few of the shows present Muslim women as empowered women, they have limited vision on the Islam and Muslim women In general" (D., 2022).

Another student chose to write about a novel revolving around an orphan due to her own experience of orphanhood:

Writing this research paper was a very interesting experience; I encountered Wolter Tevis's novel *The Queen's Gambit* during the first lockdown due to Covid-19 in 2020….As an orphan myself, the process of researching about parental loss has shed a great light on my personal experience trying to cope with the loss of my father (A., 2022).

A mature student who experienced difficulties in college due to her age, chose to analyse representations of older students in the American media:

As an older adult student who went to learn in college at the age of fifty years old to get a new career, doing this seminar paper was sort of approval to what I felt during all the years of learning. I had doubts if I will be able to keep up with the demands or do my peers will accept me into their groups. From the first day in college, my younger classmates had difficulties accepting me as a freshwoman, and every year and from every new peer in class, I received the same question over and over – are you a teacher? And every time I answered – no, I am an undergraduate just like you (H., 2022).

Feelings of low self-esteem about her appearance led another student to choose the topic of narrow representations of beauty in the media:

I chose this topic because as a child I often suffered from insecurity about my external look. As a child, I looked on TV and movies for women or girls who represented a different look from what I've seen at the time. I believe our world should be less racist and more egalitarian for all types of people. In today's world, where models and TV stars of all kinds are constantly seen on social media, there should be diversity and equality, to show all types of people that there are others like them (O., 2021).

Examples of professional reasons: 32 students (35.55%) chose professional reasons for their choice of topic. These students presented themselves as educators interested in a certain phenomenon in the professional setting. For example, one student chose to write about Otherness in terms of physical disability and gave the following reasons:

As an English teacher and an educator, I assume that we should teach this story in our classes. Sometimes our pupils don't want to talk or play with children that are different from them. The Hunchback of Notredam can show and teach the student that people that different from us can be our friends even they are different. In addition, this film

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can show children with low self-esteem that they can introduce themselves and getting know new friends (A., 2020).

Another student focused on her experience with ASD students and emphasized the significance of the topic in the professional setting:

I decided to research this novel because of my interest in ASD, and my education in this area. As an English teacher, I sometimes meet and teach students with ASD, so I believe that researching this disorder and learning more about it is very important. I have gained a better understanding of ASD through Christopher's point of view and suggest all educators should read this book. My suggestion for further research is to rely on the novel in order to gather a guide for parents who have a child or a teenager with ASD, in order to help families and their children to go through this journey together (S., 2021).

The topic of ASD in the classroom arose in this student's reflection as well:

This paper and its findings can assist me as a teacher in the future. The seminar paper has presented the characteristics of autism. It can help me identify characteristics of autism in students, and understand their needs. The paper has also presented attitudes toward people with ASD, and showed that people with autism have few friends and their social life is usually poor. As a teacher, I have to notice the social life of students with ASD and help them develop their social skills (S., 2022).

The following students presented the importance of preventing prejudice and bullying in their classrooms:

As a teacher I would recommend this series for my students since the development during it would teach them to accept people who are different from them, also it would teach them to never judge others based on their look or beliefs (V., 2023).

It is of great importance for me as an educator to research this topic. Thanks to the research I did, I discovered amazing and creative ways to deal with bullying in my class (T., 2022).

The following student also mentioned classroom pedagogy and the professional role:

Moreover, if we, as teachers, want to give our students the confidence to share their thoughts and opinions, we should give positive feedback as an integrative part of our conversation with them. So, it's important to encourage our students to be confidence and believe in themselves (E., 2021).

A student writing about gender roles made the following remark about the educational merit of the movie she analysed:

I think this movie can be taught in schools in order to question traditional gender roles and open a conversation between the students

to see their different thoughts and points of view about this topic (M., 2021).

Examples of Ethical reasons: The most popular reason for choosing a topic was ethical (N=75, 83.33%). These students referred to social awareness and advocacy, aspiring to make a change by addressing preconceptions about disadvantaged individuals and groups and promoting equality and diversity within society. This reason for choosing a topic often accompanied another reason, either personal (N=23) or professional (N=24). Here are several examples:

I was hoping to read and discover many ways in which dogs can also help people with mental or physical issues and indeed I have found a wide range of unbelievable actions dogs can do for those "other" people. I found that this amazing animal is not only cute and lovely, but it also makes others' lives easier and full of peace and happiness although all the difficulties (E., 2021).

My personal impression from writing this paper is that we, as a society have to learn from past mistakes. We now need to concentrate on "right" and "fair" education, rights, and correction of the ways the Native Americans had suffered from by now... I think the history of native American should be more exposed and learned (S., 2021).

Prior to writing this paper, I had a vague idea and bits of information on the topic…Part of growing and being exposed to otherness gave me the tools and allowed me to spot the media's dishonest representation. With the newly gained information, I was also able to apply the knowledge into real life experience, and educating my close circle on their internalized misogyny, racism, and homophobia. The topic of otherness and this particular paper contributed greatly to my understanding of how minorities are affected in terms of education, welfare, and community (A., 2021).

The movie serves as a reminder that everybody deserves to be seen, heard, and cherished despite differences or difficulties. We can create an environment where everyone can feel accepted and a sense of belonging by promoting an inclusive and compassionate society (L., 2023).

Student feedback on the course

The following responses were received from students as a response to a questionnaire I had sent to the students registered on this course. Unfortunately, the response rate was quite low; only 27 students responded to my online questions out of the 90 who completed the course between the years 2020-2023. However, the responses deserve mentioning as they are anonymous, unlike the reflections about the choice of topic which appeared as part of the process of writing the seminar paper.

The question posed to the students was the following: what is your most significant memory (positive or negative) from the course on Otherness?   (27 responses). The two most popular categories that emerged from the responses were "the freedom to choose your own topic" and "the enjoyment in the course". 8 responses out of 27 (29.63%) mentioned the ability to choose one's own topic as the most memorable element in the course. For example, one student wrote:

I loved the fact that we had the freedom to choose a topic close to our hearts. The Other could refer to many groups and issues, but I believe that each student chose a topic that is personally significant for them, and this increased motivation and improved the outcomes.

Another student commented:

The most significant memory is the freedom to choose our own topic and to be able to explore any group of Others. The ability to let our imagination and passion lead us was unique in the realm of academic studies.

Another dominant category which emerged from the responses of 9 (33.33%) students was "enjoyment" in the course's topics. For example, one student wrote:

This was the most meaningful and enjoyable course that I had throughout my degree.

Another student remarked:

I really enjoyed the course and the way in which we explored the subject of Otherness through films, stories and characters was really cool and interesting.

Discussion

Understanding students' reasons for choosing a topic is an important step towards curriculum design and course planning and can offer insights into the motivational advantages of SEL in Higher Education. Accordingly, this study has attempted to explore the significance of choosing a topic in a course on Otherness in literature and media taught using elements of SEL to 90 pre-service English teachers in Israel. Based on their reflections and feedback, giving the students a free choice of topic within the boundaries of this course was a significant factor that revealed three underlying reasons for undergraduate research: personal, professional and ethical. Even though these three clear categories emerge, many students have chosen to mention two reasons which are interconnected, such as personal and ethical reasons, or professional and ethical ones. As a result, the reasons for choosing a topic mentioned by these students seem to merge two categories and bind them together.

Although the teaching method allowed for diverse explorations of Otherness, including some culturally volatile topics, the results have

shown that the most popular topic among students was physical and mental disability, which is an accepted and familiar subject taught at the college. Topics relating to ethnicity, race and gender were also very popular. Only a handful of students (6) wrote about Otherness in the local Israeli-Palestinian context or about Jewish and Muslim Otherness. This is true for both Arab and Jewish students which suggests that the subject is avoided by both parties and not just by the Arab minority group. Students prefer to discuss Otherness in the African American context which is detached from the overwhelming and often alarming local environment.

Finally, students feedback questionnaires have shown that students found the subject of Otherness interesting and have benefitted from the class discussions and their personal research as far as the understanding of Otherness in different contexts is concerned. Being able to choose one's own topic emerged as the most memorable favorable element in the course according to 8 out of 27 anonymous responses.

A few points for further discussion

1. Allowing for agency in the students' choice of topic

Second, student agency in the choice of topics is beneficial to course outcomes and student satisfaction. Student feedback supports the free choice of topics and shows it to be a memorable element in the process of learning. Since students seem to have avoided controversial topics, more emphasis should be placed on providing a safe environment for all students to explore topics that they find meaningful. Teachers should note that students mention three main reasons for choosing a topic: personal, professional and ethical, and should therefore address these reasons when assigning a general subject for research. However, it is recommended that some guidelines and boundaries should be provided so as not to overwhelm the students and to set a common theoretical background for their research.

2. Teaching literacy in the "broad sense".

The teaching of literacy is enhanced by SEL pedagogy combined with multi modal texts rather than strictly traditional and canonical texts. For example, students moved from films such as Disney's The Little Mermaid and Tangled to the original literary texts that inspired them, comparing and contrasting them in terms of characterization, plot, setting and theme. This supports the idea of teaching literature in the "broad sense" (Pieper, 2023) and using popular media (Visco et al, 2021) in an attempt to improve motivation and academic success in the literacy classroom. Further research should explore the effect of using popular culture in HE literacy and EFL courses as part of SEL.

3. Exploring other factors

Further research should explore the role of factors such as gender, race and cultural background on student agency in relation to choice of topic, motivation, and academic success. Furthermore, it would be interesting to gage social awareness, self-management and self-awareness before and after the teaching of a course on Otherness in literature and the media based on SEL pedagogy.

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EDUCATION IN THE SPIRIT OF CHILDREN'S RIGHTS: FROM LEGAL PRINCIPLES TO EDUCATIONAL IMPLICATIONS

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Abstract: *The United Nations Convention on the Rights of the Child (1989) constitutes a fundamental milestone in the consolidation of the international legal framework for the protection and promotion of children's rights, exerting a direct influence on the educational and social policies of the signatory states. The document enshrines four essential guiding principles—non-discrimination, the best interests of the child, the right to life and development, and respect for the views of the child—which underpin child-centered educational approaches. Despite legislative and institutional advancements, significant challenges persist, such as violence against children, inequality, and exploitation in conflict settings. This paper aims to provide a theoretical analysis that highlights the importance of a rights-based education as a means of prevention and empowerment, with a view to ensuring an environment conducive to the comprehensive development of the child.*

Keywords: *children's rights, educational approaches, legal framework, protection.*

Introduction

In contemporary society, it is widely acknowledged that every child is born with the inalienable right to a healthy start in life, to education, and to a safe and protected childhood—fundamental elements that contribute to the development of an active and thriving adult.

Adopted on November 20, 1989, by the United Nations General Assembly, the Convention on the Rights of the Child (CRC) represents a watershed moment in the history of human rights protection. It marked the first time the international community collectively and legally recognized that every child is a holder of inalienable rights, rather than merely an object of protection or charity.

The member states of the United Nations first collectively acknowledged children's rights in the Universal Declaration of Human

Rights, a non-binding resolution adopted by the General Assembly in 1948. The Declaration asserts: *"Motherhood and childhood are entitled to special care and assistance. All children, whether born in or out of wedlock, shall enjoy the same social protection."*

This recognition was further expanded through the unanimous adoption of the Declaration of the Rights of the Child in 1959, which called upon governments, families, and individuals to ensure certain entitlements for children, including adequate legal protection, the right to a name and nationality, access to healthcare, and protection from abuse and exploitation.

The international community also affirmed the special rights of children through the International Covenant on Economic, Social and Cultural Rights (ICESCR) and the International Covenant on Civil and Political Rights (ICCPR)**,** both of which entered into force in 1976.

The idea for a dedicated Convention on the Rights of the Child was first proposed by the Polish government in 1978, within the context of planning for the International Year of the Child (1979). Over the next decade, a working group under the United Nations Commission on Human Rights (now the Human Rights Council) drafted the text of the Convention. It was formally adopted by the UN General Assembly on 20 November 1989 and entered into force on 2 September 1990.

The United Nations Convention on the Rights of the Child: International Scope and Effects

The Convention defines a child as "*every human being below the age of eighteen years unless under the law applicable to the child, majority is attained earlier*."

The Convention affirms that the best interests of the child must be the primary consideration in all actions concerning children. State Parties undertake to adopt all necessary legislative, administrative, and other measures to ensure children's rights, including: the right to life and development; the right to a name, nationality, and parental care; the right to health and access to medical services; the right to education; protection against abuse, neglect, economic and sexual exploitation; freedom of expression, religion, association, and peaceful assembly; and the prohibition of capital punishment for offences committed before the age of eighteen.

According to the Council of Europe, the Convention provides special protections for orphans, refugees, and children with disabilities. Article 5 acknowledges the role of parents, stating that States Parties shall respect the responsibilities, rights, and duties of parents to provide appropriate direction and guidance.

The Convention includes two Optional Protocols:

- The Optional Protocol on the Involvement of Children in Armed Conflict, which limits the recruitment of minors and mandates the rehabilitation of children involved in hostilities (in force since 12 February 2002);
- The Optional Protocol on the Sale of Children, Child Prostitution, and Child Pornography, which requires the criminalization of such acts and the confiscation of proceeds (in force since 18 January 2002).

Established under Article 43 of the Convention, the Committee on the Rights of the Child consists of 18 independent experts elected for four-year terms. The Committee meets three times a year in Geneva, examines State Parties' reports on the implementation of the Convention, requests additional information, and issues concluding observations. It also adopts general comments to assist States in applying the Convention. States Parties are required to submit an initial report two years after ratification, followed by periodic reports every five years.

Over two decades ago, the international community united to condemn and act against the use of children in armed conflict. Since then, thousands of children have been released through Action Plans mandated by the UN Security Council and other initiatives aimed at ending the recruitment and use of children by armed forces. However, serious challenges persist in protecting children affected by armed conflict. According to the United Nations, in 2023, violence against children in armed conflict reached extreme levels, with a shocking 21% increase in grave violations. There was an unprecedented 35% rise in killings and maimings of children, driven by devastating crises in Israel and the Occupied Palestinian Territories (particularly Gaza), Burkina Faso, the Democratic Republic of the Congo, Myanmar, Somalia, Sudan, Syria, and Ukraine, among others. Recruitment and use of children by armed forces remain among the most widespread grave violations of children's rights during conflicts. In 2023, 8,655 children were reported to have been recruited and used by parties to conflict. While boys are disproportionately affected, girls are also at risk, often facing forced marriage or sexual exploitation. Children with disabilities face additional dangers, necessitating inclusive protection measures. Regardless of their role, children involved in armed conflict are subjected to unimaginable cruelty, with severe consequences for their physical and mental well-being. Since the establishment of the Children and Armed Conflict mandate 29 years ago, more than 200,000 children have been released from armed forces and groups, including through UN efforts.

The right of children to protection from violence is enshrined in the Convention on the Rights of the Child. Nevertheless, according to data provided by Amnesty International, one billion children experience some form of emotional, physical, or sexual violence each year, and one child dies from violence every seven minutes.

Violence against children transcends cultural, social, and educational boundaries. It occurs in institutions, schools, and homes. Peer-to-peer violence—particularly bullying and cyberbullying—has become a significant concern. Children exposed to violence often live in isolation, loneliness, and fear, unsure where to seek help, especially when the perpetrator is a close relation. Factors such as gender, disability, poverty, nationality, or religious background increase the risk of violence, with the youngest children being especially vulnerable due to limited means of expression and help-seeking.

In 2006, the UN issued a set of recommendations to end violence against children. Since then, notable progress has been made, including the enactment of laws in many countries prohibiting physical, psychological, and sexual violence, and offering support to victims; the implementation of awareness campaigns highlighting the harmful impact of violence; and efforts to combat bullying, sexual violence, and harmful practices. The inclusion of a dedicated target (16.2) within the 2030 Agenda for Sustainable Development further signals global commitment to ending all forms of violence against children.

For 15 years, the Millennium Development Goals (MDGs) served as a crucial framework for addressing numerous issues affecting children, youth, and their families. Significant progress was achieved in reducing preventable child deaths, increasing school enrollment, reducing extreme poverty, and expanding access to clean water and nutrition. However, progress was uneven, and many of the world's most pressing challenges—such as inequality, inclusive economic growth, child protection, and climate change—remained inadequately addressed.

With the adoption of the Sustainable Development Goals (SDGs) in September 2015, world leaders pledged to end poverty by 2030. However, as reported by Save the Children (2020), without significantly intensified efforts, this goal will be difficult to achieve. Children are more than twice as likely as adults to live in extreme poverty—with nearly 90% residing in Sub-Saharan Africa and South Asia—more likely to remain out of school, and more likely to be subjected to child labor. These inequalities and risks not only violate children's rights and jeopardize their future, but also perpetuate intergenerational cycles of disadvantage and inequality, undermining the stability of societies and the security of nations.

The year 1990 was historic for the United Nations and its commitment to children's well-being, with the organization of the first World Summit for Children in New York. Convened by UNICEF, the summit brought together an unprecedented number of heads of state to support the cause of children and adopt the Declaration on the Survival, Protection and Development of Children.

Five years later, at the Fourth World Conference on Women held in Beijing, China, world leaders renewed their commitments to the rights of women and girls. In 2002, a special session of the United Nations General Assembly, the first ever dedicated exclusively to children, reviewed progress towards the goals set in 1990.

From the focus on education by the United Nations Educational, Scientific and Cultural Organization (UNESCO), to the International Labour Organization (ILO)'s work on eliminating child labor, from the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA)'s programs for children and youth, to school feeding and health initiatives supported by the World Food Programme (WFP), and the disease-eradication campaigns of the World Health Organization (WHO), the UN system remains deeply committed to supporting children worldwide.

General Principles Governing the Protection and Promotion of the Rights of the Child

The Convention establishes a comprehensive framework of principles and norms intended to guide all actions concerning children—from governmental policies and national legislation to individual attitudes and behaviors within the family, school, and broader society. Among the full spectrum of rights enshrined in the Convention, four fundamental principles emerge as essential guiding lines designed to ensure the coherence, applicability, and accurate interpretation of all its provisions:

- The principle of non-discrimination and equal opportunities (Article 2);
- The principle of the best interests of the child (Article 3);
- The right to life, survival, and development (Article 6);
- The principle of respect for the views of the child (Article 12).

These four principles reflect a profound vision of the child's dignity, autonomy, and need for age-appropriate and developmentally appropriate protection. They are universally applicable to all children, irrespective of race, religion, gender, social status, or any other characteristic, and seek to place the child at the center of political, social, and legal concerns. The importance of these principles lies not

only in their function as minimum standards for the treatment of children but also in their role in guiding the practical application of individual rights. Without adherence to these principles, children's rights would remain theoretical, lacking tangible impact in everyday life.

Given their foundational role, each of these four principles warrants close examination. The following sections will explore the meaning of each principle, its significance in the protection of children's rights, and the ways in which it shapes the interpretation and implementation of all other provisions of the Convention.

3.1.   The Right to Life, Survival, and Development

The right to life is a fundamental right from which all other individual rights derive. According to the European Court of Human Rights (2022), the right to life enshrined in Article 6 of the Convention on the Rights of the Child (CRC) is considered the foundation of all other rights of the child, as without life, survival, and an adequate framework for development, no other rights could be effectively implemented. This right extends beyond the mere protection of the child's physical existence; it also encompasses the assurance of an environment conducive to the child's optimal development, enabling the full realization of their human potential.

Article 6 of the CRC states that "States Parties recognize that every child has the inherent right to life" and that "States Parties shall ensure to the maximum extent possible the survival and development of the child." This highlights the essence of the obligations assumed by the signatory states, compelling them to adopt measures to protect and promote life, ensure children's survival in safe conditions, and facilitate their physical, intellectual, emotional, and social development. The notion of "life" in this context goes beyond mere biological existence and includes the right to a life free from violence and discrimination, in which the child has access to the necessary resources for healthy growth. "Survival" refers not only to the prevention of premature death, but also to proactive measures to reduce child mortality and promote a healthy environment. "Development," in turn, includes access to education, economic opportunities, and protection from exploitation and abuse.

States that have signed and ratified the CRC are therefore obliged to adopt both legislative and administrative measures to protect the right to life, survival, and development of all children. These obligations fall into two main categories: negative obligations and positive obligations. Negative obligations refer to prohibitions that prevent states from endangering the life of the child. For example, protecting minors from capital punishment, prohibiting torture and inhuman or degrading

treatment are clear obligations to be respected by all state parties. Additionally, states must take action to prevent and combat child sexual abuse and exploitation, ensure protection during armed conflicts, and adopt laws prohibiting forced child labour.

Positive obligations focus on the implementation of active policies to guarantee the right to life and development. These include measures to reduce infant mortality through access to healthcare services, the implementation of nutrition and vaccination programmes, the promotion of free and accessible education, and the development of legal frameworks to shield children from any form of economic or social exploitation. Moreover, states must adopt targeted policies to address the needs of children in vulnerable situations, such as refugee children or those with disabilities.

Despite significant progress in the field of child rights protection, the effective implementation of the right to life, survival, and development continues to face serious challenges. In conflict zones, children are often victims of violence, forced recruitment, and exploitation. According to recent reports of the European Parliament (2024), the conflicts in Syria, Ukraine, and other regions have severely affected children, exposing them not only to physical risks but also to deep psychological trauma. In such contexts, ensuring survival and development is extremely difficult, and protection measures are not always applied at scale.

On another level, the gap between developed and developing countries affects the capacity to implement measures aimed at securing the right to life, survival, and development. In Sub-Saharan Africa and South Asia, child mortality rates remain alarmingly high, and access to quality education and healthcare is limited. In these regions, poor living conditions, armed conflict, and lack of infrastructure continue to sustain these inequalities.

Climate change also significantly impacts the future of children worldwide. Extreme weather events—such as droughts, floods, and hurricanes—disproportionately affect children, who are not only more vulnerable to their immediate effects but also to long-term consequences on health, education, and food security.

The right to life, survival, and development is not limited to biological survival but implies the assurance of a holistic development that responds to the full spectrum of a child's needs—physical, emotional, intellectual, and social. The development of the child must be regarded as a comprehensive process that includes quality education, protection from abuse and exploitation, access to healthcare services, and a secure family and social environment.

In conclusion, the right to life, survival, and development, as codified in Article 6 of the CRC, constitutes an essential foundation for the entire architecture of children's rights. This right guarantees not only protection against premature death but also the provision of a framework in which children can grow and thrive in a holistic and dignified manner.

3.2.   *The Principle of the Best Interests of the Child*

The principle of the best interests of the child represents one of the essential foundations of the Convention on the Rights of the Child (CRC). Article 3 stipulates that "*in all actions concerning children, whether undertaken by public or private social welfare institutions, courts of law, or administrative authorities, the best interests of the child shall be a primary consideration*." This principle reflects the global commitment to protecting and promoting children's fundamental rights in accordance with their specific developmental needs and conditions.

The overall purpose of determining and assessing the best interests of the child is to ensure the full and effective exercise of all rights recognized by the United Nations Convention on the Rights of the Child (UNCRC) and the child's comprehensive development. According to the Committee on the Rights of the Child, the concept of the best interests is dynamic and includes three elements (Lievens, E., 2023):

- A substantive right, whereby the best interests of the child are evaluated and prioritized when decisions or measures affecting children are made;
- A fundamental legal interpretative principle, whereby the interpretation that most effectively serves the child's interests is chosen;
- A procedural rule, whereby the decision-making process must include an assessment of the possible effects (positive or negative) of the decision on the child or children involved.

All decisions and actions that directly or indirectly affect children must take into account the best interests of the child. States are required to conduct such an assessment of the child's interests when adopting legislation related to the rights of this age group. Private actors, companies, or non-governmental organizations must do the same when making decisions regarding products and services used by children.

Taking into account the best interests of the child involves balancing the interests of all parties involved. For example, the interests of an online service provider must be weighed against those of children, with the child's interests taking precedence, as the Committee on the Rights

of the Child emphasizes that "greater weight must be given to what serves the child best." However, the evaluation of the best interests is flexible and must consider the specific circumstances, needs, and diversity of the particular group of children or children in general. For instance, it includes consideration of the child's safety and protection from violence and exploitation and requires the assessment of future risks and harms. Furthermore, decisions concerning children must be motivated, justified, and explained. When conducting a best interests assessment, it is essential to involve children and listen to their views. Depending on the decision or action in question, organizations should engage with the individual child or consult a representative sample of children, taking into account their evolving capacities.

Several challenges may arise when trying to identify and prioritize the best interests of the child. These challenges include conflicts between the interests of different parties involved, difficulties in realistically assessing the impact of a decision on a child, as well as the lack of clear mechanisms for implementing and monitoring this principle. Additionally, in many situations, the best interests of the child may conflict with other fundamental principles, such as respecting parental rights or the economic and political considerations of the state.

Thus, the principle of the best interests of the child constitutes a fundamental pillar of the CRC and an indispensable guide for any decision involving children. It requires that every action or measure affecting them be guided by clear reasoning that places the child's well-being first. Although the application of this principle can be complex, its importance cannot be underestimated, as it is essential for the protection of children's rights and for promoting their healthy and balanced development.

3.3.   The Principle of Equality of Opportunity and Non Discrimination

Equality and non-discrimination constitute fundamental values of human rights, acquiring an even greater significance in the context of child protection. Article 2 of the Convention on the Rights of the Child (CRC), adopted by the United Nations General Assembly on November 20, 1989, mandates that States Parties ensure that all rights set forth in the Convention apply to every child without discrimination of any kind. The CRC is the first international treaty to provide comprehensive and specific legal protection for children, and the principle of non-discrimination is one of its four guiding principles, alongside the best interests of the child (Art. 3), the right to life, survival, and development (Art. 6), and respect for the child's views (Art. 12) (UNICEF, 2021).

Specifically, Article 2 of the CRC states: "*States Parties undertake to respect and ensure the rights set forth in the present Convention to each child within their jurisdiction without discrimination of any kind, irrespective of the child's or their parent's or legal guardian's race, colour, sex, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status*." This wording provides a broad and comprehensive framework of protection, prohibiting both direct and indirect discrimination and reaffirming the obligation of States to guarantee equal rights to all children.

In practice, discrimination against children can take various forms:

- Direct discrimination, when children are explicitly treated differently (e.g., unequal access to education for girls in certain regions);
- Indirect discrimination, when seemingly neutral rules have adverse effects on specific groups of children (e.g., school regulations that do not consider the needs of children with disabilities);
- Systemic discrimination, often embedded in cultural or institutional structures (e.g., marginalization of Roma or refugee children).

These forms of discrimination affect not only access to services but also children's sense of belonging and dignity, influencing their psychosocial development.

Equality of opportunity and non-discrimination are essential for the effective exercise of all other rights enshrined in the CRC. Without adherence to this principle, a child risks exclusion or marginalization due to factors beyond their control—such as gender, ethnicity, disability, family economic status, or place of birth (Save the Children, 2020).

The UN Committee on the Rights of the Child has consistently emphasized that the principle of non-discrimination entails not only equal treatment but also equitable treatment, recognizing the need for special measures to support children in vulnerable situations (UN Committee, General Comment No. 5, 2003). Thus, equality means not only the absence of discrimination but also equal access to opportunities and effective protection of rights.

One of the most visible areas for applying the principle of non-discrimination is education. Children from minority groups, Roma children, children with disabilities, or those from impoverished families are often excluded or have limited access to quality education. Article 28 of the CRC must be interpreted in close connection with Article 2 to ensure that the right to education is fulfilled without discrimination. Discrimination also affects access to healthcare for

children living in rural areas, refugees, migrants, or ethnic minorities. States have the obligation to provide culturally and linguistically appropriate services and to eliminate administrative and economic barriers. Article 23 of the CRC explicitly recognizes the need for additional support for children with disabilities. Non-discrimination in this context means not only integration but full inclusion in social, educational, and cultural life.

Although the principle of non-discrimination is firmly established in international law, its implementation often remains inadequate. Major causes include: lack of political will; discriminatory cultural attitudes (e.g., towards girls or minority children); insufficient statistical data to monitor inequalities effectively; and underfunding of public services in disadvantaged areas. Additionally, global crises such as the COVID-19 pandemic, mass migrations, and armed conflicts have exacerbated existing disparities, disproportionately affecting vulnerable children.

Article 2 of the CRC provides the normative framework by which equality of opportunity and the prohibition of discrimination become concrete obligations for States. Applying this principle requires more than eliminating unequal treatment; it involves adopting proactive measures to address historical or systemic disadvantages. Respecting non-discrimination is an indispensable condition for the full realization of all other rights and for building an equitable society in which every child, regardless of identity or circumstances, is valued, protected, and supported.

3.4.   The Principle of Listening to and Respecting the Child's Opinion

Another fundamental principle enshrined in the CRC is the child's right to freely express their opinion in all matters affecting them and to be duly heard, as stipulated in Article 12 of the Convention. This principle reflects a paradigm shift in the perception of the child—not only as a beneficiary of protection but also as a rights-holder capable of active participation in society.

Article   12   contains   two   essential   paragraphs: "*States Parties shall assure to the child who is capable of forming their own views the right to express those views freely in all matters affecting the child, the views of the child being given due weight in accordance with the age and maturity of the child*"; and "*To this end, the child shall be provided the opportunity to be heard in any judicial and administrative proceedings affecting the child, either directly or through a representative or an appropriate body, in a manner consistent with the procedural rules of national law.*"

An analysis of this article reveals two fundamental dimensions: the child's right to be heard, and the obligation of adults and authorities to take the expressed views into consideration.

Article 12 is often regarded as the "cornerstone of child participation" (Lansdown, 2005), emphasizing that participation is not a privilege but a universal right. Being heard involves not merely a formal act but an active recognition of the child as a participant in the decision-making processes affecting them. The UN Committee on the Rights of the Child, in General Comment No. 12 (2009), stresses that the implementation of Article 12 requires a change of mindset among adults: the child is no longer a passive object of protection but an active agent with their own voice, experience, and judgment.

In the educational system, respecting the child's opinion involves promoting dialogue and active participation within schools, either through consultative bodies (e.g., student councils) or involvement in classroom-level decision-making. Active participation contributes to the development of self-confidence, civic spirit, and responsibility (Hart, 1992).

In the legal domain, Article 12 is essential in cases concerning custody, guardianship, adoption, or special protective measures. Modern legislation mandates that minors be heard in an appropriate setting, respecting the best interests of the child (UNICEF, 2007).

Listening to the child's opinion does not imply granting absolute decision-making power but integrating the child's reasoning into family decision-making processes. It is crucial that parents balance the need for protection with the promotion of autonomy (Lansdown, 2011).

The effective implementation of Article 12 faces several obstacles, such as traditional cultural attitudes that perceive children as "unprepared" or "unimportant"; lack of training among professionals (educators, judges, social workers) in hearing and assessing children's views; and the risk of manipulation or undue influence of the child's opinion by adults.

Article 12 of the CRC highlights the recognition of the child as a social actor. Effective application of this right requires not only legal will but also cultural and institutional change. Respecting the child's opinion contributes to strengthening democracy, equity, and an inclusive society, with this article representing a pivotal paradigm in children's rights by transforming the child from a passive beneficiary into an active social participant.

Conclusion

The United Nations Convention on the Rights of the Child, adopted in 1989, marks a pivotal moment in the recognition of children as holders of inalienable rights, rather than merely as beneficiaries of protection. The document establishes international standards concerning children's survival, development, protection, and participation, significantly influencing national legislations and educational policies. Although substantial progress has been made, issues such as violence against children, social inequality, and the involvement of minors in armed conflicts remain serious challenges. The Convention promotes four fundamental principles: non-discrimination, the best interests of the child, the right to life and development, and respect for the child's views. These principles guide international efforts to build a more equitable and safer world for children.

The fundamental principles enshrined in the UN Convention on the Rights of the Child—namely the best interests of the child, non-discrimination and equal opportunities, and respect for the child's views—constitute the cornerstone of modern child rights protection. These principles ensure that children are recognized not only as vulnerable individuals requiring protection but also as active rights holders with their own voices and agency.

The principle of the best interests of the child demands that all decisions and actions affecting children prioritize their welfare and holistic development, acknowledging their evolving capacities and specific needs. This requires careful, context-sensitive assessments and inclusive processes that engage children meaningfully.

Equally, the principle of non-discrimination emphasizes that all children must have equal access to rights and opportunities, regardless of their background, identity, or circumstances. This goes beyond formal equality to include proactive measures to address historical and systemic disadvantages, ensuring that vulnerable and marginalized children are fully included in social, educational, and cultural life.

Finally, the right of the child to be heard and to have their opinions taken seriously fosters a paradigm shift from viewing children as passive recipients of care to recognizing them as active participants in decisions affecting their lives. This participation strengthens democratic values, social justice, and respect for human dignity.

Despite notable progress, challenges remain in fully implementing these principles at national and global levels, due to cultural attitudes, resource constraints, and complex social realities. Continued efforts are required to translate the Convention's commitments into effective policies and practices that uphold children's rights in all spheres of life.

In sum, these principles provide an indispensable framework for safeguarding children's rights and promoting their well-being, development, and participation, ultimately contributing to a more just and inclusive society.

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APPROACHES TO THE MENTORING ACTIVITY FROM THE PERSPECTIVE OF EDUCATIONAL ETHICS

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Abstract: *Knowledge of professional responsibilities from a moral-pedagogical perspective is a goal of educational ethics codes. As a professional educator, a mentor teacher must have the ability to carry out reflections, critical-constructive analyses and representations of fundamental pedagogical concepts and, at the same time, to offer moral perspectives in various professional and life situations. Establishing educational objectives at different levels, selecting and configuring educational content, establishing evaluation forms, methods, and criteria, managing and regulating relationships with learners, colleagues, decision-makers, and parents are all professional responsibilities that require pedagogical but also ethical competencies for educational professionals. The inclusion in codes of professional ethics in education of issues related to the deontology of educational purposes, the deontology of educational content, the deontology of evaluation, the deontology of pedagogical relations can stimulate the reflection and action of teachers who carry out mentoring activities but, at the same time, also that of the mentored persons. The purpose of the investigation was to highlight the importance of including in the codes of educational ethics some principles that regulate the exercise of mentor roles, especially from the perspective of the deontology of evaluation and the deontology of pedagogical relations between teacher and student but also between teachers. Starting from the premise that ethical and deontological regulations in any professional field have the role of protecting the quality of professional services offered by specialists in that field, the need to consider ethical principles of behaviour of the mentor teacher is imperative in*

the educational field and that of initial professional training due to the mechanism that underpins the mentoring process: the mentor's professional service includes behaviours and attitudes, and it has a formative, directing, and guiding role more than in other fields.

Keywords: *mentoring; educational ethics; mentor teachers; mentoring relationship; code of professional ethics.*

Approaches to educational ethics from the perspective of the roles of mentor teachers

In essence, mentoring designates a relationship aimed at supporting learning and education established between a person willing to share their experience and knowledge (mentor) and another person with less experience who is usually at the beginning of their professional path, capable and willing to receive this support in order to develop their professional experience and to develop personally (mentored person/mentee). Mentoring is a relationship based on trust between mentor and disciple, in which a transfer of practical information, knowledge, and models takes place, which favours the transformation of the disciple's professional identity (Stan, 2020).

A mentor is a professional, a person with high expertise in a field, who helps someone, an individual or a group, to develop through learning. A mentor in the educational field is a professional who advises a less experienced person or one who is at the beginning of their teaching career, offers informed opinions about the profession, shares their experiences and knowledge, facilitating the professional integration of beginners or those in the training process and the achievement of their potential in their professional and personal lives (Ezechil, 2009).

The efficiency of the mentoring activity and relationship is influenced by personality characteristics of the mentor (ease in establishing interpersonal relationships, empathy, open, positive attitude, moral integrity, resilience), but also by his/her professional skills. From the perspective of the mentee, the efficiency of mentoring is conditioned by qualities such as: desire for (self)improvement, confidence in one's own potential, openness to new things, willingness to learn continuously (Lazăr, Leahu, 2020). To successfully fulfill the role of mentor, the teacher must possess specific qualities and attributes: objectivity and honesty; integrity, concordance between his/her actions and guidance; ability to make the most appropriate decisions; perseverance, proven through actions and transmitted to the mentees;

ability to motivate and transmit trust to the mentees. Rowley (1999) identifies the following essential qualities of a good mentor (cited in Crașovan, 2016, pp. 73–74):

A good mentor is committed to helping new teachers achieve success and fulfillment in their new work.

A good mentor is accepting of new teachers.

A good mentor provides instructional support.

A good mentor is effective in a variety of interpersonal contexts.

A good mentor is a role model for lifelong learning.

A good mentor transmits hope and optimism.

The mentor must be a model of professionalism, a supporter of the ideals and aspirations of those at the beginning of their career, possess a high level of professional expertise, but also personality traits that favour the exercise of the mentor role: altruism, empathy, concern for the needs of others, patience, being a good role model for the disciple's activity (Ezechil, 2008).

The fundamental roles that a mentor teacher fulfills:

- identifies together with the mentee the professional needs, objectives, and action strategy;
- observes the didactic and extra-didactic activity of the mentee;
- provides pedagogical assistance for the design of the professional activity;
- provides feedback for all dimensions of the mentee's professional activity;
- provides advice on the management of the class;
- contributes to facilitating the integration of the mentee into the organizational culture of the institution;
- provides support to the mentee in learning about the profession;
- highlights the mentee's professional qualities and achievements;
- evaluates the mentee's progress, contributing to the improvement of non-achievements.

The exercise of these roles, in the most diverse professional situations, requires the existence of a deontological framework that regulates the behaviours, attitudes, targeted competencies, as well as the context in which the mentoring process is carried out.

Knowledge of professional responsibilities from a moral-pedagogical perspective is a goal of educational ethics codes. As a professional educator, a mentor teacher must have the ability to carry out reflections, critical-constructive analyses and representations of fundamental pedagogical concepts and, at the same time, to offer moral perspectives in various professional and life situations. Establishing educational objectives at different levels, selecting and configuring

educational content, establishing evaluation forms, methods, and criteria, managing and regulating relationships with learners, colleagues, decision-makers, and parents are all professional responsibilities that require pedagogical but also ethical competencies for educational professionals (Crișan-Tăușan, 2023).

The inclusion in codes of professional ethics in education of issues related to the deontology of educational purposes, the deontology of educational content, the deontology of evaluation, the deontology of pedagogical relations can stimulate the reflection and action of teachers who carry out mentoring activities but, at the same time, also that of the mentored persons. From this perspective, Ghiațău (2011) presents an inventory of issues that can be included in codes of professional ethics for teachers, suggesting themes of the code generated by pedagogical variables (objectives, content, evaluation) but also by psychosocial ones (relationships between teachers and students, colleagues, parents), which outline the area of action of the teacher at the classroom and school institution level.

Methodology

In line with the aforementioned ideas regarding the ethical component of the teaching and mentoring activities of mentor teachers, we investigated the opinion of teachers in pre-university education regarding the importance of knowing professional responsibilities from a moral-pedagogical perspective as well.

Following a semi-structured interview applied to groups of teachers who carry out teaching activities within two pre-university education institutions in Cluj-Napoca, we formulated the items of a questionnaire through which we aimed to identify their perception regarding the importance of including in the codes of educational ethics some principles that would regulate the conduct and attitudes of mentor teachers, the targeted competencies, as well as the context of the mentoring process.

The items in the questionnaire through which we investigated these aspects are:

- I believe that the inclusion of ethical principles of behaviour of mentor teachers in the educational ethics code has an important role in regulating the conduct and attitudes of mentors.
- I believe that it is important to include regulations regarding the deontology of evaluation in the educational ethics code.
- I believe that the inclusion of regulations regarding the deontology of pedagogical relationships in the code of ethics promotes the reflection and action of mentor teachers.

The purpose of the investigation was to highlight the importance of including in the codes of educational ethics some principles that regulate the exercise of mentor roles, especially from the perspective of the deontology of evaluation and the deontology of pedagogical relations between teacher and student but also between teachers.

Research objectives:

- Highlighting the need to include in the code of educational ethics some ethical principles of behaviour, which regulate the conduct and attitudes of mentor teachers;
- Highlighting the importance of regulating in the code of educational ethics the deontology of evaluation;
- Highlighting the importance of including in the code of educational ethics some regulations regarding the issue of the deontology of pedagogical relations between mentor teachers and other teachers, mentor teachers and students.

Research hypothesis: we assume that knowledge and awareness of professional responsibilities from a moral-pedagogical and ethical perspective has a positive impact on the quality of mentoring activity and on promoting the reflection and subsequent actions of mentor teachers.

Target group: the questionnaire was applied to a sample of 30 teachers with a minimum of 5 years of professional experience, who carry out teaching activities within two pre-university educational institutions in Cluj-Napoca.

Results and discussions

Following the application of the items from the questionnaire assessing the teachers' perception regarding the importance of including principles that regulate the conduct and attitudes of mentor teachers in the codes of educational ethics, we recorded the following results:

Table no. 1: I believe that the inclusion of ethical principles of behaviour of mentor teachers in the code of educational ethics has an important role in regulating the conduct and attitudes of mentors

	Frequency	%
Agree	21	70.0
Partially agree	7	23.3
Disagree	0	0.0
I don't know/No answer	2	6.6
Total	30	100.0

Table no. 2: I believe it is important to include regulations regarding the deontology of evaluation in the code of educational ethics

	Frequency	%
Agree	19	63.3
Partially agree	10	33.3
Disagree	0	0.0
I don't know/No answer	1	3.3
Total	30	100.0

Table no. 3: I believe that the inclusion in the code of ethics of regulations regarding the deontology of pedagogical relations promotes the reflection and action of mentor teachers

	Frequency	%
Agree	23	76.6
Partially agree	6	20.0
Disagree	0	0.0
I don't know/No answer	1	3.3
Total	30	100.0

The responses of the teachers highlight their perception of the importance of including in the codes of educational ethics principles that regulate the conduct and attitudes of mentor teachers, principles that regulate the exercise of mentor roles, especially from the perspective of the deontology of evaluation and the deontology of pedagogical relations. We note that the majority of the teachers surveyed highlight the importance of ethical competencies, not only pedagogical, as well as the need to understand professional responsibilities from a moral-pedagogical perspective. The opinion of the majority of the teachers surveyed regarding the need for regulations concerning the deontology of evaluation and the deontology of pedagogical relations in the activity of mentor teachers highlights the awareness of the need for a deontological framework specific to the mentoring activity, beyond the code of educational ethics.

Evaluation in mentoring activities can be approached from two perspectives: evaluation of the mentor and evaluation of the mentee. The evaluation of the mentee takes into account training needs, teaching behaviour, attitudes (toward students, profession, colleagues, school institution, own career), teaching skills (especially

communication skills), motivation. In addition to the mentor, the evaluation can also be carried out by school managers, school inspectors, as well as the evaluated person themselves (the approach being self-evaluation). The mentor, in turn, can be evaluated by school managers, school inspectors, by the mentee, or can self-evaluate. Most often, the following are subject to evaluation: the quality of the mentoring activity, the efficiency of the strategies used, the attitude towards the mentee, the results obtained - both professionally and personally.

Providing measurement, assessment and decision guiding functions, evaluation includes issuing value judgments based on the analysis and processing of measured data, estimating the degree of achievement of objectives, and assessing the quality of the results obtained. Through measurement, data is collected in the most objective ways possible; through assessment, a qualitative, value-based estimate of the measured results is established, but some aspects that cannot be quantified are also assessed here; and through decision, grades or qualifiers are assigned.

Thus, ethical discussions are particularly necessary through the component aimed at evaluation. From the mentor's perspective, they note, analyze and evaluate the results obtained by the novice in relation to the proposed objectives; they identify the positive aspects, successes, but also the failures, gaps, as well as the causes that determine them, proposing amelioration measures. The regulation of the teaching process, but also that of the mentoring process, the improvement of one's own activity as a teacher and mentor highlights the fundamental role of evaluation at the level of teaching processes and mentoring processes. From the perspective of the mentee, a correctly conducted evaluation allows them to develop their capacity for self-knowledge and self-evaluation, further stimulating their motivation and professional interests, forming the basis for the regulation and self-regulation of future teaching activity. Taking into account the impact of the evaluation process on the personality of the mentees but also on the improvement of the activity carried out, it is necessary to apply strategies to ensure objectivity and limit subjectivity in evaluation.

The qualities of a good examiner specified by Ghiațău (2011, p. 131) are essential for both the teacher and the mentor:

the empathic capacity to identify the desire for knowledge and the interests of the person being evaluated/mentored;

emotional stability and maintaining the evaluation process within the limits of a psychological and moral balance;

knowledge of the fundamental notions of evaluation theory.

The deontological perspective on the teacher-student relationship supports the inclusion of the following benchmarks in the attitudes and professional conduct of teachers:

avoiding treating students with contempt or arrogance;

avoiding exaggerations regarding students' mistakes;

limiting relationships to topics related to the subjects studied, to the processes of information, training and education of students;

teacher-student communication will not include confidences between them;

the presence of permanent control regarding the teacher's actions and the messages transmitted;

adapting attitudes to the psychosocial particularities of the age of the educated;

maintaining objectivity in the assessment of the educated.

Numerous ethical questions develop around the concept of teacher authority, including both epistemic authority, generated by the teacher's ascendancy over the learner in terms of scientific content, and deontic authority, resulting from the teacher's ability to influence behaviour based on arguments or constraints. Ethical codes regarding the teaching profession establish legitimate frameworks for the manifestation of authority and professional conduct.

Regarding the regulation of relations between teaching staff and students, the Framework Code of Ethics for Teaching Staff in Pre-university Education specifies in Article 5 the obligation of teaching staff to know, respect and apply a series of rules of conduct.

Regarding collegial relations between members of the teaching staff, the Framework Code of Ethics for Teaching Staff in Pre-university Education stipulates, in Article 7, that these are based on respect, honesty, solidarity, cooperation, fairness, tolerance, mutual support, confidentiality, fair competition. Basing interpersonal relationships and interactions between teachers on collaboration, cooperation, collegiality, assuming professional responsibility, collegial professional support, exchanges of good professional practices, collegial support for managing problem situations, supporting the professional development of the institution, openness to the real learning needs of students, all constitute premises for creating a professional context favourable to freedom of expression, positive, desirable manifestations, and continuous personal and professional development.

Furthermore, in their professional activity, teaching staff should avoid practicing any form of discrimination and denigration in their

relationships with other colleagues and act to combat intellectual fraud, including plagiarism.

The professional culture of teaching staff based on values such as collaboration, support, honesty, respect, tolerance, encourages the growth of professional performance at the institutional level, and is even more necessary within mentoring relationships that are based on cooperation, shared responsibility, and reciprocity.

Analyzing the ethics of pedagogical relationships between educators, Ghiațău (2011) emphasizes the importance of the values of cooperation, collegiality and collaboration, which underpin a professional culture with positive relationships as its core. We believe that these define mentoring relationships, evidenced in the attitudes, conduct and actions of both the mentor and the mentee.

Through cooperation, the mentor and the mentee mobilize their efforts to solve a problem, respecting the principle of the best interests of the children, freely express their ideas, fairly allocate their rights and responsibilities, and contribute to the joint development of solutions.

Collegiality, "as a professional virtue that implies a mutually positive attitude, a disposition for support and cooperation between professionals in the field" (Ghiațău, 2011, p. 138) constitutes an indispensable premise for building the mentoring relationship. We identify four types of interaction that can be called collegial (Ghiațău, 2011, p. 138):

"(a) frequent, concrete and precise discussions about teaching practice;
(b) frequent observations on the activities carried out;
(c) joint planning, design and evaluation of teaching materials;
(d) organization of lessons taught in teams."

These interactions are specific to a collegial attitude between teachers, but they are defining for the mentoring relationship, revealing some of the most significant actions and objectives pursued in this process.

The third concept that describes the supportive relationships between teachers – collaboration throughout the mentoring process – involves the establishment of an intra-institutional relationship between mentor and novice, based on adherence to common norms and values, specific to the school institution and the activities carried out, but also based on the assumption of common goals established for the mentoring process.

Conclusions

Starting from the premise that ethical and deontological regulations in any professional field have the role of protecting the quality of professional services offered by specialists in that field, the need to

consider ethical principles of behaviour of the mentor teacher is imperative in the educational field and that of initial professional training due to the mechanism that underpins the mentoring process: the mentor's professional service includes behaviours and attitudes, and it has a formative, directing, and guiding role more than in other fields. The teaching profession involves ethical requirements, compliance with "values, principles and norms of conduct intended to contribute to institutional cohesion and the cohesion of groups of people involved in educational activity, by creating and maintaining a climate based on cooperation and competition according to fair rules." (Article 2 of the Framework Code of Ethics for Teaching Staff in Pre-university Education). Regarding mentor teachers, in addition to the principles and norms of conduct included in the Framework Code of Ethics for Teaching Staff in Pre-university Education, which aim at the commitments of all teachers towards students and towards the profession, they should adopt principles and norms that derive from the specifics of the mentoring process.

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EXPLORING GENDER DIFFERENCES OF THE FORMS, CONSEQUENCES AND STRATEGIES FOR CURBING WORKPLACE INCIVILITY AMONG PRIMARY SCHOOL TEACHERS IN NIGERIA

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Abstract: *This study explores gender differences of the forms, consequences and strategies for curbing workplace incivility among primary school teachers in Delta State, Nigeria. The study is a descriptive survey which adopted the ex-post-facto design. The population comprised all the public primary schools in Delta State, from which a sample of 362 teachers (112 males 250 female) was drawn exploring purposive sampling technique. The instrument for data collection was researcher developed: titled ''Forms, Consequences and Strategies for Curbing Incivility Questionnaire (FCSCIQ)''. Face and content validity were employed validating the instrument which was further subjected to a reliability test which yielded .82 indicating a high reliability index. Data obtained were analysed using mean score for research questions at 2.50 bench mark and t-test for hypotheses at 0.05 level of significance. Findings revealed that multifaceted forms of incivility manifested in the primary schools; incivility had grave consequence for the schools; positive school climate, culture, prompt and decisive response to acts of uncivil conduct were effective strategies for curbing incivility. Results additionally indicated that significant difference does exist between male and female teachers' view on forms of incivility, whereas in terms of consequences of incivility and strategies for curbing incivility, significant difference was not recorded between male and female teachers. It was therefore recommended among others that the school leadership should ensure positive school climate, culture and address uncivil conduct decisively, etc.*

Key words: *forms of incivility; consequences of incivility; curbing incivility; primary school teachers*.

Introduction

Teachers are the main human sources and they have the greatest impact on classroom and students' academic performance. Teachers are integral to the educational system; they are invaluable assets in school due to their expertise, impact on student achievement, and classroom management skills. Teachers possess specialized subject knowledge and pedagogical skills that enable them to effectively deliver instruction that helps them to provide feedback, and support to help students develop essential knowledge, skills and competencies. They play crucial role in shaping students' character, values, and personal development by serving as role models and inspiring students to reach their full potential.

Anderson and Pearson (2023) defined workplace incivility as a "low-intensity deviant behaviour with ambiguous intent to harm the target, in violation of workplace norms for mutual respect. Uncivil behaviours are characteristically rude and discourteous, displaying a lack of regard for others". Uncivil behaviour in workplace is seen by Namin, Ogaard and Roislien (2022) as violating workplace norms, showing discourteous behaviour, and avoiding job responsibilities. Thus, workplace incivility may refer to unproductive employee behaviour or counterproductive work behaviour that harms organizational interests and wellbeing, for instance, stealing office inventory, damaging organization's property, bullying co-workers or students, avoiding job duties, reporting to work late, neglecting students and so on. Incivility is typically viewed as a sort of emotional and psychological aggressiveness that goes against the ideal workplace norms of respect for one another.

The primary goal of the school is to deliver formal, structured instruction in the hopes of creating well-behaved, orderly adults (Avwiri, 2020, Efayena, 2023). In an environment where uncivil disposition flourishes, this objective cannot be accomplished. Administrators, parents, and students frequently treat teachers disrespectfully, which fosters a toxic workplace that threatens morale and job satisfaction. The dynamics of primary school settings in Delta State have a considerable impact on teachers' professional experiences. An increasing number of studies highlight how crucial leadership is in educational settings. According to Johnson and Smith (2022), Anderson and Pearson found that the conduct of school administrators significantly affects the work satisfaction and retention of teachers.

Incivility by school leaders has been highlighted as a critical factor contributing to increased stress and discontent among teachers, as evidenced by disrespectful speech and bad relationships. According to Smith and Johnson (2020) there is a substantial link between workplace incivility and poor effects for employees, such as increased stress, job dissatisfaction, and plans to leave. Co-worker incivility can compound these challenges in primary schools, where teamwork among instructors is critical. Instructors who experienced incivility from colleagues are more likely to consider leaving their jobs. It reduces job happiness, lowers workplace commitment, and increased attrition intentions. Reduced commitment and the emotional toll of dealing with incivility contribute to increased teacher attrition intentions (Bjork 2011 & McKinney, 2015)

Research has consistently indicated that female teachers are more likely to experience incivility in the primary school system compared to their male counterparts. Studies have shown that female teachers are more often subjected to verbal abuse, disrespect, and intimidation by students, parents, and colleagues (Björk, 2011; McKinney, 2015). The studies of Burke, et al (2019) and Tamir, et al (2016) reported that female teachers are more likely to face emotional and psychological distress due to uncivil conduct, which can negatively affect their job satisfaction, motivation, and overall well-being. On the other hand, male teachers tend to experience less incivility in the primary school system, although they are not immune to it. According to research, male teachers are less likely to be resisted or treated disrespectfully by parents and kids because they are more likely to be seen as authoritative individuals (Smit, 2015). Nonetheless, male educators may still encounter rudeness, especially if they are thought to be less macho or dictatorial (Martino, 2008, Avwiri, 2016). Overall, the evidence indicates that female teachers are more susceptible to incivility, even though both male and female teachers may encounter it. Muliira, Natarajan, and Van der Colff (2017) have reported that students' incivility includes sarcastic remarks, unacceptable complaints and objections, disregard for social discourse, incapacity or reluctance to listen to others' opinions or seek mutuality, and exam cheating. According to Keng (2017), rudeness, alienation, and disdain for others are the most common forms of antagonism noticed in organisations. Speaking about the detrimental effects of rudeness in gossip, Orunbon and Ibikunle (2023) claimed that it creates a hostile environment at work by fostering disagreement, hurting feelings, and encouraging bullying and harassment. According to Mohammadipour, Hasanvand, Gooudarzi, Ebrahimzadeh, and Pournia (2018), rudeness is a reciprocal

behaviour in which both teachers and students engage. In a survey of 152 secondary schools on students' rudeness towards teachers, Woudstra, Rensburg, and Visser (2018) found that 62.1% of instructors had experienced verbal bullying. According to Porath (2009), 60% of the reported workplaces in their survey were started by higher-ranking individuals who were aiming their attacks at a lower-ranking official. According to a 2019 study by Cortina and Magley, harsh treatment is more detrimental to employees when it is started by a higher-ranking individual.

Coworkers are typically the biggest source of rudeness that results in turnover when compared to managers or superiors (Shinde and Warale2023). Porath (2016) reported that 49% of colleagues' rudeness resulted in instructors leaving their jobs. Hendryadi and Zannati (2018) found that a significant contributing factor to employees' decision to leave their jobs is a high level of workplace rudeness. Regarding the cost of workplace rudeness, Doshy and Wang (2014) believed that workers experience severe psychological trauma, which has a significant impact on their success and performance on the job. According to a 2017 study by Mahfooz et al., employees frequently have less motivation to stay in their jobs as a result of workplace rudeness. Carpenter and Berry (2015), Tolentino (2016), Riasat and Nisar (2016), Namin et al. (2022), and others have highlighted the detrimental effects of workplace rudeness on employees in a variety of ways, including social, psychological, and physical. They have pointed out that it has serious consequences for the organisation as well as for individuals.

A number of strategies can be used to reduce rudeness in elementary schools. Creating a clear code of conduct that specifies acceptable conduct and the penalties for rudeness is one potential tactic (Hutton, 2012). Additionally, schools can offer staff and instructors professional development opportunities and training in communication, conflict resolution, and emotional intelligence (Porath& Pearson, 2010). Furthermore, schools can foster a positive school culture by promoting respect, empathy, and inclusivity among teachers, staff, and students (Kelloway, Francis and Catano, 2010). Another possible strategy for curbing workplace incivility in primary schools is to implement restorative practices, such as restorative circles and restorative mediations (Thorsborne&Vinegrad, 2014). These methods can help instructors, staff, and students develop strong bonds, settle disputes, and foster a sense of belonging and respect.   Furthermore, schools can set up a system for reporting instances of rudeness, which can help pinpoint specific treatments and identify types and hotspots of rudeness

(Porath, 2016). Primary schools may create a more upbeat and courteous workplace by putting these tactics into practice.

Among all occupations, teaching has the highest turnover rate, according to Heller (2014). With the implementation of the Universal Basic Education program, school enrolment increased significantly, placing an undue burden on the few teachers who were available. According to Balogun (2019) and Adeyemi (2012), the Nigerian educational system has a surprising issue with the high rate of teacher attrition. Nigeria's teacher attrition rate is actually 15% higher than the global average, according to a 2020 World Bank research. This might not be entirely unrelated to rudeness at work. According to a 2023 assessment by the United Nations Education, Scientific, and Cultural Organisation, there is cause for grave concern. Nigeria is located in Sub-Saharan Africa, which has a concerning deficit of primary school teachers, according to the research.

Statement of the problem

Teachers are the most important resource for attaining high-quality education, and education has been shown to be one of the main drivers of societal change and development in Nigeria, particularly in Delta State. High levels of rudeness have been sustained among and against teachers in schools, and primary school teachers are not an exception. According to statistics, teacher abuse in Nigeria increased dramatically from 12% in 2010 to 23% in 2022 (Madumere-Obike, Ukala, and Nwabueze, 2022). There is no denying that the increase in teacher abuse is concerning. In addition to hindering the accomplishment of school goals, uncivil acts towards and among teachers wastes money on training, replacement costs, and the indirect costs required for new teachers to become proficient. In primary schools throughout the state, there has been a noticeable degree of rudeness among instructors, as well as student and head teacher anti-teacher behaviour. Teachers who encounter uncivil behaviour at work will undoubtedly face increased stress and significant negative effects on their mental and emotional health. Because of the school's social structure, cooperation amongst its stakeholders is essential for achieving shared advantages. However, it appears that unwholesome behaviour towards teachers by school administrators, students, and even among teachers themselves threatens the expected reciprocal advantages that the school's social structure should provide. Therefore, among other things, this research aims to investigate the forms, consequences, and tactics for reducing incivility in the primary school sector.

Research Questions

The following research questions have been raised to guide the study.

1) What are the forms of work place incivility in Delta State primary schools?

2) What are the consequences of work place incivility among primary school teachers in Delta State?

3) What are the strategies for preventing work place incivility in Delta State primary schools?

Hypotheses

1) There is no significant difference among male and female teachers on the forms of workplace incivility in Delta State primary schools.

2) There is no significant difference among male and female teachers on the consequences of workplace incivility in Delta State primary schools.

3) There is no significant difference among male and female teachers on the strategies for curbing workplace incivility in Delta State primary schools

Methods

The study is a descriptive survey which adopted the ex-post-facto design. The population comprised all the public primary school in Delta State, Nigeria from which a sample of 362 teachers (112 males 250 female) was drawn exploring purposive sampling technique. The instrument for data collection was researcher developed and titled ''Forms, Consequences and Strategies for Curbing Workplace Incivility in Delta State Primary Schools Questionnaire (FCSCWIDSPSQ)''. The instrument was designed to elicit veritable information from teachers on their perception on the forms, consequences and strategies for mitigating incivility. Four point rating scales of STRONGLY AGREED (SA=4), AGREED (A=3), DISAGREED (=2) and STRONGLY DISAGREED (=1) was used by respondents to indicate their opinion. The instrument was face and content validated and was further subjected to a reliability test using 30 respondents who were not part of the study area. Split-half reliability test was adopted, scores computed using Cronbach Alpha statistics which yielded .82 indicating a high reliability index. Data obtained were analysed using mean score for research questions at 2.50 bench mark and t-test for hypotheses at 0.05 level of significance.

Results and discussion

Table 1: Mean Score and Standard Deviation of the forms of incivility in Primary Schools in Delta State, Nigeria.

MAL	FEMAL

SN	Items: Forms of Incivility	X1	E SD1	Decision	X2	E SD2	Decision
1	High rate of gossip among teachers	3.28	0.93	Agreed	3.74	0.44	Agreed
2	Physical intimidation	3.36	0.72	Agreed	2.71	0.45	Agreed
3	Withholding information	2.46	0.50	Disagreed	2.67	0.47	Agreed
4	Humiliated or ridicule	2.87	1.31	Agreed	3.20	1.33	Agreed
5	False accusation	2.65	1.40	Agreed	3.09	1.39	Agreed
6	Unwarranted teasing from colleagues	2.51	1.11	Agreed	3.07	0.99	Agreed
7	Lack of mutual respect from colleagues	3.99	0.10	Agreed	3.73	0.45	Agreed
8	Disrespect from students	2.77	0.71	Agreed	2.77	0.71	Agreed
9	Insults from students	2.59	1.07	Agreed	2.53	0.76	Agreed
10	Offensive remarks	2.06	0.24	Disagreed	3.25	0.77	Agreed
11	Being howl at	4.00	0.00	Agreed	2.77	1.45	Agreed
12	Persistent criticism of work	2.44	0.49	Disagreed	2.86	0.93	Agreed
13	Threats of violence	2.37	0.65	Disagreed	2.95	0.78	Agreed
14	Sexual	2.1	0.35	Disagreed	2.9	0.81	Agreed

	harassment	4		d	9		
15	Rude remarks from superiors	2.06	0.24	Disagreed	2.73	0.64	Agreed
16	Stalking from the opposite sex	3.09	1.39	Disagreed	2.59	1.07	Agreed
17	Unwarranted negative feedback of teaching review	3.48	0.50	Agreed	2.51	1.11	Agreed
18	Giving silent treatment	2.53	0.76	Agreed	2.65	1.45	Agreed
19	Sending nasty and belittling message	3.33	1.13	Agreed	3.49	0.50	Agreed
20	Invading spaces	3.99	0.10	Agreed	3.07	0.99	Agreed
	GRAND MEAN	**2.90**		**Agreed**	**2.94**		**Agreed**

Table 1 shows the mean rating of both male and female primary teachers' view on the general forms of incivility perpetuated in the primary schools across stakeholders. While male teachers do not see withholding of information, offensive remarks, persistent criticism of work, threats of violence, sexual harassment, rude remarks from superiors, and stalking from the opposite sex as forms of incivility within the Primary School, their female counterparts think otherwise. However, the grand mean rating of 2.90 and 2.94 for male and female teachers respectively which are above the bench mark of 2.50 indicate that these uncivil acts are prevalent in Delta State primary schools.

Table 2: Mean Score and Standard Deviation of the cost of incivility in the primary school system in Delta State, Nigeria.

	MALE	FEMALE

SN	Items: COST OF INCIVILITY	X1	SD1	Decision	X2	SD2	Decision
1	Decreased work effort	2.87	0.80	Agreed	3.09	0.78	Agreed
2	Increased time spent on work	3.00	0.83	Agreed	2.93	0.88	Agreed
3	Decreased the quality of work	2.95	0.81	Agreed	2.96	0,84	Agreed
4	Lost work time worrying about incivility	3.05	0,89	Agreed	2.93	0.85	Agreed
5	Lost work time avoiding the offender	3.07	0,85	Agreed	2.88	0.83	Agreed
6	Leads to poor performance	3.11	0.77	Agreed	3.01	0.83	Agreed
7	Declined commitment	3.14	0.82	Agreed	3.05	0.79	Agreed
8	Leads to abandoned work	2.98	0.84	Agreed	3.07	0,81	Agreed
9	Affected negatively their general work readiness	2.67	0,85	Agreed	3.OO	0.83	Agreed
10	Leads to teachers stress	3.14	0.78	Agreed	2.99	0.75	Agreed

GRAND MEAN	**2.99**	**0.82**	**Agreed**	**2.99**	**0.82**	**Agreed**

Table 2 indicates that both male and female respondents view all of items 1 – 10 as cost/ consequences of incivility in Delta State primary schools; as evident in the fact that all 10 items recorded mean score above the 2.50 bench mark of acceptance. Thus, it could be concluded that incivility has grave cost/consequence for the effective and efficient functioning of the primary school sector in Delta State.

Table 3: Mean Score and Standard Deviation of the strategies for preventing workplace incivility in primary schools Delta State, Nigeria.

S N	Items: Strategies for preventing incivility	MALE			FEMALE		
		X1	SD1	Decision	X2	SD2	Decision
1	Establishment a positive school culture	3.05	0.84	Agreed	2.97	0.75	Agreed
2	Implement incivility a zero-tolerance policy	3.03	0,79	Agreed	3.05	0.84	Agreed
3	Promote	2.8	0.84	Agreed	3.0	0.79	Agreed

	open communication	7			6		
4	Staff training on emotional intelligence	2.95	0.82	Agreed	3.05	0.84	Agreed
5	Mindfulness and self-care	3.14	0.82	Agreed	2.95	0.75	Agreed
6	Foster resilience among staff by promoting a growth mindset	3.01	0.80	Agreed	3.14	0.82	Agreed
7	Model respectful behavior	2.95	0.75	Agreed	2.97	0.75	Agreed
8	Fostering a positive school climate	3.08	0.82	Agreed	3.14	0.84	Agreed
9	Address incivility promptly	2.95	0.75	Agreed	3.11	0.83	Agreed
10	Encourage collaboration among teachers	3.01	0.80	Agreed	3.05	0.84	Agreed

11	Teacher-student relationships	3.14	0.82	Agreed	3.11	0.77	Agreed
	GRAND MEAN	**3.02**	**0.79**	**Agreed**	**3.05**	**0.81**	**Agreed**

Table 3 indicates that both male and female respondents view all of items 1 – 11 as effective strategies for curbing incivility in Delta State primary schools; as evident in the fact that all 11 items recorded mean score above the 2.50 bench mark of acceptance. Thus, it could be concluded that incivility has grave cost/consequence for the effective and efficient functioning of the primary school sector in Delta State.

Table 4: T-test summary of the difference in the mean rating of primary school teachers on the forms of incivility when gender is considered.

Variable	N	X	SD	DF	t-cal	t-crit	Level of sig.	Decision
Male	112	59.38	6.46	360				Significant
					3.011	1.96	0.05	Hypothesis rejected
Female	250	56.22	12.06					

In table 4, the t-calculated value of 3.011 is higher than t-critical value of 1.96. Hence, the null hypothesis is rejected. This implies that there is significant difference in the mean responses of male and female primary school teachers on their consideration of what forms incivility in the schools. This implies female teachers view acts of incivility different from their male counterpart.

Table 5: T-test summary of the difference between male and female primary school teachers mean rating of the cost of incivility to the primary school system in Delta State

Variable	N	X	SD	DF	t-cal	t-crit	Level of sig,	Decision
Male	112	29.9	8.2					Not Sig.
				360	.141	1.95	0.05	Hyp. Accepted
Female	250	29.9	8.2					

In table 5, the t-calculated value of .141 is less than t-critical value of 1.95. Hence, the null hypothesis is accepted. This implies that there is no significant difference in the mean responses of male and female primary school teachers on their consideration of what are the cost/ consequences of incivility in the schools. This means that both male and female teachers hold the same view on the consequences of incivility in primary schools.

Table 6: T-test summary of the strategies for preventing workplace incivility in Delta State primary school

Variable	N	X	SD	DF	t-cal	t-crit	Level of sig,	Decision
Male	112	33.22	8.69					Not Sig.
				360	-1.009	1.95	0.05	Hyp. Accepted
Female	250	33.55	8.91					

In table 6, the t-calculated value of -1.009 is less than t-critical value of 1.95. Hence, the null hypothesis is accepted. This implies that there is no significant difference in the mean responses of male and female primary school teachers on their consideration of what constitute strategies for curbing incivility in the schools. This means that both male and female teachers hold the same view on the strategies for preventing incivility in primary schools.

Discussion of results

There is a clear disparity between the mean assessment of male and female primary teachers about the general types of rudeness that are maintained in primary schools by all parties involved. However, the mean for male teachers was lower than that of female teachers. Additionally, the obvious difference was proven by the grand mean ratings of 2.90 and 2.94 for male and female teachers, respectively. However, it is important to note that the differences are more pronounced in the areas of sexual harassment, threats of violence, frequent criticism of one's work, withholding information, insulting statements, harsh remarks from superiors, and stalking by the other sex. This is consistent with research by Burke et al. (2019) and Tamir et al. (2016), which found that female teachers encountered more rudeness from supervisors, coworkers, and pupils. Additionally, the current study supports the findings of Muliira, Natarajan, and Van der Colff (2017), who found that among the incivility reported by faculty, students' disregard for social discourse, unacceptable complaints and objections, sarcastic remarks, exam cheating, and disrespect for others are among the most common behaviours. According to Keng (2017), rudeness, alienation, and disdain for others are the most common forms of antagonism noticed in organisations. Male and female teachers' perceptions of uncivil behaviour differed significantly, according to Koth and Bradshaw (2013) and Waasdrop and Bradshaw (2015).The results of this study also show how serious the consequences of rudeness in the educational system are.

This is demonstrated by the fact that both male and female educators concurred that rudeness in the classroom lowers commitment, effort, and quality of work; it also causes anxiety, poor performance, and work abandonment, which in turn affects work preparedness and instructors' stress levels, among other things. The results of this study are consistent with research by Hendryadi and Zannati (2018), which found that high levels of workplace rudeness are a significant influence in employees' intentions to leave. Regarding the cost of workplace rudeness, Doshy and Wang (2014) believed that workers experience severe psychological trauma, which has a significant impact on their success and performance on the job. According to Mahfooz et al. (2017), employees frequently have less motivation to stay in their jobs as a result of workplace rudeness. Berry (2015), Tolentino (2016), Riasat and Nisar (2016), Namin et al. (2022), and others have highlighted the detrimental effects of workplace rudeness on employees' physical, mental, and social well-being. They have pointed out that it has serious consequences for the organisation as well as for individuals. Speaking about the detrimental effects of gossip, Orunbon and Ibikunle (2023) claimed that it creates a hostile environment at

work by fostering disagreement, hurting feelings, and encouraging bullying and harassment.

Regarding how to reduce workplace rudeness in Delta State elementary schools, male and female educators have similar opinions. Therefore, a zero-tolerance policy for incivility, the creation of a positive school culture, the encouragement of open communication, emotional intelligence training, mindfulness, and self-care, the modelling of respectful behaviour, the development of resilience in staff, the prompt resolution of incivility, the encouragement of staff collaboration, and the maintenance of a healthy relationship between the school head, teachers, and students are all suggested as potential strategies to prevent incivility in schools. The results of Porath and Pearson (2010), Kelloway et al. (2010), Thorsborne and Vinegrad (2014), and Porath (2016) are all consistent with the current study. According to their research, preventing rudeness in the educational system depends heavily on a school's climate, organisational code of conduct, open and unrestricted communication, supervisors, staff, and students working together and maintaining constructive connections.

Conclusion

It is clear from the results and discussion above that incivility is rampant in schools. Additionally, it apparent that uncivil acts in our schools has serious consequences and repercussions. The fact that teachers no longer perceive teaching to be an attractive career path makes this clear. However, as evident as the signs of incivility among and against teachers and the repercussions they cause, a supportive school environment, culture, and leadership will obviously obviate and lessen the negative effects of incivility on the teachers and on the school general health. Another tactic to reduce rudeness in schools is cooperation between parents, instructors, students, and school administrators.

Recommendations

Based on the discussion and conclusion above, the following recommendations are put forth.

1. At the organizational level, the school heads/management, should ensure to create a school culture and climate that enhances respect, empathy and inclusivity through staff development.

2. Training should be organized for all members of staff within the school on emotional intelligence, self-discipline and resilience.

3. School leadership should address any act of incivility promptly, decisively and justly.

4. there is need to put policies that project female teachers from uncivil acts within the school system

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STRATEGIES AND PRACTICES FOR BUILDING A STIMULATING AND SUSTAINABLE LEARNING ENVIRONMENT

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Abstract: *This article explores both traditional and modern didactic approaches used in the design, delivery, and evaluation of educational content to identify the key elements that contribute to engaging and enduring learning environments. By analyzing strategies that foster critical thinking, creativity, and sustained academic achievement, the study underscores the importance of flexibility and innovation in education. Employing a qualitative research methodology, the study involved semi-structured interviews with university and pre-university teachers and students, as well as participatory observation during seminar sessions. These methods enabled an in-depth examination of how classroom, institutional, and interpersonal dynamics influence student motivation and engagement. Findings highlight the need for personalized teaching approaches that respond to individual learner needs, supported by timely feedback and carefully designed instructional*

strategies. The study offers a comprehensive framework to guide educators in developing inclusive, motivating, and effective learning environments.

Keywords: *didactic strategies; learning; educational environments.*

Introduction

The design and implementation of educational content represent a complex and vital process in the creation of engaging learning environments (Vlăsceanu, 1998). In a constantly changing world, where technology evolves rapidly and learning needs are becoming increasingly diverse, it is essential to approach the design and delivery of educational content with both care and creativity.

This paper explores various approaches and techniques used to create learning environments that inspire and motivate students. Adaptability and innovation in the design and implementation of educational content are crucial for developing stimulating learning contexts that encourage exploration, critical thinking, and creativity.

The present research employs a qualitative methodology and is structured as a case study focused on specific analyses, aiming to understand how individuals perceive their personal experience and how they reflect it within the collective. The central question guiding this article is: How can educational activities and stimulating learning be designed to produce long-lasting outcomes for students?

The primary objective is to explore innovative approaches to creating engaging learning environments, to analyze the processes involved in designing educational content, to examine the methods used to assess its impact on students' progress, and to investigate tools for the continuous improvement of learning environments.

Alongside the main objective, several secondary goals have been identified, including examining the design of teaching activities and stimulating learning to achieve sustainable results among students; defining the concept of a stimulating learning environment; and clarifying teaching strategies such as instructional design, teaching style, evaluation, and assessment methods.

The process of creating a stimulating learning environment also involves certain limitations (Neacșu, 1999). One of the most common challenges is the lack of sufficient material resources allocated to educational institutions. Another issue concerns the reluctance of some teachers to adopt new methods and technologies in the instructional process. Additionally, the mindset and attitudes of students' parents have a significant influence on the development of such environments, as students often replicate their parents' behaviors or internalize the

values conveyed to them at home. At the same time, schools are increasingly facing students who show little interest in learning and resist progress, even when encouraged by their teachers (Dance, Franck E. X., 1989).

Research methodology
Qualitative research
For this research study, a basic qualitative approach was employed. This approach is commonly used in the fields of education, health, and social care. It focuses on the interpretation of experiences within educational contexts and is defined by its interpretive character (Buhamad, 2024).

The purpose of using a qualitative approach is to gain a deep understanding of how educational activities and stimulating learning environments influence students' motivation, critical thinking, and creativity. This method allows for a detailed analysis of the processes involved in the design and implementation of educational content and its impact on student progress. It provides valuable insights for the continuous improvement of learning environments.

Theoretical framework
Sustainability learning environments and outcomes of educational processes involve integrating sustainable development principles and practices into all aspects of the educational process. This includes not only key elements of education, such as teaching, learning and assessment, but also policies, documents (e.g. curriculum) and other didactic and pedagogical components, as well as the learning environment. The aim is to develop the personality and professionalism of learners, cultivating the knowledge, skills, values and attitudes needed to address complex global issues, such as climate change, environmental degradation, social inequality and economic growth (Wang et al., 2021).

Sustainability learning environments and the outcomes of educational processes involve a holistic and interdisciplinary approach that transcends the boundaries of traditional disciplines (Murphy et al., 2020), and extends learning beyond the classroom, promoting community engagement and social responsibility (Pimpa, 2024).

Educational processes that enable the emergence of long-term outcomes provide a pedagogical framework to support students in designing innovative practices to address sustainable development issues (Figueiŕo & Raufflet, 2015), contributing to the achievement of the Sustainable Development Goals (SDGs) at local, national and global levels. To achieve these goals, the adoption of innovative pedagogical approaches is essential. Experiential learning, for example,

through field trips and internships, provides students with valuable practical experience in addressing sustainability challenges (Kolb, 1984, p. 41). Problem-based learning (PBL) develops problem-solving skills in the context of real-world situations, and interdisciplinary approaches integrate knowledge from various academic fields to address the complexity of sustainability issues. In addition, technology-enhanced learning connects theoretical knowledge with practical implementation and promotes environmental awareness (Androutsos & Brinia, 2020). Online platforms, virtual reality (VR), augmented reality (AR), and data visualization tools offer new ways to engage students and enhance learning experiences (Freeman, 1984). Although online platforms offer access to diverse resources and flexibility, they can face technical issues and lack of social interaction (Bednarz et al., 2016). VR and AR offer immersive learning experiences for understanding environmental impacts but can have high development costs (Holzmann & Gregori, 2023). The case study method also plays an important role in sustainability pedagogy, helping students practice moral and rational decision-making in the context of real-world complexities (Montiel et al., 2018), and literary genres can be used to enhance emotional learning, considered an important factor in sustainable education (Pandita & Kiran, 2023). However, implementing educational processes that increase the chances of achieving sustainable education faces several challenges. The interdisciplinary nature of the field can make traditional assessment systems inadequate (Holzmann & Gregori, 2023), and assessing critical thinking and ethical reasoning is particularly difficult (Wang, Shi, Lu, Lin, & Yang, 2021). Implementing innovative pedagogies requires significant financial and human resources, access to technology, and time (Holzmann & Gregori, 2023), and teachers need training in both technical and pedagogical skills (Wang, Shi, Lu, Lin, & Yang, 2021). In addition, institutional rigidity, such as rigid school curricula and standardized testing, can hinder the integration of interdisciplinary and project-based learning, and teacher resistance to change can also be a barrier (Sun et al., 2008).

However, there are many opportunities for improvement. The integration of technology, with instruments such as digital badges, e-portfolios, and learning analytics, can improve assessment and feedback, and online platforms can facilitate global collaboration (Wang, Shi, Lu, Lin, & Yang, 2021). Collaborative networks and shared assessments between universities and organizations can lead to common assessment tools and resource sharing, and local community projects can enhance hands-on learning (Pimpa, 2024).

In this context, student motivation and engagement play a key role in facilitating effective learning and the adoption of sustainable behaviors.

According to self-determination theory, motivation and engagement are critical factors that influence students' academic success (Deci & Ryan, 2000). Motivation has been defined as a process where learners actively determine learning objectives for the purpose of monitoring, regulating, and controlling motivation, cognition, and behavior (Pintrich, 2000). Student motivation and learning strategies have been shown to be positively and significantly correlated, and research indicates that a student's motivation can significantly predict their learning strategies (Hariri et al., 2021). Furthermore, the use of engaging learning media, such as flipbooks, can increase student interest and motivation, thereby supporting optimal learning outcomes (Bunari et al., 2024). Engagement, on the other hand, involves active participation in the learning activity, with behavioral (e.g., time investment) and cognitive (e.g., strategic effort) dimensions being particularly important (Fredricks et al., 2005; Hiver et al., 2024).

In the context of learning, motivation refers to the processes that initiate, direct, and sustain goal-directed behavior (Zeidner et al., 2000). According to expectancy-value theory (Eccles & Wigfield, 2002), motivation encompasses self-efficacy (confidence in one's ability to succeed) and perceived value, which includes interest (pleasure in learning tasks) and utility (relevance to future goals). It impacts the learning process through both extrinsic and intrinsic forms, with the intersection of these forms enhanced when students experience autonomy, competence, and relatedness. Teachers play an important role in promoting self-regulated learning (SRL) by understanding the variables that influence students' ability to self-regulate their learning strategies. SRL is essential for students to engage in the learning process, improve their learning habits and skills, implement effective learning strategies, monitor their performance, and evaluate their educational improvement (Zumbrunn et al., 2011). Therefore, motivation and engagement are factors of significant importance that significantly influence students' academic success and language proficiency (Bai & Zang, 2025; Hariri et al., 2021).

The most effective way to encourage student motivation is by fostering a learning environment that provides opportunities for real active participation and meaningful learning. To improve both short-term learning experiences and long-term educational outcomes, these settings support student autonomy, positive emotions, self-directed learning, and cognitive development (Schweder & Raufelder, 2022).

An important aspect is creating an emotionally supportive environment that stimulates the senses and promotes enthusiasm, curiosity, and happiness. Positive emotions contribute to higher academic achievement, more effective learning strategies, and the development of students' social and cognitive skills. It is important to grant students autonomy, allowing them to make decisions and have freedom in their educational journey. Teachers facilitate self-regulated learning by helping students set their own goals, monitor their progress, and adapt their learning strategies (Gambo & Shakir, 2021). Flexibility and self-direction are emphasized, with students setting their own learning goals, choosing materials, and setting deadlines, which inspires increased engagement and motivation (Gambo & Shakir, 2021).

Social interactions and collaboration are also essential, as stimulating environments provide opportunities for peer interactions, group projects, and social learning, improving emotional well-being and motivation through social connection (Schweder & Raufelder, 2022). Effective integration of information and communication technology (ICT) is a key element, providing flexibility, access to diverse educational resources, and facilitating personalized and adaptable learning experiences (Valtonen et al., 2021).

It is important not to forget the role of design and physical space, which are part of the essential characteristics of stimulating environments, including comfortable and adaptable spaces that support collaborative activities, individual study and technology integration, improving student focus and overall satisfaction (Hong & Cho, 2025).

Pedagogically, stimulating environments move away from traditional methods, toward interactive, collaborative, and inquiry-based approaches such as blended learning, flipped classrooms, and problem-based learning, creating dynamic educational experiences (Valtonen et al., 2021; Xiaohong, Soo Boon, & Hao, 2024).

We chose to adopt a qualitative approach to capture the nuances and details necessary for identifying and thoroughly analyzing the factors that influence the effectiveness of stimulating learning environments, as well as providing guidance for the continuous improvement of educational practices.

The objectives of the qualitative research focused on exploring innovative approaches to creating engaging learning environments, analyzing the processes involved in the design of educational content, assessing its impact on student progress, and examining tools for the ongoing enhancement of learning environments. In addition to these main objectives, several secondary objectives were also established. These include the investigation of instructional design and stimulating learning activities aimed at achieving long-term results among

students, as well as the conceptual delimitation of a stimulating learning environment and the definition of relevant teaching strategies.

To investigate these objectives, we used qualitative research methods and tools such as participant observation, interviews, and content analysis, to address the research questions (Creswell, 2014, pp. 183–186). The data collection process involved observing educational phenomena in their natural context, conducting interviews, and analyzing relevant documents such as articles, books, and other sources that addressed the main topics related to the article's title. This process was complemented by data analysis using various methods, including the identification of patterns and trends, to interpret their significance.

Personal Position

This article represents a practical evaluation assignment within the seminar activities of the course Foundations of Pedagogy, during which the instructor provided a set of key terms closely related to the fundamental educational aspects of pedagogy. Throughout the semester, a group of students interested in these educational phenomena collaborated in the development of the article's content under the continuous guidance and supervision of the course instructor. The instructor was also responsible for the final configuration of the article, selecting and analyzing the most relevant information and findings in relation to the main topic and purpose of the paper. The guiding principle throughout this process was the focus on quality and relevance, ensuring that the response to the research question would be clear and concise.

Data collection and analysis

The methods of data collection employed in this basic qualitative research included participant observation, semi-structured interviews, document analysis. These methods are commonly applied in practical fields such as education, health, and social services (Baarda & de Goede, 2001, pp. 98–112).

Participant observation enabled the examination of various teaching strategies and the ways in which educational content was delivered by teachers across different levels of the Romanian education system. The objective was to theoretically determine how instructional activities can be structured to create stimulating learning environments for all learners, considering their individual experiences.

This method helped clarify the theoretical content and key research directions, directly supporting the central research question: How can educational activities and stimulating learning be designed to produce long-term outcomes for learners?

Semi-structured interviews were conducted with a subgroup consisting of ten teachers and ten university-level learners. These interviews

explored multiple perspectives on how a stimulating learning environment can be created, without aiming for statistical generalization.

Q1. In your opinion, what are the most effective teaching methods for fostering long-term learning?

We discussed with both teachers and learners various traditional and modern teaching methods, with the intent of exploring digital, technology-based methods, as well as approaches involving conversation, reading, and games.

Q2. How can teachers adapt instructional activities to meet the individual needs of learners?

Learners: We aimed to assess their awareness of such activities by asking them how they think a teacher might design a learning task that addresses the individual needs of most of their students, encouraging them to imagine themselves in the role of the teacher.

Teachers: We sought their professional perspective on the applicability of instructional planning centered on learners' individuality, and whether they believe that a diversified or individualized curriculum can be implemented across all levels and categories of learners.

Q3. What role does feedback play in stimulating learning, and how can it be optimized for long-term results?

Learners: We explored whether they expect feedback from teachers and whether they are affected by delays in receiving it.

Teachers: We asked how and when they provide feedback to learners, and what causes delays in delivering it.

Q4. How does the learning environment (both physical and psychological) influence the effectiveness of stimulating educational activities?

We investigated whether the learning environment has a positive or negative influence on the effectiveness of stimulating educational activities, from the participants' point of view.

Q5. How can the success of an educational activity be evaluated in terms of its long-term impact on learners?

Learners: They discussed whether their current learning process has given them the opportunity to achieve long-term learning.

Teachers: We asked whether they feel the education system allows them to emphasize quality, long-term learning outcomes for their students, which are necessary for their personal and professional lives, and whether this is achievable in full or only partially. We also asked whether they believe they need additional psycho-pedagogical training programs to design activities that stimulate student learning.

Learners: They were also asked whether they believe it is more effective to plan activities in such a way that they can participate

actively in their own learning processes, and whether this approach reflects an ideal vision of a learning environment that motivates them to enjoy learning.

Various bibliographic sources were analyzed and clearly presented in each subsection and in the bibliography section at the end of the article. We aimed to use both translated and English-language sources, not only Romanian ones. Additionally, we sought academic materials that presented educational experiments relevant to the topic under study.

Interview and partial observation

Regarding the application of the research methods of participant observation and interview, once we obtained the approval of the head of the teacher training department in Constanța, we chose to observe directly during seminar activities the learning outcomes associated with various methods and the perspectives of colleagues after each implementation. This strategy was carried out by our supervising professor, and all students were informed about the research activities.

The methods were applied not only to the phenomena addressed in this article but also to other educational aspects, using different research tools such as the interview. The interview was conducted with a group of ten students or trainees with various specializations and learning experiences. The ten participants from the teaching group were selected based on their willingness to respond.

Nothing was conducted in an official format. The interviews, especially those with teachers, were presented as open and anonymous conversations with a clearly defined purpose related to our article's research. The completed interview forms were shown to the participants after the discussions to ensure that their answers would remain anonymous.

Before conducting the interviews, we analyzed events and student reactions after each teaching activity. Then we developed a set of questions, which we tested on a group of students. After this testing phase, we selected the main questions, previously presented, which allowed us to engage the participants in discussions through additional sub questions. This process helped us reach the objective of applying the method and investigating the most relevant teaching strategies for creating a stimulating learning environment.

We followed the scientific steps for building the interview, which allowed us to obtain a strong analytical structure (Muzari T, Shava GN, Shonhiwa S, 2022).

Ethical considerations

The participants were informed that their responses would remain confidential and that the purpose of the data collection was strictly scientific, specifically related to the research on the article's topic. This

research was conducted with the approval of the Department of Teacher Training in Constanța as part of a practical activity within the seminar sessions of the course Foundations of Pedagogy during the second semester of the 2023/2024 academic year.

Results

The following results are based on responses collected through a semi-structured interview applied to a group of university and pre-university teachers and students. Each question in the interview was specifically designed to explore different aspects of stimulating learning strategies and was subsequently processed using the Jamovi statistical analysis software.

The participants' answers were coded into categorical variables, and for each item, Jamovi generated corresponding graphical representations (bar charts and pie charts), allowing for a clear visualization and percentage-based descriptive interpretation of the data.

Thus, the findings presented below are based on both the participants' qualitative inputs and the statistical descriptive analysis of their responses.

The stimulating learning environment

The analysis of the interview data, supported by graphical representations generated through Jamovi, revealed that teachers perceive the educational environment as having a significant influence on the stimulation of learning. Specifically, 50 **%** of teachers noted that if the family environment does not adequately support the learner's education, it becomes much more difficult to ensure proper academic preparation in school settings. Some teachers emphasized that in extreme cases, a lack of family support could even lead to early abandonment of formal education (see Figure 1).

Conversely, 30 **%** of teachers did not perceive the environment as significantly influencing learning, while 20 **%** stated that a supportive environment, marked by effective communication, educational motivation, and proper classroom management, can positively influence learning outcomes.

Analyzing learners' responses, it was observed that 40 **%** believe that their environment has positively influenced their learning. They attributed this to the encouragement received from family, teachers, and peers, who motivated them to actively engage in their educational journey (see Figure 2).

On the other hand, 30 **%** of learners indicated that their environment had no significant impact on their learning, except for uncontrollable genetic factors, while another 30 **%** felt that their environment negatively affected their academic engagement.

Bibliographic analysis also emphasizes the critical role of stimulating learning environment. Georgescu (2024) states that a dynamic educational setting fosters engagement and motivation by offering interactive, varied, and technologically enriched experiences.

Foca (2024) describes the learning environment as the "second teacher," emphasizing its role in enhancing creativity, exploration, and effective learning.

Hlaciuc et al. (2023) argue that educational institutions in Romania should ensure a safe, modern environment, with appropriate facilities and access to modern technologies to stimulate students' learning potential.

Şerbănescu et al. (2020) highlight factors such as classroom design, space, lighting, ventilation, and furniture arrangement as directly impacting students' concentration and learning efficiency.

The importance of classroom color schemes is also underlined, as appropriate colors (yellow, green, blue, red) stimulate attention and creativity (Ungureanu, 2016).

Finally, Maier (2022) emphasizes that effective communication, both verbal and non-verbal, along with continuous emotional support from teachers, plays a vital role in creating a truly stimulating educational environment.

In summary, both the physical and psychological environment significantly contribute to the stimulation of learning, fostering students' engagement, motivation, and long-term academic success.

Stimulating learning strategies

The study conducted by Anca Dranga (Moraru) (2022) highlighted significant results regarding the impact of modern teaching methods on students' academic success. A notable improvement in academic performance was observed during the second semester, when a modern teaching method was used, compared to the first semester characterized by traditional teaching methods.

Students' academic success improved by approximately 12 %, reflecting a better understanding and retention of theoretical knowledge, as well as greater personal development (Anca, 2022).

Based on the analysis of teachers' responses, it was found that 30 % use traditional methods, 20 % use digital methods, and 50 % believe that traditional methods are most effective for creating a stimulating learning environment (see Figure 3).

Regarding students' preferences, 60 % favor instructional activities designed through modern teaching methods, while 40 % prefer digital methods (see Figure 4).

Many teachers indicated a reluctance to move beyond their comfort zone, with 60 % citing a lack of time for additional pedagogical

training and experimentation, and 40 % attributing this reluctance to an overloaded curriculum (see Figure 5).

In terms of teaching methods, 50 % of teachers reported using traditional conversation methods (without heuristic structures), 30 % employed educational games, and 20 % still relied on direct information transmission (see Figure 6).

Learners reported that interactive activities, particularly discussions and games, significantly enhanced their knowledge retention compared to traditional methods like reading or lecturing.

According to Verdeș (2018), 94 % of teachers reported using interactive strategies, and 86 % of students evaluated the teaching-learning process positively. However, in our study, 50 % of teachers indicated that the educational system does not support flexible and individualized teaching, while 30 % believed such flexibility is only partially possible (see Figure 7).

Regarding the applicability of individualized instructional planning, 40 % of teachers agreed, 30 % partially agreed, and 30 % disagreed (see Figure 8).

Concerning a diversified or individualized curriculum, 40 % found it partially applicable, 30 % disagreed, while 10 % agreed and another 10 % fully agreed (see Figure 9).

Learners indicated that teachers emphasize their individuality primarily through continuous feedback (40 %), understanding individual needs (30 %), personalizing learning materials (20 %), and using diverse methods (10 %) (see Figure 10).

Regarding the effectiveness of long-term learning, 40 % of learners believed the educational process did not offer such opportunities, while 30 % disagreed, 20 % agreed, and 10 % partially agreed (see Figure 11).

As for flexible curricula, 70 % of learners preferred programs that allow active participation, while 30 % partially agreed (see Figure 12).

Regarding an ideal learning environment, 60 % of learners responded affirmatively, while 40 % partially affirmed (see Figure 13).

Regarding feedback practices, 40 % of teachers provide immediate feedback during activities, 30 % partially achieve this, and 30 % provide feedback mainly at the end (see Figure 14).

Learners' expectations for feedback show that 70 % do not always expect immediate feedback, while 30 % consider it essential (see Figure 15).

Feedback delays were reported to cause stress for 60 % of learners, while 40 % stated the impact depends on context and emotional state (see Figure 16).

Finally, regarding the need for psychopedagogical training programs, 40 % considered it necessary, another 40 % partially necessary, and 20 % did not see it as necessary (see Figure 17).

Conclusions

The development and evolution of stimulating learning environments are intrinsically linked to advancements in the design and implementation of educational content, and, indeed, are a product of these advancements. A primary goal in creating such environments is to cultivate students' long-term learning outcomes, critical thinking abilities, and creativity. Every element within the educational institution significantly influences the learning process. These elements range from physical resources, such as furniture, to the impact of teachers' and students' actions on instructional design, teaching practices, and assessment methods. The diverse range of strategies available for fostering stimulating learning environments enables educators to select the most appropriate approaches for their specific contexts, thereby enhancing the potential for success.

The strategic combination of various methods, tailored to meet the diverse needs of students, can substantially enrich these environments. Both the methodological and personal approaches adopted by teachers, when effectively implemented, contribute to the creation of stimulating learning environments. Analysis of data from interviews and bibliographic research reveals a complex interplay of factors shaping educational environments and the implementation of stimulating learning strategies. Teachers and students expressed varying perspectives on the influence of the learning environment. Specifically, 50% of teachers perceived that the family environment can negatively affect students' academic preparedness in the school setting, while 30% believed the environment had a negligible influence, and 20% considered that it could exert a positive effect under certain conditions. Students also demonstrated diverse perceptions regarding the impact of the environment on their learning. While 40% of students reported that the environment positively influenced their learning experiences, 30% perceived no effect, and 30% indicated that the environment had a negative impact. Teaching methods and feedback are critical determinants of effective learning. Research suggests that the adoption of contemporary teaching methods can significantly enhance academic achievement and improve student performance. However, a discrepancy exists between teachers' and students' preferences regarding instructional approaches. Notably, 50% of teachers reported employing traditional methods to engage students, whereas only 20% utilized digital methods. Regarding feedback, 40% of teachers

indicated providing direct and timely feedback during instructional activities, while 60% reported inconsistencies in providing such feedback. The provision of timely and ongoing feedback is widely acknowledged as essential for learners, as it can reduce stress and optimize the learning process. However, challenges persist in delivering feedback promptly and effectively, and delays in this regard may lead to frustration and increased stress among learners.

In addition to these considerations, the importance of psychopedagogical training for teachers is acknowledged, to equip them with the skills necessary to effectively manage the evolving demands of the educational landscape.

In summary, the evidence suggests that stimulating educational environments and the implementation of contemporary teaching strategies are vital for promoting effective learning and fostering students' academic success.

Teachers' interview questions table

Q1. In your opinion, what are the most effective teaching methods that stimulate long-term learning?	Traditional methods	Modern methods	Digital methods	
Q2. Frequently used methods	Conversation	Reading	Game	
Q3. Do you consider that a teaching plan based on the individuality of the students is applicable?	Yes	No	Partially	Not at all
Q4. Do you believe that a diversified/individualized curriculum can be applied to all levels and categories of students?	Yes	No	Partially	Not at all
Q5. How do you provide feedback to students?	Immediately after the activity	Periodically	At the end of the learning unit	
Q6. What are the causes of delays in providing feedback?	Insufficient time	High workload		

Q7. How does the learning environment (physical and psychological) influence the effectiveness of stimulating educational activities?	Has a negative influence	Has a positive influence	Does not have a significant influence	
Q8. Does the education system allow you to emphasize achieving quality long-term learning for students?	Yes	No	Partially	Not at all
Q9. Do you consider that you need psycho-pedagogical training programs to create activities that stimulate student learning?	Yes	No	Partially	Not at all

Student interview questions table

Q1. In your opinion, what are the most effective teaching methods that stimulate long-term learning?	Traditional methods	Modern methods	Digital methods	
Q2. What are, in your opinion, the most effective teaching methods that stimulate long-term learning?	Conversation	Reading	Game	
Q3. How can teachers adapt teaching activities to suit the individual needs of students?	By having an in-depth knowledge of the individual needs of the students	By using diverse teaching methods	By personalizing teaching materials	Through continuous feedback and constant adaptation of activities
Q4. Do you	Yes	No	Partially	Not at all

expect feedback from teachers?				
Q5. Are you bothered by delays in receiving feedback?	Yes	No	Partially	Not at all
Q6. How does the learning environment (physical and psychological) influence the effectiveness of stimulating educational activities?	Has a negative influence	Has a positive influence	Does not have a significant influence	
Q7. Did the education process offer you the opportunity to achieve long-term learning?	Yes	No	Partially	Not at all
Q8. Do you think it is more effective to create schedules that allow you to participate actively in your own learning processes?	Yes	No	Partially	Not at all
Q9. Do you think this scenario represents an ideal vision of an environment that stimulates you to learn with pleasure?	Yes	No	Partially	Not at all

Student results table

NR.	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
1	Traditional methods	Conversation	Yes	No	At the end of the learning unit	High workload	Does not have a significant influence	No	Yes
2	Modern methods	Game	No	Partially	Immediately after the activity	Insufficient time	Does not have a significant influence	Partially	Partially
3	Traditional methods	Reading	Partially	Partially	Periodically	Insufficient time	Has a positive influence	Partially	Partially
4	Modern methods	Conversation	Partially	No	Immediately after the activity	Insufficient time	Has a positive influence	No	Yes
5	Traditional methods	Game	Partially	Partially	At the end of the learning unit	High workload	Has a negative influence	No	No
6	Digital methods	Conversation	Yes	Yes	Immediately after the activity	Insufficient time	Does not have a significant influence	Yes	Yes
7	Tradit	Readin	No	Part	At the	High	Has a	No	Part

	ional methods	g		ially	end of the learning unit	workload	negative influence		ially
8	Modern methods	Conversation	No	Not at all	Periodically	High workload	Has a negative influence	Partially	Partially
9	Traditional methods	Conversation	Yes	No	Partially	Insufficient time	Has a negative influence	No	No
10	Digital methods	Game	Yes	Partially	Immediately after the activity	Insufficient time	Has a negative influence	Yes	Yes

Figure 1. Teachers' perception of the environment's impact on learning
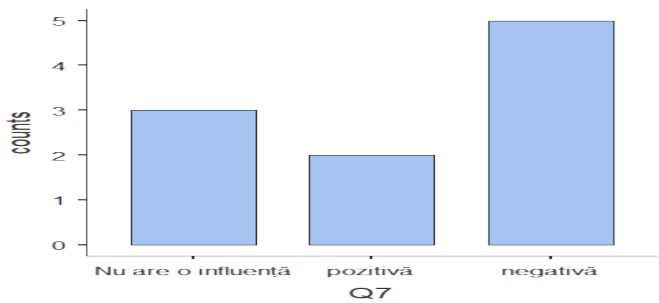
Figure 2. Learners' perception of the environment's impact on learning
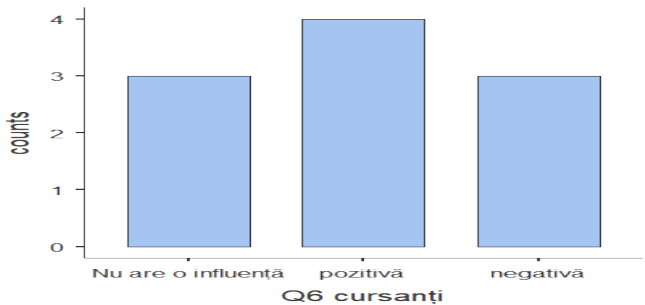
Figure 3. Distribution of teaching methods used by teachers
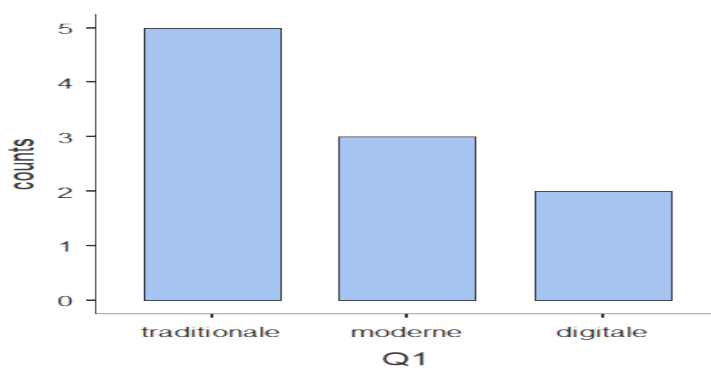
Figure 4. Learners' preferences for instructional methods
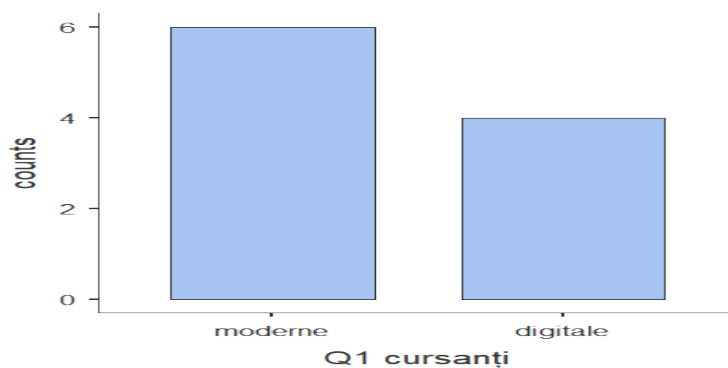
Figure 5. Main obstacles in applying modern teaching methods
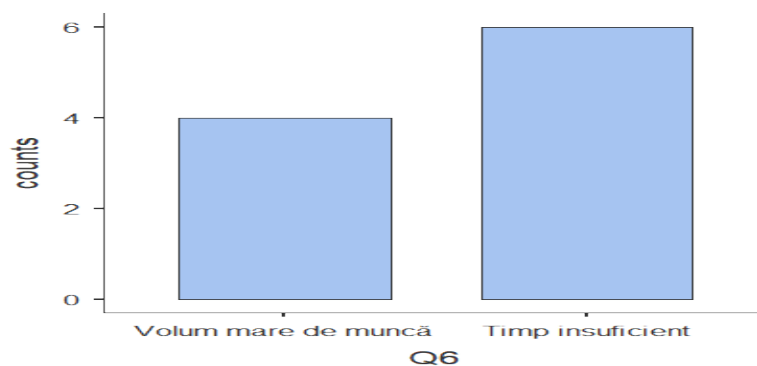
Figure 6. Frequently used teaching methods by teachers
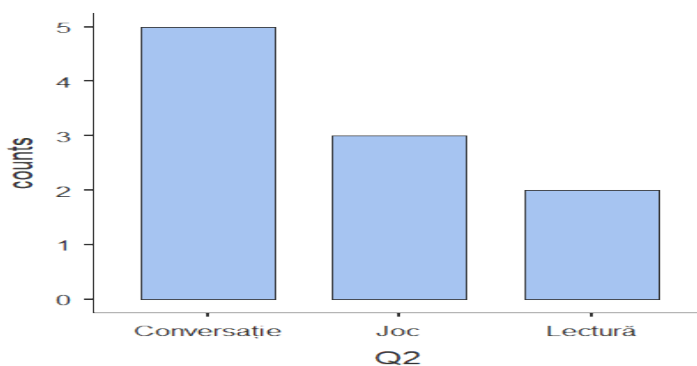
Figure 7. Teachers' perception of flexibility and support for stimulating learning
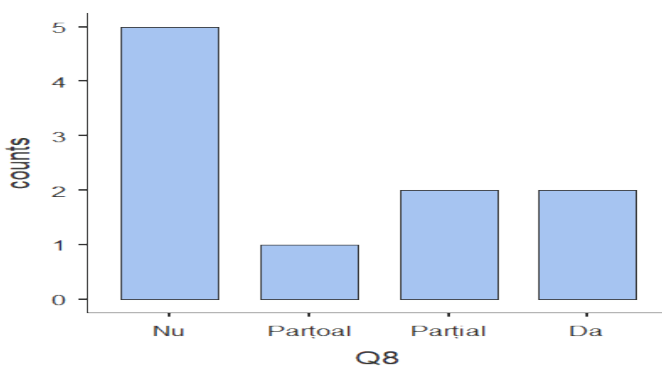
Figure 8. Teachers' perceptions on the applicability of individualized instructional planning
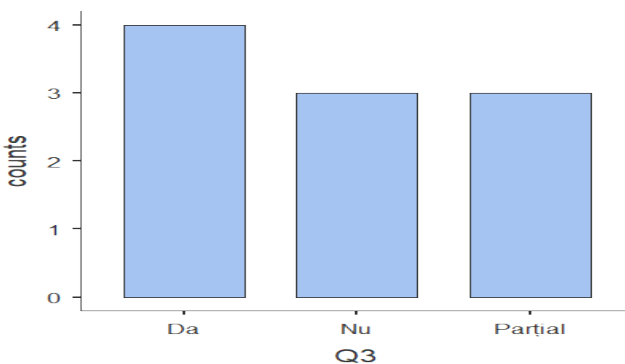
Figure 9. Opinions on the applicability of a diversified/individualized curriculum
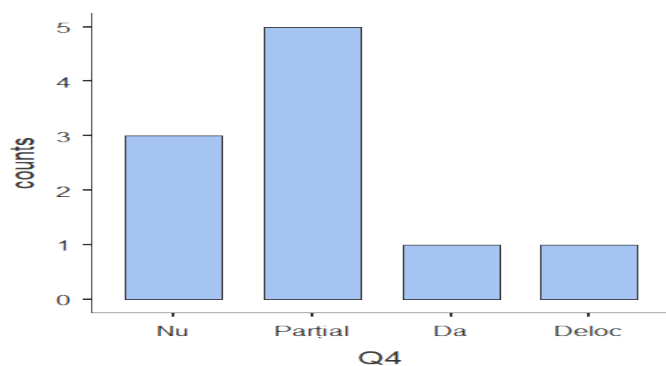
Figure 10. Learners' perceptions of how teachers address individualization
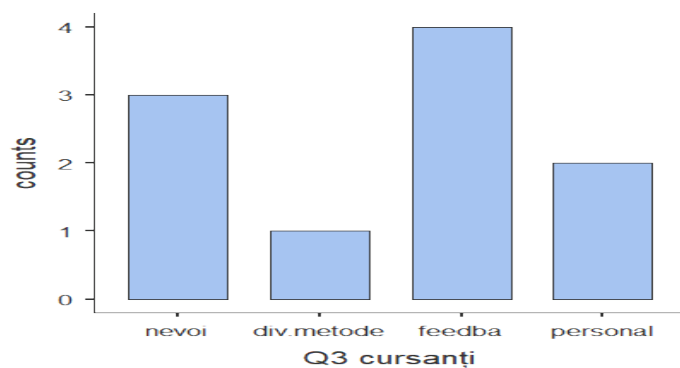
Figure 11. Learners' perceptions of the effectiveness of long-term learning
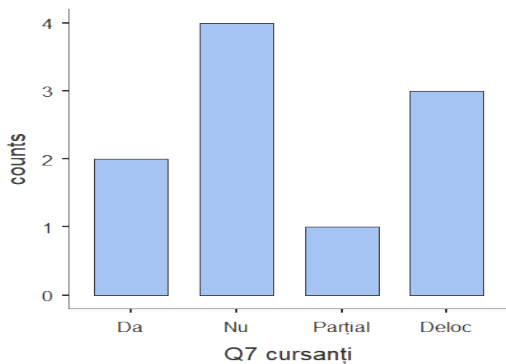
Figure 12. Learners' preferences for a flexible curriculum
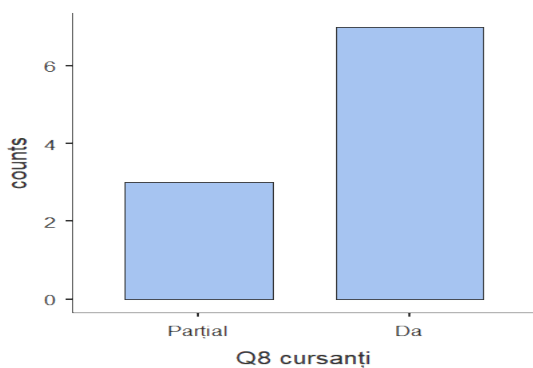
Figure 13. Learners' perceptions of an ideal learning environment
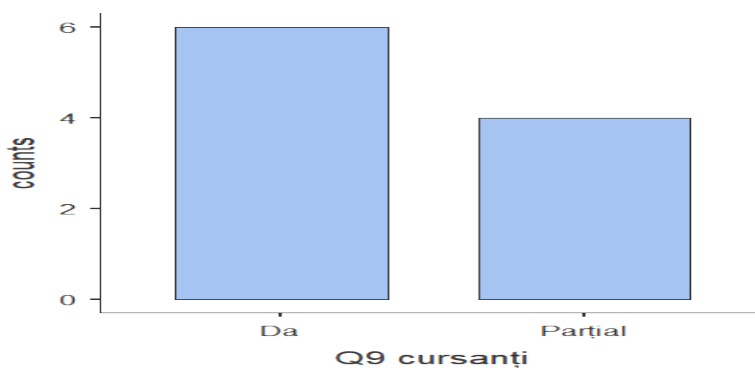
Figure 14. Methods used by teachers to provide feedback
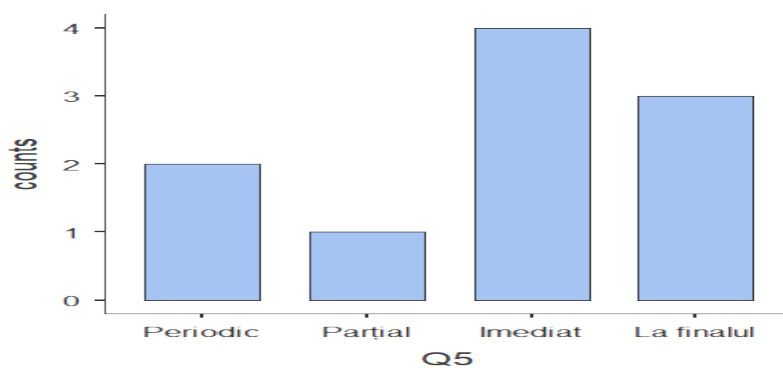
Figure 15. Learners' expectations regarding teacher feedback
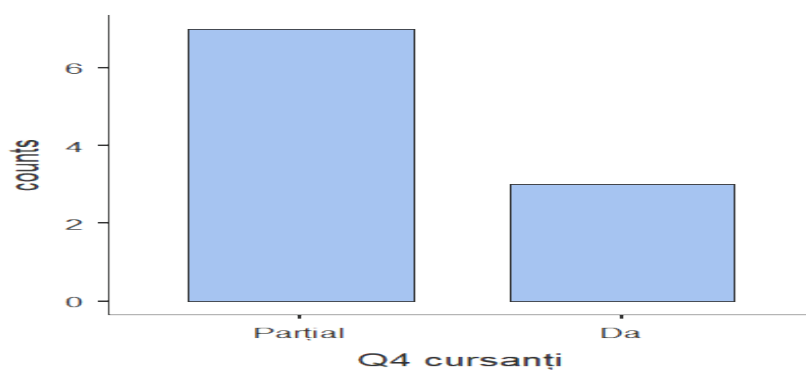
Figure 16. Impact of feedback delays on learners' stress
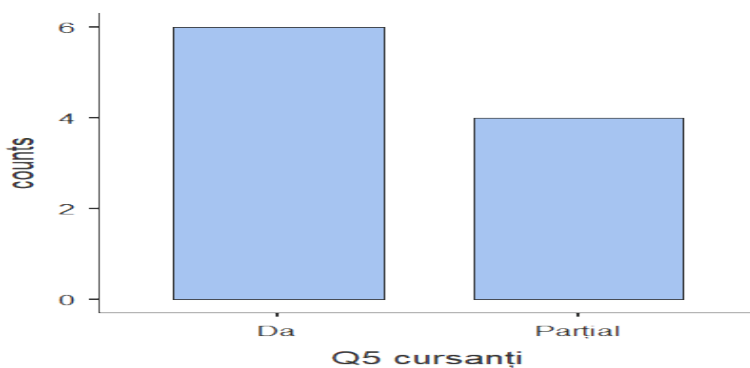
Figure 17. Perceptions of the need for psychopedagogical training programs
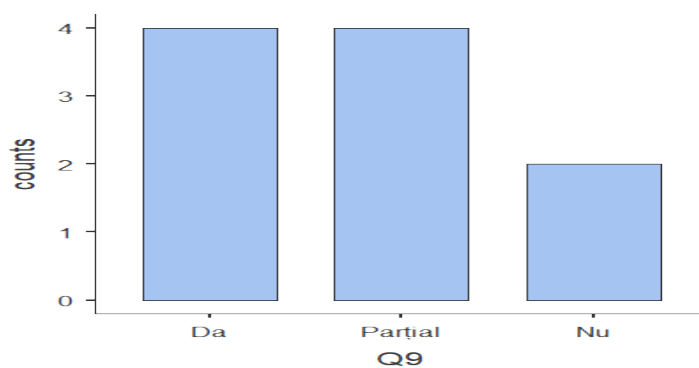
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EQUITY AND JUSTICE IN THE INCLUSIVE EDUCATION MODEL – THE CASE OF CHILDREN WITH HIGH ABILITIES

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Abstract: *This paper explores theories of social justice and equity in the inclusive education, focusing particularly on gifted learners as a marginalized group. While inclusive education has become central in addressing educational justice, its implementation is uneven, especially when it comes to children with high abilities. Giftedness lacks consistent recognition in policy and practice, leading to limited support structures compared to the area of disabilities. Teachers' attitudes toward the education of children with high abilities are shaped by concerns about elitism and a narrow focus on standardized achievement, often neglecting humanistic values such as acceptance of diversity. Although inclusive settings can benefit all students socially and academically, many educators feel unprepared to differentiate instruction effectively by balancing fairness, effort, and performance with limited resources. This dilemma reflects broader systemic issues in education policy, which continues to prioritize norm-based performance over individual progress. The paper argues that true inclusion requires both redistribution of resources and recognition of diversity of learners, but also a shift toward bottom-up approaches that empower teachers and learners and recognize giftedness as a developmental, context-sensitive phenomenon that deserves equitable educational support.*

Keywords: *educational justice; educational policy; equality; equity; giftedness; inclusive education.*

Introduction
Inclusive education has often been regarded as a panacea for fostering social cohesion and addressing issues related to social justice and equity. Originally focused on the education of children with

disabilities, the concept of inclusion has since evolved to encompass all learners, emphasizing the importance of addressing individual differences. As defined by OECD (2003), inclusion now broadly refers to how education and training systems can expand their capacity to serve all learners equitably, respond to increasing diversity, maintain cultural richness, and enhance educational quality. While clear policies exist for students with disabilities, less attention is directed towards other marginalized groups, such as ethnic minorities, migrants, or those with high abilities.

Gifted learners represent a group that, like students with disabilities, diverge from the norm in significant way. However, educational provisions for them remain limited, despite research indicating high rates of underachievement in this population (Raoof et al., 2024) and evidence showing that typical classes do not offer the cognitive challenge these children need (Plucker & Callahan, 2014). In Europe, although the European Council for High Ability has advocated for the rights of gifted students since 1987, and there is a consistent and continuous trend in advocating for educational provisions, education policies are scarce and vary significantly across Europe. Some countries (e.g., Portugal, Spain, Slovakia) recognize gifted children as a distinct group requiring tailored educational strategies, while others (e.g., Norway) avoid labelling them altogether. Moreover, terminology differs not only across countries but also over time within the same country. For instance, in Romania, the 2007 Education Law referred to them as "gifted children, capable of high performance," whereas later laws in 2011 and 2023 omit the term "gifted". These inconsistencies highlight the socially constructed nature of giftedness, shaped by broader policy frameworks and cultural values. Given the subjective and context-dependent understanding of giftedness, this analysis will explore the challenges of applying the inclusion model to gifted education, drawing on theories of equity-equality goal-oriented model (Espinoza, 2007) and social justice (Jencks, 1988; Power, 2012).

Equity-equality goal-oriented model

Espinoza (2007) argues that in societies where educational systems prioritize efficiency by maximizing outcomes at minimum cost, it is difficult to have equity in education. In the proposed equity-equality model, Espinoza seeks to clarify the distinction between these concepts by examining how they apply across different stages of the educational process, including resource allocation, access to education, educational attainment, educational achievement based on text performance and occupation as post-education outcome. According to Espinoza,

equality assumes that all students should be treated identically, an assumption that can perpetuate existing disparities. In contrast, equity acknowledges differences in students' backgrounds, abilities, and environment, and aims to provide differentiated support to enable all students to achieve comparable levels of success. While equality of resources may refer to the absence of political, social, or cultural barriers to education, equity involves providing appropriate resources tailored to the needs of individuals with similar characteristics. This often requires unequal support. However, due to the wide range of learner profiles in inclusive classrooms, ensuring both equality and fairness becomes increasingly complex.

When it comes to educational attainment and achievement, most education systems aim to reduce the gap between low and high performers. Research suggests that inclusive education supports this goal, especially for disadvantaged students. For instance, a review by Thomas (2013) shows that reduced segregation in schools correlates with higher achievement among marginalized groups.Yet, when it comes to "outliers" such as students with severe learning difficulties, those from vastly different cultural backgrounds, or highly gifted learners, standard comparisons to group averages may be inequitable and uninformative. In special education, such comparisons have increasingly been replaced by a response to intervention approach, which aims to profile students based on the individual characteristics of their learning potential (Björn et al., 2015). A similar approach could benefit gifted children. For example, Stanley's (1973) curriculum acceleration model demonstrated that gifted learners could master one year school subject content in just three weeks of intensive instruction. Renzulli (2011) also found that gifted students often begin the school year already knowing up to 50% of the curriculum, suggesting that instruction for these students should instead focus on enrichment activities. Espinoza's model plays an important role in promoting justice in education by arguing that equal treatment is not always fair. However, inequality will always create some other forms of injustice that have to be temporary accepted until those disadvantaged in the past achieve equity (Espinoza, 2007).

Models of educational justice
Education policies are generally designed to address various forms of social injustice by striving to reduce educational inequalities. However, what is understood by justice in education varies widely and there is not one clear-cut solution to diminish potential injustice. The most traditional and widely adopted approach is ensuring equal

opportunities through a redistribution of resources, such as providing free education or allocating additional support to socio-economically disadvantaged groups (Power, 2012). While this distributive justice model is effective in diminishing the impact of socio-economic deprivation on children's education, it has limitations in supporting all learners to reach their full potential. Meyer (2020) argued that educational prospects can't be equalized when it comes to unequal talents.The unequal distribution of resources to support lower achieving students can disadvantage learners with high abilities, leading to new forms of educational injustice. While it is widely recognized that children with disabilities cannot meet their potential through equal access to educational resources and more is needed, it is difficult to justify that high ability children are in the same situation. They are considered by many a privileged minority and giftedness is perceived as a protective factor against academic failure (Moon, 2009). This perception is further reinforced by a lack of scientific understanding of giftedness among the general population, coupled with a long-standing emphasis on supporting individuals who struggle to achieve due to various disabilities.

Distributive justice model has attracted criticism, even from marginalized communities themselves, due to the stigma and labelling it often entails. Critics argue that distributive justice may lead to cultural injustice by implying a problem within individuals or communities. To address these shortcomings, two responses have emerged in the literature: one involves deconstructing categories that justify the redistribution of resources, and the other promotes affirmative recognition of marginalized groups (Power, 2012). This shift is obvious in terminology: for instance, "children with deficiencies" became "children with special needs," and "gifted children" were renamed as "children with high learning potential" with the term gifted removed from the label.

Both, the politics of redistribution and the politics of recognition are largely top-down approaches that often fail to give voice to the very populations they aim to support. Meyer (2020) argues that individuals should have the right to make their own decisions regarding their self-fulfilment. Every person has the right to autonomy and control over their own life. Thus, the main issue should not be whether children are placed in segregated or inclusive settings, but whether they are meaningfully involved in decisions that affect their educational path. In this sense, inclusion should not be seen as the only acceptable solution, but rather as one of several options, emphasizing choice as a core principle. Reflecting this shift, contemporary education policies

increasingly prioritize the political rights of target groups through bottom-up approaches. These so-called politics of representation aim to empower individuals by fostering agency, expanding citizen choice, and encouraging greater community participation.

Giftedness and gifted education

The need for personal agency is reflected in how giftedness is currently defined. Renzulli (2011) expanded the traditional concept of giftedness by including not only ability, but also creativity and personal involvement. Similarly, Sterneberg (2003) emphasized that giftedness involves a combination of high intelligence, creativity and wisdom, highlighting that intellectual potential alone is insufficient for talent to manifest itself. Developmental theories of giftedness further highlight the critical role of environmental factors in transforming innate potential into high performance (Barab & Plucker, 2002; Gagné, 2005). This emphasis on contextual factors draws attention on the relevance of effective educational provisions.

Worldwide, there is large variation in learning settings addressing the needs of gifted children. In some countries, such as South Korea, segregated educational settings for gifted students are preferred. However, this approach has sparked significant debate, as grouping gifted students separately is often criticized as elitist and lacking equitable access. Interestingly, while parents of children with disabilities typically advocate for inclusive settings, parents of gifted children often prefer specialized programs or gifted group placements. Research, including OECD reports, shows that selective schools can provide not only cognitive but also social and emotional benefits for gifted students, helping them to reach their full potential (Rutigliano & Quarshie, 2021). Despite this, segregated programs remain relatively uncommon, and the prevailing trend across many countries is towards inclusive education supplemented with enrichment opportunities or accelerated learning through access to higher grade level content. In this context, differentiating instruction in inclusive settings is seen as a key strategy in supporting gifted students. Without specialized training or external support, general education teachers are often unprepared in addressing the needs of gifted learners. A comprehensive survey by Tourón and Freeman (2017), involving 324 scholars and practitioners from various European countries, revealed that gifted education policies are often vague, screening processes are intentionally avoided, selection criteria are unclear, and teachers frequently lack the competencies required to support gifted students effectively. Notably, respondents from the same countries often gave inconsistent answers,

reflecting a widespread lack of awareness about national policies. Many did, however, point to a range of enrichment opportunities available through extracurricular activities, suggesting that in some contexts, gifted education is developing through bottom-up initiatives rather than formal policy frameworks.

Teachers' ethical dilemmas in inclusive settings
In an inclusive setting, teachers carry a significant responsibility, and many of their decisions are shaped by subjective interpretations of justice. With large class sizes still common, differentiating instruction becomes a complex and demanding task. Within this context, there are lots of subjective choices teachers make for a more inclusive environment, choices related to personal understanding of fairness and equity. Jenks (1988) argues that teachers navigate a range of educational dilemmas by negotiating between competing conceptions of justice, such as democratic equality, moralistic justice, humanistic justice, and utilitarianism. For instance, a teacher guided by democratic equality may strive to distribute time and attention equally among all students. However, the diversity present in most classrooms quickly reveals the limitations of this approach, as students have varying needs that require differentiated responses. A teacher adopting a moralistic perspective might prioritize students who put in more effort, rewarding diligence with additional support. From a humanistic standpoint, the teacher might instead choose to give more attention to students perceived as disadvantaged. Although gifted children can also be considered disadvantaged—especially when their needs are overlooked—in practice, they are often deprioritized in favour of students with learning difficulties (Sambuis & Bourdin, 2024). This creates a dilemma: teachers aim to remove barriers to inclusion and provide equal opportunities for all, but limited time and resources force them to make difficult decisions about where to direct their focus. Jenks (1988) argues that the need to move the whole group forward pushes the teacher to reward not just the effort but also the performance. If teachers' involvement is assessed by the performance students make, it might be tempted to focus on students who move forward at a higher pace. Balancing these competing demands can lead to ethical dilemmas. For example, a teacher guided by humanistic justice seeks to reduce disparities among students, while one leaning toward utilitarian principles may aim to maximize overall classroom achievement, even if this means focusing on the highest performers. This tension makes it tempting for teachers to invest more in students who show the greatest potential for success.

Teachers' perceptions and beliefs about inclusion of gifted learners
In a review of 26 studies examining primary school teachers` attitudes toward inclusive education, de Boer et al. (2011) found that most teachers held either neutral or negative views. While parents tend to be more supportive of inclusion, this is usually associated with concerns regarding the ability of teachers to effectively individualize instruction. When it comes to giftedness, teachers' knowledge and believes significantly shape their attitudes. Some perceive special provisions for gifted students as promoting elitism within schools (Heuser et al., 2017). However, a more recent systematic review by Sambuis and Bourdin (2024) revealed that teachers are generally aware of the specific needs of gifted learners and often favour inclusive practices over acceleration and ability grouping. Previous experience with gifted students and self-efficacy seems to matter. Despite this, many teachers continue to equate support for gifted learners with academic achievement alone, often overlooking the broader humanistic values that inclusion seeks to promote, such as embracing diversity, encouraging open dialogue, fostering acceptance, and nurturing mutual support. Interestingly, the presence of gifted students in the classroom may have a positive impact on their peers; for example, Balestra et al. (2020) documented such benefits in their research.

Positive attitudes toward inclusion are typically found among educators who prioritize these broader values and shift their focus from norm-based achievement to individual strengths and potential. Toson et al. (2012), in a qualitative study exploring the link between the capability approach and inclusive educational leadership, found that school leaders who embraced this philosophy made decisions based on students' individual needs rather than rigid curriculum standards. These leaders fostered more inclusive environments and viewed diversity not as a technical challenge, but as a philosophical and moral issue. In this light, the guiding question shifts from How can we meet curriculum standards? to How should schools determine what is best for each student?

Conclusions
Equity-equality goal-oriented model and theories of educational justice provide a valuable framework for analysing the complexity of inclusive education of children with high abilities by emphasizing the importance of adopting a person-centred pedagogy when considering issues such as resource allocation, access to education and student achievement. The theoretical foundations developed in the context of

educating children with disabilities can be meaningfully extended to address equity and justice for all learners, including those with exceptional abilities. However, the unequal distribution of resources necessary to achieve equity often disadvantages gifted students, largely due to policy imbalances favouring students with disabilities and persistent misconceptions about giftedness and academic success held by educators and society at large.

Theories of educational justice point towards subjective choices teachers make while differentiating instruction, highlighting the need for deeper expertise and awareness of marginalized groups such as gifted learners. While pro-inclusion movement seems to get traction and is on the politically correct agenda of decision makers in education, a significant gap persists in the expertise of general education teachers, many of them remaining sceptical about the practical effectiveness of inclusion in general. One major barrier might be the emphasis on standardized academic achievement, which often overshadows the broader personal and social benefits of inclusive education. Current educational policies that prioritize norm-referenced assessment discourage a shift toward individualized, progress-based assessment. If teacher performance is measured by average group outcomes, educators will have little incentive to invest extra time and resources in supporting diverse learners, especially when doing so may not translate into improved results at the group level. The decision to focus on the individual student might be also related to teacher status. In countries where teachers are not trusted and not given credit for what they are doing, there is a natural need to justify their performance by relying on students' performance at the group level. Usually, in this kind of systems, teachers are asked to fill in lots of paper about their work. Competition is reinforced at any level, undermining collaboration and inclusion.

True inclusion, however, goes beyond classroom walls. If inclusive classrooms are to reflect the values of a democratic society, such as mutual respect, equity, and shared responsibility, then all members of that society must feel genuinely included. Implementing inclusive practices in schools without corresponding changes in the broader social and institutional environment risks reducing inclusion to a superficial exercise with limited impact on community level equity and justice.

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CHEMISTRY STUDENTS' AWARENESS, ACCESSIBILITY AND UTILIZATION OF ARTIFICIAL INTELLIGENCE IN COLLEGES OF EDUCATION IN SOUTH-WEST NIGERIA

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Abstract: *This study investigated Chemistry students' awareness, accessibility and utilization of artificial intelligence (AI) in Colleges of Education in South-West Nigeria. The study was guided by three research questions and three hypotheses. This study adopted descriptive survey research design. The population consisted of 834Chemistry students from five Federal College of Education, with a purposive sample of 340 students (94 males, 246females) from three Colleges of Education. Students' awareness, accessibility and utilization of artificial intelligence for learning Chemistry (SAAUAILC) adapted from Enebechi et al. (2024) and Zudonu et al. (2024) was the instrument used for data collection. The instrument was validated by three experts in relevant areas. The internal consistency reliability index of SAAUAILC was established as 0.80 using Cronbach Alpha. Mean and standard deviation were used to answer research questions while t-test was used to test the hypotheses at 0.05 level of significance. Findings of the study revealed that there are low level of awareness, accessibility and utilization of AI resources amongst Chemistry students. Gender had no significant influence on*

Chemistry Students' awareness, accessibility and utilization of artificial intelligence. Based on the findings of the study, it was recommended amongst others that government should organize workshops, conferences and seminars in Colleges of Education for increased students' sensitization and integration of AI in learning Chemistry.

Keywords: *chemistry student; awareness; accessibility; utilization; artificial intelligence.*

Instruction

Education is a complex and multidimensional process that aims to facilitate students' development in various aspects of life (Ragni et al., 2023). Currently, students have entered the era of education in the 21st century, reflecting a significant transformation in the learning paradigm. This era presents new challenges as well as broad opportunities in producing individuals who are ready to face a world that continues to develop. In the 21st-century learning era, teachers are faced with demands to always be creative and innovative in teaching (Almazroa & Alotaibi 2023). With advances in technology, globalization, and social change, education is no longer just about the acquisition of knowledge, but also about the development of critical skills, adaptability and creativity. Advances in artificial intelligence (AI) have brought new possibilities in the realm of information and communications technology (ICT) (Jakub & Akbar, 2024). The foundation of artificial intelligence (AI) is the idea that human intelligence can be described in a way that makes it simple for a machine to replicate and carry out simple to complex tasks. It is undeniable that the most recent developments in knowledge reasoning, machine learning and deep learning are ushering in the era of intelligence (Khanzode & Sarode, 2020). Artificial Intelligence (AI) has become the main catalyst in drastic transformation in various fields of science, one of which is chemistry. The application of AI in chemistry learning includes several important aspects. One of them is the prediction of molecular properties. By utilizing machine learning techniques, AI is able to accurately predict chemical properties based on molecular structure.

Chemistry is the scientific study of structure and properties of matter, reactions and the use of such reactions to form new substances. Chemistry is essential for meeting our basic needs of food, clothing, shelter, health, energy and clean air, water, and soil. Chemical technologies enrich our quality of life in numerous ways by providing

new solutions to problems in health, materials and energy usage. Chemistry is a challenging subject that necessitates a deep understanding of the relationships that exist between structure, properties and reactions of matter. AI tools have the potential to improve students' comprehension of these ideas.

Chemistry is taught using different artificial intelligence tools such as virtual labs, adaptive learning platforms, educational apps, intelligent tutoring systems, data analysis and visualization tools. Others include natural language processing (NLP) tools, virtual reality (VR) and augmented reality (AR) and concept mapping tools are just a few of these AI tools. Reiss (2021) asserts that the use of AI tools has altered the paradigm of education, as traditional approaches to teaching chemistry frequently depended on lectures, textbooks and physical models. Algorithms for machine learning, for instance, can examine data on students' achievement to pinpoint areas in which certain students might be having difficulty. Personalized learning plans that concentrate on the particular areas where every student needs to improve can then be created by educators using this information (Hansen et al., 2015). Additionally, student writing can be examined using natural language processing techniques, which can then be used to provide feedback on grammar, syntax and other language-related issues (Graesser et al., 2014). Moreover, interactive simulations or visualizations of chemical reactions are being made using AI-powered virtual reality (VR) and augmented reality (AR) technologies, providing a more intuitive and immersive understanding of the subject (Chang et al., 2018).

In a similar way, automated laboratory platforms help in conducting experiments with minimal human intervention, improving precision and reproducibility (Ananikov 2024).AI-powered platforms can offer interactive simulations, virtual labs and adaptive learning modules that let students investigate chemical concepts practically (Nathaniel et al., 2023). AI tools can fill in resource gaps, particularly for educational institutions with little access to specialized equipment or laboratory space. AI tools can help chemistry teachers by automating administrative tasks, providing real-time feedback on student progress and making suggestions for instructional improvement. They can also help students develop skills that are increasingly valuable in the modern workforce by allowing them to participate in virtual experiments and observe phenomena that may not be possible in a traditional classroom setting. For example, students can prepare for careers in pharmaceuticals, or chemical research by becoming familiar with machine learning algorithms tools. This frees up teachers to

concentrate more on leading conversations, assisting students with their questions and offering personalized support.

Numerous fields, including chemistry, biology, computer science and data science are impacted by artificial intelligence. Students can explore interdisciplinary connections and gain a comprehensive understanding of how various fields intersect to solve complex problems by incorporating AI tools into chemistry education. The use of AI tools in chemistry classes signals a change in the direction of more dynamic, interactive and individualized teaching methods. This change has the potential to improve students' comprehension, engagement and preparedness for challenges in the chemistry in the future.

Artificial intelligence (AI) in education gives teachers access to important data that they might not otherwise have; examples of this data include tracking each student's progress and comprehension of different subjects. On the other hand, Shiyun (2024) believes that the introduction of artificial intelligence into education could displace teachers in the classroom, stifle students' innate knowledge and impair their ability to think critically. The majorities of researchers were concerned that integrating AI into the classroom would decrease students' interaction and consequently lead to communication barriers. Additionally, they think that it will make students less emotionally intelligent and more likely to be lazy (Chang & Lu, 2019).

Furthermore, the potential for transforming the pedagogical landscape exists with the incorporation of Artificial Intelligence (AI) into education. Roll and Wylie (2016) delineated two possible paths—evolutionary and revolutionary—that academic institutions could pursue in order to leverage artificial intelligence within the next seventeen years. The capabilities of AI, such as its aptitude for evaluating vast amounts of data, customizing learning experiences, and improving assessment procedures, indicate a profound revolution in the field of education. According to Bharati, (2017), artificial intelligence (AI) orchestrates innovation in the field of educational planning, ushering in an era of intelligent learning. Literature has revealed that there was little agreement among researchers about how much awareness and use of AI tools for teaching and learning. Lackner (2019) found that many biology instructors feel ill-equipped to teach with AI tools, due to lack of training and resources. Similarly, Mahajan and Waghmare (2020) reported that while there is growing interest in AI tools among biology students, many students feel unsure about how to use these tools effectively. Study carried out by (Alimi et al., 2021), showed that there is no significant difference in university students'

awareness and use of artificial intelligence for learning between male and female students.

Research on the degree of AI awareness among engineering faculty students (Dergunova et al., 2022) found that students had a good degree of AI awareness. Owolabi et al., 2022) conducted a study on Nigeria Polytechnic students' awareness of and readiness for implementing AI in libraries. Results showed that although the students acknowledged that they needed to have a basic understanding of computers to be more relevant in this day and age, they were aware that artificial intelligence (AI) was used in library operations and had learned about it during library orientation programs. According to a study by Kuo et al. (2019), although students' opinions of AI-supported learning were generally positive, there were also worries about the tools' accuracy and dependability as well as the possibility that they could eventually replace human teachers.

As far as the researchers are aware and as per the literature that is currently accessible, there is no much information on how gender variations in Colleges of Education settings, particularly in South-West, Nigeria, affect students' awareness, accessibility and use of AI. Gender according to Omotayo (2014) is a social connotation that has sound psychological background and it is used to specify attributes of both males and females. The arbitrary assigning roles and expectations to different sex (male and female) within society has given rise to such misconceptions that made some people perceive science as a masculine and male domain only. The problem is even compounded by the fact that most science educators give a masculine outlook to science subjects such as physics and chemistry, encouraging females to enrol in biology, agricultural science and home economics which they consider to be more female-friendly science (Nnorom, 2015). According to Adeneye and Adelege (2011) males and females are fond of having different academic interests, choice of subjects and co-curricular activities and also perform differently in their school tests and examination. Researchers also reveal that, despite all of AI's advantages, teachers are hesitating to employ it in the classroom (Ismail, 2022; Yungei& Han, 2022). This results in students' unaware, accessibility and utilization of some of the AI learning tools in learning. Therefore, the purpose of this study is to determine Chemistry students' awareness, accessibility and utilization of artificial intelligence (AI) in Colleges of Education in South-West Nigeria.

Statement of the problem

Since the emergence of Artificial Intelligence (AI), some learned individuals have identified with it for problem-solving. The integration of AI tools in education has the potential to revolutionize learning experiences, particularly in subjects like Chemistry. However, there is a gap in understanding the level of awareness, accessibility and extent of utilization of AI tools for learning Chemistry among Colleges of Education students in South-West Nigeria. Therefore, this study seeks to establish the level of Chemistry students' awareness, accessibility and utilization of artificial intelligence (AI) in Colleges of Education in South-West Nigeria.

Also, could there be any disparities in the awareness, accessibility and utilization of AI tools for learning Chemistry caused by gender?

Purpose of the Study

The purpose of this study is to examined Chemistry students' awareness, accessibility and utilization of artificial intelligence (AI) in Colleges of Education in South-West Nigeria. Specifically, the study sought to:

1.   determine the level of Chemistry students' awareness of AI tools used in learning.

2.   examine the level of Chemistry students' accessibility of AI tools used in learning.

3.   ascertain the extent of Chemistry students' utilization of AI tools used in learning.

Research Questions

1.   What is the level of Chemistry students' awareness of AI tools used in learning?

2.   What is the level of Chemistry students' accessibility of AI tools used in learning?

3.   What is the extent of Chemistry students' utilization of AI tools in used learning?

Hypotheses

1.   There is no significant difference in the level of male and female Chemistry students'   awareness of AI tools used in learning?

2.   There is no significant difference in the level of male and female Chemistry students'   accessibility of AI tools used in learning?

3.   There is no significant difference in the extent of male and female Chemistry students'   utilization of AI tools used in learning?

Methodology

The study employed descriptive survey research design. The population consisted of 834 Chemistry students from five Federal College of Education in the 2023/2024 academic session. A purposive sample of 340 Chemistry students consisting of (94 males and 246 females) were used for the study. Students' awareness, Accessibility and Utilization of artificial intelligence for learning Chemistry (SAAUAILC) adapted from Enebechi et al. (2024) and Zudonu et al. (2024) was the instrument used for data collection. The instrument consists of two sections. Section A consists of the identification number and gender of the students. Section B comprised three clusters students' awareness, Accessibility and Utilization of artificial intelligence for learning Chemistry (SAAUAILC). The three clusters consisted of ten (10) item statements, giving a total of 30 items structured using four-point modified Likert scale of Strongly Agreed (SA), Agreed (A), Disagreed (D) and Strongly Disagreed (SD). The responses were scored as SA = 4, A = 3, D = 2 and SD = 1. The instrument was face validated by three experts in the field of Chemistry Education, Computer Science and Measurement and Evaluation. The internal consistency reliability index of SAAUAILC was established as 0.80 using Cronbach Alpha. The students' awareness, accessibility and utilization of artificial intelligence for learning Chemistry was administered to the students by the researchers. Mean and standard deviation were used to answer research questions while t-test was used to test the hypotheses at 0.05 level of significance. Decision making was based on mean score of 2.50 and above as high and mean score below 2.50 as low for research questions and hypothesis was accepted if the calculated p-value is less than 0.05 and not accepted if the value is greater than 0.05.

Results

Research Question One: What is the level of Chemistry students' awareness of AI tools used in learning?

Table 1: Mean and Standard Deviation of the level of Chemistry Students' Awareness of AI Tools used in Learning.

S/N	AI tools used in learning Chemistry	N	$\bar{x}$	SD
	Virtual laboratory	340	2.30	1.12
	Adaptive learning platform	340	2.21	0.94
	Education Apps	340	2.46	0.86
	Intelligent tutoring systems	340	2.28	0.93
	Data analysis and visualization tools	340	2.52	1.30
	Natural language processing (NLP) tools	340	2.34	1.11

Virtual reality (VR)	340	2.50	0.82
Augmented reality (AR)	340	2.27	1.12
Concept mapping tools	340	2.16	1.12
Machine learning Algorithm	340	2.46	0.78
Overall Mean and Standard Deviation	340	2.35	1.01

Results in Table 1 reveals an overall mean of 2.35 and SD of 1.01. The mean of 2.35 is less than 2.50set as a benchmark, hence, the level of Chemistry students' awareness of AI tools used in learning is low.

Hypothesis One: There is no significant difference in the level of male and female Chemistry students' awareness of AI tools used in learning?

Table 2: T-test Mean Difference of the Level of Chemistry Students' Awareness of AI Tools used in Learning.

Gender	N	$\bar{x}$	SD	Df	t-cal.	t-crit.	P-val.	Alpha val.	Decision
Male	94	2.40	1.03						
				338	1.42	1.96	0.08	0.05	Not Significant
Female	246	2.30	0.98						

Table 2 revealed that male students have mean and standard deviation scores of 2.40 and 1.03 while the female students have mean and standard deviation scores of 2.30 and 0.98. With a degree of freedom of 338, the calculated t-value of 1.42 is not significant because the probability value of 0.08 is greater than the Alpha value of 0.05. Therefore, the null hypothesis is accepted. This implies that there is no significant difference in the level of male and female Chemistry students' awareness of AI tools used in learning.

Research Question Two: What is the level of Chemistry students' accessibility of AI tools used in learning?

Table 3: Mean and Standard Deviation of the Level of Chemistry Students' Accessibility of AI Tools used in Learning.

S/N	Statement	N	$\bar{x}$	SD
1	There is available and reliable internet access, devices and electricity in my school and community to access AI tools.	340	1.98	0.84
2	I can afford AI technologies and related resources for			

the learning of chemistry lessons.

340   1.75   0.94

3   I have adequate knowledge and implications in utilization of AI technologies in learning Chemistry.

340   2.20   1.02

4   I understand the languages utilized in AI technologies and Relatedresources

340   2.12   1.01

5   Seminars and workshops have been held in my school for effective integration of AI into classroom teaching and learning.340   1.96   0.83

6   AI is suitable and relevant to provide educational content for different learners in chemistry.

340 2.31   1.08

7   The policies and regulations of the government support and promote utilization of AI in classroom teaching and learning of chemistry. 3401.861.03

8   AI could adapt to the learning style of chemistry students. 340   1.96   1.10

9   Parents and community members support AI use in teaching and learning of chemistry.

340   1.831.02

10   There is effective investment in research to improve accessibility And utilization of AI resources in teaching and learning of Chemistry.   340 2.13 0.93

Overall Mean and Standard Deviation   340 2.01   0.98

The results in Table 3 shows an overall mean of 2.01 and SD of 0.98. The mean of 2.01 is less than 2.50set as a benchmark, hence, the level of Chemistry students' accessibility of AI tools used in learning is low. Hypothesis Two: There is no significant difference in the level of male and female Chemistry students' acceptability of AI tools used in learning?

Table 4: T-test Mean Difference of the Level of Chemistry Students' Acceptability of AI Tools used in Learning.

Gender	N	$\bar{x}$	SD	Df	t-cal.	t-crit.	P-val.	Alpha val.	Decision
Male	94	1.98	1.00						
				338	1.76	1.96	0.07	0.05	Not Significant
Female	246	2.04	0.96						

Table 4 revealed that male students have mean and standard deviation scores of 1.98 and 1.00 while the female students have mean and standard deviation scores of 2.04 and 0.96. With a degree of freedom of 338, the calculated t-value of 1.76 is not significant because the probability value of 0.07 is greater than the Alpha value of 0.05. Therefore, the null hypothesis is accepted. This implies that there is no significant difference in the level of male and female Chemistry students' acceptability of AI tools used in learning.

Research Question Three: What is the extent of Chemistry students' utilization of AI tools in learning?

Table 5: Mean and Standard Deviation of the Extent of Chemistry Students' Utilization of AI Tools used in Learning.

S/N	Statement	N	$\bar{x}$	SD
1	I believe AI will destroy students' natural thinking ability.	340	2.41	1.02
2	I feel AI will replace human teachers in the chemistry classroom, leading to loss of jobs.	340	2.30	1.10
3	I believe AI will be more useful in educational research than in teaching and learning of chemistry.	340	2.12	1.05
4	AI-technologies are new and changing constantly, thus, should not be used in teaching and learning of chemistry.	340	2.33	1.08
5	I believe I can get reliable feedback to improve my learning Style without the help of AI-tools.	340	2.14	1.06
6	I am open to integrate AI-powered tools to enrich learning of chemistry.	340	1.98	0.96
7	I am convinced that learning of chemistry will become easier with the integration of AI into chemistry classes.			

340 2.10   1.02

8   I believe AI will be useful in learning of difficulty chemistry
         topics and concepts.

340   1.84   0.98

9   I feel that the knowledge and utilization of AI-resources will make

         me more competent in and out of the classroom as a chemistry
student.340 2.14 0.97

10.   Utilization of AI-tools in learning of chemistry is time consuming and

         stressful, thus,   should be not be used chemistry classes.
         340   2.14   0.96
         Overall Mean and Standard Deviation
         3402.151.02

The results in Table 5 indicates an overall mean of 2.15 and SD of 1.02. The mean of 2.15 is less than 2.50 set as a benchmark, hence, the level of Chemistry students' utilization of AI tools used in learning is low.

Hypothesis Three: There is no significant difference in the extent of male and female Chemistry students' utilization of AI tools used in learning?

Table 6: t-test mean difference of the extent of Chemistry students' utilization of AI tools used in learning.

Gender	N	$\bar{x}$	SD	Df	t-cal.	t-crit.	P-val.	Alpha val.	Decision
Male	94	2.10	1.04						
				338	1.65	1.96	0.06	0.05	Not Significant
Female	246	2.20	0.98						

Table 6 revealed that male students have mean and standard deviation scores of 2.10 and 1.04 while the female students have mean and standard deviation scores of 2.20 and 0.98. With a degree of freedom of 338, the calculated t-value of 1.65 is not significant because the probability value of 0.06 is greater than the Alpha value of 0.05. Therefore, the null hypothesis is accepted. This implies that there is no significant difference in the extent of male and female Chemistry students' utilization of AI tools used in learning.

Discussion

The analysis of research question one and hypothesis one indicated that there was a low level of Chemistry students' awareness of AI tools used in learning and no significant different between male and female chemistry students' awareness of Artificial Intelligence tools used in learning in Colleges of Education in South-West Nigeria. This indicates that majority of students are unaware that artificial intelligence can be used for learning and not based on gender. This finding is in agreement with Studies carried out by (Alimi et al., 2021), who revealed that there is low level and no significant difference between male and female university students' awareness of the use of artificial intelligence for learning. It is also, in accordance with Enebechi et al. (2024) who reported that there was low and no significant difference on male and female secondary school students' awareness of AI tools used in learning biology in Enugu State. However, the finding was not in accordance with the finding of Owolabi et al.,(2022) who found that Nigeria Polytechnic students' were aware during library orientation programs that artificial intelligence (AI) was used in library operations.

The analysis of research question two and hypothesis two revealed that there was a low level of Chemistry students' accessibility of AI tools used in learning and no significant different between male and female chemistry students' accessibility of Artificial Intelligence tools used in learning. The finding is in line with Alimi et al., (2021) who revealed that there is low level and no significant difference between male and female university students' accessibility of the use of artificial intelligence for learning. The finding is in accordance with Zudonu et al., (2024) who reported that there was low and no significant difference on the perception of the accessibility of AI technology and resources among chemistry teachers in Rivers State.

The analysis of research question three and hypothesis three showed that there was a low extent of Chemistry students' utilization of AI tools used in learning and no significant different between male and female chemistry students' accessibility of Artificial Intelligence tools used in learning. This finding is in agreement with Studies carried out by (Alimi et al., 2021), who revealed that there is low level and no significant difference between male and female university students' use of artificial intelligence for learning. In addition, the finding is in line with Zudonu et al. (2024) who reported that there was low and no significant difference on the perception of the applicability of AI technology and resources among chemistry teachers in Rivers State.

Conclusion

The 21st century educational activities require Artificial intelligence tools. With technology introducing innovations in every aspects of life, it is very important to be aware, access and utilize all the benefits that can come with it so as to look into the downside as well. The general findings of this study show that there is low level of awareness, accessibility and utilization of Artificial Intelligence tools for learning among Chemistry students in Colleges of Education in South-West Nigeria. Furthermore, male and female Chemistry students' awareness, accessibility and utilization of Artificial Intelligence tools used in learning indicated no significant difference.

Recommendations

Considering the findings of this study, the following recommendations were put forward.

The government and stakeholders should organize workshops, conferences and seminars in Colleges of Education for increased students' sensitization and integration   of   AI   in   learning Chemistry.

Curriculum planners should revise the science curriculum to incorporate AI into it, to enhance the achievement of its objectives.

School administrators should be made aware of the benefits of integration of AI into Colleges of Education to assists and encourage the learners into using AI-tools.

Government should provide adequate internet facilities and reliable electricity to encourage the utilization of AI tools in Colleges of Education in Nigeria.

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DEVELOPING SITUATIONAL ADAPTATION SKILLS IN YOUNG STUDENTS THROUGH MULTIMEDIA LEARNING STRATEGIES

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Abstract: *In an increasingly dynamic and unpredictable world, the ability of young students to adapt to situational changes is a vital skill. This study explores the effectiveness of multimedia learning strategies in fostering situational adaptation skills among primary school students. Grounded in cognitive load theory and the multimedia learning principles of Mayer, the research utilizes a quasi-experimental design involving two groups of students aged 8–10. The experimental group engaged in interactive multimedia modules integrating video, animation, and adaptive tasks, while the control group followed a traditional textbook-based curriculum. Pre- and post-assessment tools measured changes in adaptability, decision-making, and transferability of learning across contexts. Results indicated a statistically significant improvement in the experimental group's situational adaptation performance, suggesting that multimedia strategies can enhance cognitive flexibility and situational awareness. These findings offer practical implications for curriculum designers and educators seeking to embed 21st-century skills into early education frameworks.*

Keywords: *situational adaptation; multimedia learning; young students; cognitive flexibility; educational technology.*

The rapid evolution of technology and increasingly complex learning environments demand that young students develop situational adaptation skills—the ability to adjust thinking and behavior in response to changing contexts (Spiro et al., 1992; Wikipedia, 2025). These skills are underpinned by cognitive flexibility, an executive function critical for handling new rules, switching tasks, and transferring knowledge across domains (Cognitive Flexibility, 2025). Multimedia learning strategies offer a promising means to cultivate these adaptive capacities in children. Mayer's Cognitive Theory of

Multimedia Learning posits that combining verbal and visual channels enhances meaningful learning and supports generative cognitive processing (Mayer & Fiorella, 2024; Mayer, 1997). Rich, context-embedded materials reduce extraneous load while promoting active integration via dual-processing systems (Becker et al., 2019; Mayer & Fiorella, 2024). Moreover, interactive multimedia tools—animations, simulations, adaptive tasks—facilitate flexible thinking and decision-making by enabling learners to approach problems from multiple perspectives and scaffold their understanding (Cheng & Koszalka, 2016; Lajoie, 2014).

Empirical work supports this link: adaptive learning technologies have been shown to improve cognitive flexibility in children aged 8–12 (Khasawneh, 2024). Similarly, multimedia environments that integrate multiple representations of complex content help reduce cognitive load and foster conceptual understanding (Becker et al., 2019; Stelzer et al., 2008). However, few studies explicitly target situational adaptation skills in primary-grade learners through multimedia interventions.

Thus, this study examines the effect of multimedia learning strategies on situational adaptation in students aged 8–10. Using a quasi-experimental design, the research investigates whether interactive, context-rich modules improve adaptability, decision-making, and transfer of learning more than traditional textbook-based instruction. Findings aim to inform educators and curriculum designers seeking to embed 21st-century adaptive skills in early education.

Literature Review

The literature exploring the intersection of multimedia learning and situational adaptation skills in young learners, while promising, remains limited. This review consolidates key theoretical frameworks and empirical findings in three thematic areas: Cognitive Flexibility, Multimedia Learning, and Situational Learning Interventions.

1. Cognitive Flexibility Theory (CFT)

CFT asserts that deep learning and adaptive problem-solving arise when learners engage with content through multiple representations and contexts (Spiro et al., 1995). This embedment supports flexible application of acquired knowledge to novel situations (Spiro et al., 1995; Cheng & Koszalka, 2016). Defined as the capacity to adjust thinking when conditions shift, cognitive flexibility is essential for situational adaptation (Spiro et al., 1995; Wikipedia, 2025).

2. Multimedia Learning Principles

Mayer's Cognitive Theory of Multimedia Learning (CTML) emphasizes that combining verbal and visual modalities reduces

cognitive load and enhances meaningful learning (Mayer, 2009). Applying principles like coherence, signaling, and modality improve comprehension and retention. Numerous studies validate that multimedia modules outperform traditional text in facilitating conceptual understanding, especially when designed to align with cognitive load principles (Stelzer et al., 2008).

3. Multimedia in Situational Learning

Research by Wei, Cheng, and He (2018) on an instructional multimedia–situational approach in science education reported significant improvements in learning achievement compared to traditional methods. Their quasi-experimental 15-week study with pre- and post-tests demonstrated the effectiveness of integrating multimedia content with situational scenarios.

4. Effects on Young Learners

Studies involving elementary-aged students support the engagement and learning benefits of multimedia environments. For example, Islam et al. (2014) used animations and videos to teach science concepts, revealing higher post-test gains than standard instruction. Agatha Primamukti and Farozin (2018) found that interactive multimedia improved both students' interest and achievement.

Research   Gap

While CFT and CTML offer strong theoretical support for fostering adaptable learning in context-rich environments, empirical studies rarely focus on situational adaptation skills in early childhood. Most literature assesses general academic outcomes or cognitive flexibility broadly, without measuring behavioral adaptability in dynamic contexts. This study aims to fill this gap by evaluating how multimedia modules designed according to CFT and CTML principles can enhance situational adaptation abilities in primary school students aged 8–10.

Methodology

This study employed a quasi-experimental pretest-posttest control group design to investigate the effects of multimedia learning strategies on the development of situational adaptation skills in primary school students. The independent variable was the instructional approach (multimedia-enhanced vs. traditional), while the dependent variable was the improvement in students' adaptive behavior across dynamic learning scenarios.

The participants included 60 students, aged 8 to 10 years, from two comparable public primary schools in Arad County, Romania. Schools

were selected for similarity in student demographics and access to basic digital infrastructure. The students were divided into two groups: Experimental Group (n = 30): Engaged with multimedia instructional content.

Control Group (n = 30): Followed the standard curriculum using traditional textbooks and teacher-led instruction.

The sample was selected using purposive sampling to ensure participants had no prior exposure to structured multimedia learning programs. The study was coordinated under the guidance of the Faculty of Educational Sciences, Aurel Vlaicu University of Arad.

Instruments

Situational Adaptation Skills Assessment (SASA): A performance-based rubric adapted and translated for the Romanian context, drawing on established behavioral adaptability frameworks (Zelazo, 2013). It included scenario simulations, classroom role-shift exercises, and self-reflective tasks.

Multimedia Learning Modules: Developed using Mayer's (2009) principles of multimedia learning—coherence, signaling, and modality. Modules were created in Romanian and integrated locally relevant themes to enhance engagement and contextual understanding.

Teacher Observation Checklist: A standardized observation tool used by class teachers to record adaptive behaviors, emotional regulation, and peer interaction during the intervention period.

The SASA was piloted with 15 students from a different school within Arad County to ensure clarity and appropriateness. The Romanian-language version demonstrated high reliability (Cronbach's $\alpha = .83$).

The study took place over a five-week period in the spring semester of the 2024–2025 school year.

The experimental group received instruction through interactive multimedia modules delivered via tablets and classroom projectors. These modules included animated social dilemmas, game-based decisions, and branching scenarios requiring students to react to changing conditions.

The control group was taught the same content using conventional instructional methods, including textbook reading, oral explanations, and written exercises.

Pre-tests were administered in the first week and post-tests in the final week. Teacher observations were conducted throughout the intervention period during regular class hours.

Quantitative data from pre- and post-intervention assessments were analyzed using paired sample t-tests to examine within-group changes

and ANCOVA to evaluate between-group differences while controlling for baseline performance. Cohen's d was calculated to determine effect sizes. Qualitative data from observation checklists were thematically analyzed to support the quantitative findings.

Results
1. Descriptive Statistics
The study analyzed data from 60 students, equally divided into an experimental group (n = 30) and a control group (n = 30). The pretest mean scores for situational adaptation were comparable across groups:
- Experimental Group Pretest Mean = 12.4 (SD = 2.1)
- Control Group Pretest Mean = 12.1 (SD = 2.3)
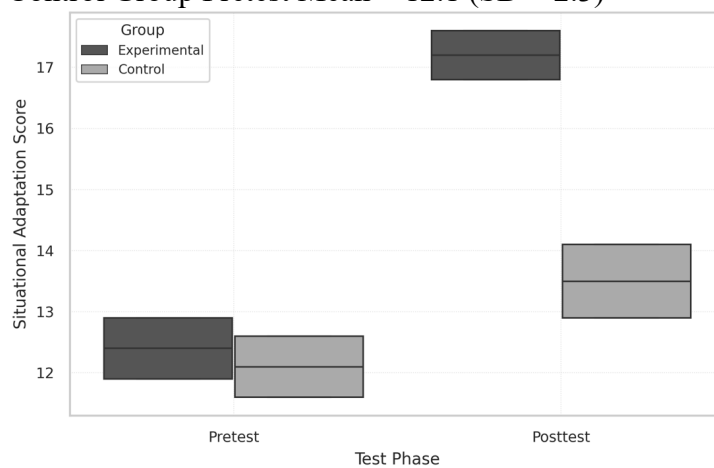
Figure 1. Boxplot of Pretest and Posttest Scores by Group

Posttest scores, however, revealed a notable difference:
- Experimental Group Posttest Mean = 17.2 (SD = 1.8)
- Control Group Posttest Mean = 13.5 (SD = 2.4)
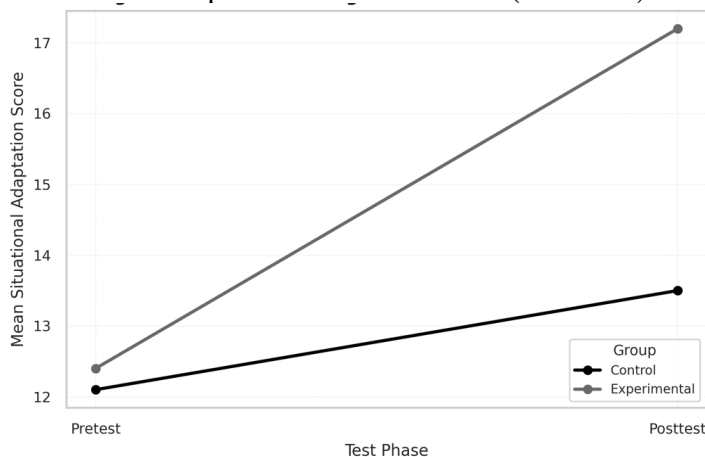
Figure 2. *Mean Score Progression from Pretest to Posttest*

2. Inferential Statistics
Paired Sample t-tests
A paired sample t-test was conducted to evaluate the within-group change from pretest to posttest.

- Experimental   Group:
  $t(29) = 9.45$, $p < .001$, Cohen's $d = 1.73$ (large effect)
- Control   Group:
  $t(29) = 2.43$, $p = .021$, Cohen's $d = 0.45$ (moderate effect)

ANCOVA
An ANCOVA was performed to control for pretest differences and assess the effect of the instructional method on posttest scores.

- $F(1, 57) = 27.68$, $p < .001$, $\eta^2 = .33$
  This indicates a large effect size, confirming that the type of instruction significantly influenced post-intervention adaptation scores, favoring the multimedia-based approach.

Source	SS	df	MS	F	p
Group	45.76	1	45.76	33.16	< .001
Pretest (Covariate)	12.34	1	12.34	8.94	.004
Error	78.45	57	1.38		
Total	136.55	59			

Figure 3. ANCOVA results table

3. Qualitative Observations
Teacher logs supported the quantitative findings. In the experimental group:

- Students displayed increased engagement with shifting tasks.
- Many showed improved emotional regulation when faced with unexpected instructions or peer challenges.
- Teachers noted faster recovery from confusion or error during branching scenarios in multimedia tasks.

In contrast, students in the control group required more verbal prompting and peer support when faced with similar in-class adjustments.
Summary of Findings

The data indicate that multimedia learning strategies significantly enhance situational adaptation skills in young learners. The experimental group not only showed statistically significant gains over time but also outperformed the control group in the posttest assessment, with supporting behavioral observations affirming the development of flexible learning responses.

Discussion
The purpose of this study was to evaluate whether multimedia learning strategies can enhance situational adaptation skills in primary school students. The results provide compelling evidence in support of this hypothesis. Students in the experimental group, who engaged with interactive multimedia modules designed around real-life scenarios, showed significantly greater improvements in adaptability than those in the control group who received traditional instruction.

These findings align with prior research on the benefits of multimedia instruction for cognitive engagement and transfer of learning (Mayer, 2009; Stelzer et al., 2008). By leveraging dual-channel processing, visual-verbal integration, and context-rich tasks, the multimedia modules likely reduced extraneous cognitive load and allowed learners to focus more effectively on adaptive strategies. The marked improvement in posttest scores and teacher-reported behavioral flexibility suggests that these interventions fostered not only conceptual understanding but also real-time decision-making and behavioral regulation.

The results also extend the theoretical framework of Cognitive Flexibility Theory (CFT) (Spiro et al., 1995) by demonstrating its applicability in early primary education. While much of the CFT literature focuses on adult learners or domain-specific problem solving, this study indicates that even young learners can benefit from exposure to multiple perspectives and dynamic learning conditions. Moreover, the study validates the Cognitive Theory of Multimedia Learning (CTML) (Mayer, 2009) in a new context—Romanian primary classrooms—where culturally and linguistically localized content played a significant role in maintaining engagement and relevance.

An important contribution of this study is its focus on situational adaptation as a distinct construct, going beyond general academic achievement or abstract cognitive flexibility. Through scenario-based learning and observation, the study captured students' ability to respond appropriately to shifting expectations, rules, and social roles. This positions situational adaptability as a vital 21st-century skill that

can be taught intentionally through well-designed multimedia instruction.

However, the study is not without limitations. First, the sample size, while sufficient for statistical analysis, was restricted to two schools within Arad County, limiting generalizability. Second, the short intervention period (five weeks) may not fully capture long-term retention or deeper transfer effects. Additionally, while teacher observations added qualitative richness, they may be subject to bias without triangulation from external raters or more objective behavioral tracking.

Future research should aim to replicate these findings across diverse educational settings and over extended periods. Longitudinal studies could assess whether gains in situational adaptation persist over time and transfer to other academic and social domains. Incorporating technologies like eye-tracking or real-time feedback systems could also provide deeper insight into learners' adaptive processes.

Conclusion

This study demonstrates that multimedia learning strategies can significantly enhance situational adaptation skills among young learners. Through the implementation of contextually relevant, interactive modules grounded in Cognitive Flexibility Theory and Multimedia Learning Theory, primary school students in Arad County, Romania, exhibited marked improvements in their ability to respond to dynamic, changing classroom scenarios.

These findings highlight the potential for educational technology not only to improve knowledge acquisition but also to foster critical 21st-century competencies such as adaptability, decision-making, and behavioral flexibility. Given the increasing complexity of both educational and real-world environments, it is imperative that curricula integrate such adaptive learning strategies early in the schooling process.

Although limited by sample size and intervention duration, the study offers practical implications for teachers, curriculum designers, and policymakers. By aligning multimedia tools with cognitive development goals, educators can create more responsive, learner-centered environments. Further research is needed to explore the longitudinal effects of such interventions and their applicability across broader educational contexts.

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CLIMATE ANXIETY CRISIS: HOW YOUNG PEOPLE ARE COPING WITH THE PSYCHOLOGICAL TOLL OF CLIMATE CHANGE IN OSUN STATE, NIGERIA

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Abstract: *Climate change is a worldwide crisis that has been linked to a range of negative health outcomes, both physical and psychological and younger generations are increasingly feeling the weight of it. Researchers have made a giant stride in providing adaptable strategies to this menace. However, there is a dearth of factual and representative survey research that focuses on the experiences of youths in Osun State concerning this threat. Therefore, this study examined how youths are coping with the psychological toll of climate change in Osun State Nigeria. The study used a descriptive survey to collect data from 157 youths who were randomly selected from the three senatorial districts in the State. Descriptive statistics of frequency counts with percentages were used to analyse the data. The results showed that most youths are experiencing a high level of worry about their health, education, and future.The majority have experienced mental health problems including post-traumatic stress disorder, anxiety and depression, phobias and panic attacks, sleep disorders, cognitive deficits, increased risks of suicide and intellectual disabilities. However, youth are taking actionto mitigate the impact of climate change. They have embarked on proper waste disposal, self-education to feel empowered, reducing energy consumption and engaging in climate change activism. Therefore, adults should actively*

engage in this fight as their involvement will provide a form of reassurance, and model pro-social and eco-friendly behaviours for the youths.

Keywords: climate change; youth; health; psychology; climate crisis; climate anxiety.

Introduction

Feeling anxious about the future is normal for children and young people, but when the cause of that anxiety is the state of the planet, it can be overwhelming. Climate change is a worldwide crisis that has been linked to a range of negative health outcomes, both physical and psychological and younger generations are increasingly feeling the weight of it. Young people are bearing the weight of the climate crisis on their shoulders, leading to increased levels of anxiety and stress. Many young people are making changes in their daily lives to reduce their carbon footprint, such as eating less meat, reducing energy consumption, and using public transportation. Young people are educating themselves about the science of climate change and the policy solutions needed to address it, which can help them feel more empowered and informed. With the growing evidence of climate anxiety becoming a threat to the sense of safety and, stability which is directly linked to psychological anxiety and torture leading to depression and social vices, and also aggravating existing intellectual conditions (Kankawale. and Niedzwiedz, 2023), the menace of climate anxiety may be influenced by certain factors related but not limited to social, psychological and geographical factors. Young people, faced with the palpable evidence of extreme weather conditions and climate degradations, often experience disruption in their sense of safety and stability, as well as being anxious about the future.

The series of climatic degrading evidence confronting the youths (Clayton andKarazsia, 2020) affirm that this menace invariably constitute climate anxiety and distress with the young people seemingly having no hope for the future (Gunasiri, Wang, Watkins, Capetol, Henderson-Wilson and Patrick (2022).

Young people are by far the most affected, and this is manifested by their frustration, anger, sadness, substance abuseetc(Gunasiri et al, 2022). Additionally, Hathaway (2022) in a bid to explore the prevalence of climate anxiety among young adolescents in Aotearoa, New Zealand conducted a mixed method cross-sectional online survey. The average of the participants was 12 years and he was able to establish the widespread anxiety about the future in young adolescents. (2001)Compas, Connor-Smith, Saltzman, Thomsen and Wadsworth

(2001) identified coping strategies that are either problem-focused, emotion-focused and meaning-focused strategies. Strategies that are problem-focused centres around taking action or lifestyle changes (Ojala 2012), while emotion-focused endeavours to buffer negative emotions and meaning-focused indulge in attitudes that fuel positive emotions.

Globally, climate change has been an issue threatening the future of the earth. Due to various environmental changes brought on by storms, wildfires, and rising temperatures, the crises brought on by climate change have significant long-term effects on both physical and mental health (Berry et al., 2018).Climate anxiety can be understood as heightened distress related to the climate crisis that is characterized by a constellation of strong and interconnected emotions such as worry, fear, sadness, anger, and powerlessness (Ray, 2020). Climate anxiety can be connected to many emotions that come from despair, worry, fear, anger and grief. There are widespread reports of high levels of climate-related distress, with children and young people being especially at risk.

Previous research has demonstrated the existence of affective, cognitive, and behavioural elements of psychological discomfort related to climate change. Children and young people are directly impacted by and burdened by climate change as they undergo physical, psychological, social, and neurological development. Climate change poses a threat to mental health that can be understood through stress-vulnerability models of health. Many children and young people have been exposed to chronic stress from childhood which maybe long-lasting impact and may increase the risk of developing mental problem. Some people have become homeless as a result of flooding brought on by climate change, while other children and young people have lost parents and loved ones owing to concerns related to climate change. These events have left them feeling hopeless and have caused learning difficulties, panic attacks, sleep disorders, and despair. Godden et al. (2021) narrated the psychologically problems among children and young children to include: feeling overwhelmed, anger, depression and anxiety. Children and young people are facing serious problems which make them thinking that their future is doomed. They also experienced some betrayal from the adult due to their nonchalant attitudes towards climate change.

UNICEF (2021) report estimates that one billion children are at extremely high risk as a result of climate change issues and research has found that many children have pessimistic views of climatefuture. Also, there is increasing evidence that climate anxiety is particularly prevalent among young people (Cradon et al., 2022; Clayon and

Karazsia, 2020 and Wu et al., 2020). Moreover, young people currently have limited opportunities for influencing policy-making on climate change given the fact that decision-making systems generally exclude them (Arora et al., 2022). 10,000 young people in ten countries with varying degrees of climate-related vulnerability were the subjects of a recent multinational study by Hickman et al. (2021) that investigated climate anxiety. A concerning percentage of young people reported high levels of distressing emotions, associated functional impacts, and negative future perceptions. Perceptions of insufficient action by governments and feelings of betrayal were linked to distressing emotions, climate anxiety, and functional consequences (Hickman et al., 2021).

Regarding climate anxiety, there is a dearth of factual and representative survey research that focuses on the needs, opinions, and experiences of young people in Osun State. Also, areas of research about integrating climate education, recognizing the mental impact of this climate change and feasible coping mechanisms are needed and worth continued attention in climate anxiety research in developing countries (Ojala 2012; Kankawale. & Niedzwiedz, 2023). This study therefore aimed to provide baseline information on how the children and young people are coping with the psychological toll of climate change in Osun State.   Therefore, this study examined how youths are coping with the psychological toll of climate change in Osun State, Nigeria.

Materials and Methods
Research Design: A descriptive survey research design was adopted for this study. Descriptive research design is a popular design in education which requires researchers to administer a questionnaire to a sample or to the entire population of people to describe the attitudes, opinions, behaviours or characteristics of the population (Creswell, 2008).

Study Location: Osun State Nigeria was used as the study location for this research as Osun State has its unique economic, environmental and social characteristics. The state has its unique cultural factors that influence how individuals perceive and cope with comate anxiety. Using this State allows for a deeper understanding of how cultural beliefs and practices shape the young people's responses to climate change anxiety. The state is located in southwestern Nigeria with rich cultural heritage and diverse landscapes. It is famous for its cultural festivals and sites- Osun Osogbo Sacred Grove.

Figure   1:   Map   showing   the   study

location

Population of the study: The population for this study comprised of youths in Osun State.

Sample and Sampling Technique: The researcher employed a simple random sampling technique to select three hundred youths from the three senatorial districts of Osun State.

Research Instrument: This study adapted a survey question titled Climate Change Anxiety Indicator (CCAI)which was used for this study. The questionnaire had two sections. Section 'A' elicited respondent's demographic information such as the name of the respondent, gender, location type and many more, while section 'B' was sub-divided into two with relevant items that were used to elicit relevant responses from the respondents in line with the research questions and hypothesis. The item sections of the instrument were measured on a 4-point Likert scale, ranging from '1' Agree '2' Strongly Agree '3' Disagree '4' Strongly Disagree.

Validity of the Instrument: The face and content validity of the instrument were determined before they were administered to the respondents by experts in the field.

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Reliability of the Instrument: The reliability of the questionnaire was established through a test-retest method. A Cronbach's alpha coefficient of 0.88 was obtained which was very good and attested to the reliability of the instrument.

Procedure for Data Collection: The instrument was administered to the respondents by the researcher employing the help of 6 research assistants. They were retrieved immediately after they were completed by the respondents.

Method of Data Analysis: Data collected was subjected to descriptive statistics and Analysis of Variance statistical methods.

Results

The demographic characteristics of the respondents are presented below. 67% of the respondents were female while 33% of them were male (Figure 2). All the respondents fell into the youth age grade. They were all 30 years or below (Figure 3). Almost all the respondents (96%) have heard and experienced climate change impact in the last 2 years (Figure 4).

3.1. Demographic characteristics of the respondents

Figure 2: Chart showing the gender of the respondents

Figure 3: Chart showing the age group of the respondents

Figure 4: Chart showing the number of respondents that have heard and experienced climate change impact

Respondents level of worry about Climate change impact
From Table 1, the number of youths that were "extremely worried" about the impact of climate change on their health was 63 which was equivalent to 40 % of their total number and had the highest level when compared to other levels. It is then followed by 48 youths that were "very worried". Those that were "moderately worried" among the youths were 30 in number while the least number of youths (6) in each were recorded for "not worried" and "a little worried". Moreover, from table 1, out of 157 youths that responded to the level of their worried about the impact of climate change on their education showed that 60 youths were "very worried", 42 youths were "extremely worried" and 37 in number were "moderately worried". Those "not worried" were 15 in number while very few youths that were 3 in number showed "a

little worried" about the impact of climate change on their education. Furthermore from table 1, the information got from the youths about the impact of climate change on their future revealed the number that were "extremely worried" as 61, 37 were "very worried", 43 were "moderately worried", 9 were "not worried" at all while no youth responded to have "a little worried" about the impact of climate change on their future.

Table 1: Respondents level of worry about Climate change impact

S/N	Item	EW	VW	MW	LW	NW
1	Are you worried about the impact of climate change on your health?	63	48	30	06	06
2	Are you worried about the impact of climate change on your education?	42	60	37	03	15
3	Are you worried about the impact of climate change on your future?	61	37	45	0	09

Key: EW= extremely worried. VW = very worried. MW = moderately worried. LW = a little worried.NW = not worried

Youths Emotion about Climate Change

Table 2 shows youth emotions about climate change as expressed by the respondents. Majority (80%) of the respondent felt hurt because of climate change impact (Table 2). More than half (59%) of the respondents felt powerless about the impact of climate change on them while 51% of the respondents felt optimistic about the impact of climate change. Furthermore, half (50 %) of the respondents were anxious and sad about the impact of climate change. However, half of the respondents were indifferent (Table 2). Less than half of the respondents were afraid, grieved, angry and felt helpless about climate

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change impact on them (Table 2). The level of different emotion about climate change as expressed by the respondents is in the following order; Hurt > feeling of being powerless > optimistic > anxious > sad > indifferent > afraid > grief > helpless > angry.

Table 2: Youths Emotion about Climate Change

S/N	Item	Yes Freq.	%	No Freq.	%	Prefer not to say Freq.	%
1	Hurt	125	80	19	12	13	8
2	Powerless	93	59	58	37	06	4
3	Optimistic	80	51	65	41	12	8
4	Anxious	78	50	70	45	09	6
5	Sad	78	50	70	45	09	6
6	Indifferent	78	50	69	45	10	6
7	Afraid	75	48	79	50	03	2
8	Grief	72	46	54	34	31	20
9	Helpless	75	48	37	24	45	29
10	Angry	60	38	60	38	37	24

Youth Current experience of Climate Change

The respondents described their current experiences as a result of climate change. These are presented in Table 3 as showed below. Majority (78%) of the respondents were suffering from heat-related illnesses like headache. This they believed is caused by climate change. 48% of the respondents were thinking obsessively about the effects of rainfall and flooding. Less than half of the respondents were taking sleeping tablet due to lack of sleep as a result of excessive heat. In addition less than half of the respondents had suffered from panic attacks due to effects of flooding and excessive heat (Table 3). Also, about 34 % of the respondents had suffered from depression due to effect of flooding and excessive heat. About 23 % of the respondents had infectious diseases due to climate change impact (Table 3).

Table 3: Current experience because of Climate Change

S/N	Which of the following do you currently experience or have happened to you in the past?	Freq.	%
1	Heat-related illnesses like headache	123	78
2	Obsessive thinking about the effects of rainfall and flooding	75	48
3	Taking sleeping tablet due to lack of sleep as a result of excessive heat	60	38
4	Insomnia due to excessive heat	57	36
5	Panic attacks due to effects of flooding / excessive heat	57	36
6	Depression due to effects of flooding/ excessive heat	54	34
7	Infectious diseases	36	23

The respondents had been taking actions about climate change mitigation. Some of the strategies they have embarked on include the following. From Table 4, 72 % of the respondents disposed their waste properly while 65 % engaged in self-education concerning climate change for them to feel more empowered (Table 4). 59 % of the respondents do not drive personal cars but made used of public transportation as a means of reducing carbon emission. More than half (57 %)of the respondents reuse and recycle waste products while about half also reduce their energy consumption (Table 4). Less than half (46 %)of the respondents spend time visiting recreation parks (Table 4). Not so many of the respondents eat less meat as a means of reducing their carbon footprint. Engaging in climate change activism was not common among the respondents as only 38 % of them were climate change activists (Table 4).

Table 4: Youths Climate Change Mitigation Strategies

S/N	Items	Freq.	%
1	Disposing waste properly	114	72
2	Educating yourself about climate change to feel more empowered	102	65
3	Using public transportation.	93	59
4	Turning to your friends, parents, and mental health professionals for support in dealing with climate anxiety and stress.	90	57
5	Reusing, recycling waste	90	57
6	Reducing energy consumption	78	50
7	Spending time in nature by visiting recreation parks	71	46
8	Eating less meat	63	40
9	Engaging in climate change activism	60	38

Discussion of Findings
Level of worry about climate change
The findings of this study revealed that the youth's level of worry about climate change impact was extremely high. They were worried about its impact on their health, education and their future. This is in

confirmation with Jones and Lucas, (2023) who stated that climate change presents significant affective, embodied and existential challenges for young people. They also affirmed that young people are at the forefront of learning to simultaneously endure the distress of a climate-altered world and find pathways for transformation towards more just socio-ecological relations and futures. This is also affirmed by Kankawale and Niedzwiedz, (2023). They also revealed that the menace of climate anxiety may be influenced by certain factors related but not limited to social, psychological and geographical factors. So, young people often experience disruption in their sense of safety and stability as well as being anxious about the future. Ojala (2016) also reported the youth's high level of concern about climate change. Most are associated with feelings of worry, powerlessness and frustration. It can be concluded therefore that many youth are experiencing a high level of concern or worry as a result of climate change. They are concerned about the effect of climate change on their health and future.

Youth's emotion about climate change

It was also revealed that more than half of the youth in the study showed different emotions about climate change. These include; feelingsof powerlessness, fear, helplessness, and anger while some others are optimistic and a few are indifferent. Hickman (2020) adds that one of the young participants in his study described how she was scared to talk about her fear of being judged or criticized for being unreasonable. It was also confirmed that there is a feeling of helplessness because they have been ignored or dismissed by other people when they try to express their feelings about climate change. Thomas, Martin and Benoit (2022) in their results also confirm that many participants in their study described experiencing anger, hopelessness, guilt and sadness in response to climate change. A smaller number endorsed significant anxiety symptoms. Some participants, in their study, tended to experience guilt in terms of not doing enough to combat climate change. All these attest to the fact that the youth are going through a lot of emotional trauma as a result of climate change impacts on them.

Current experience because of climate change

The respondents described their current experiences as a result of climate change. Some were suffering from heat-related illnesses such as headaches. Other adverse effects of climate change on their mental health are worries, depression, panic attacks and increased risks of suicide. Sanson and Bellemo (2021), in their study, opine that both sudden extreme weather events and slower, longer- lasting climate effects (e.g. rising sea levels, droughts) are increasing in frequency and ferocity. This, in turn, directly causes deaths and injuries, physical ill

health (e.g. through malnutrition, lack of clean water, infectious diseases) and mental health problems including post-traumatic stress disorder, anxiety and depression, phobias and panic, sleep disorders, cognitive deficits and intellectual disabilities. They also added that reaction to climate crisis also include distress, grief, anger, and feeling of hopelessness, increased aggression and violence.

Youth climate change mitigation strategies

The result showed that the youth are taking actions of mitigating the impact of the climate change on them. Some of the strategies they have embarked on are proper disposal of waste, self-education so as to feel empowered, reducing their energy consumption and engaging in climate change activism. According to Thomas, Martin and Benoit (2022), discussing with adults and adolescents what adults are doing to mitigate climate change can provide reassurance, model pro-social behaviours, and inspire their own investment in climate action. Adults, who desire the psychological well-being of young people, should support their concerns and actions around climate change. They should also create avenues for young people to meaningfully engage in climate change.

Pandve, Deshmukh, Pandve and Patil (2009), attest that youth could play a major role in combating climate change. One of such is youth education. This is because youth education represents one of the most effective tools to combat the destructive potential of climate change and cultivate an international understanding among members of the next generation since it is a long-term process that will impact an infinite number of future generations. They conclude that young people who are adept at spreading new habits and technologies are well-placed to contribute to the fight against climate change. The youth are adaptable and can quickly make low-carbon lifestyle and career choices a part of their daily lives. Therefore, to combat the climate change crisis, all hands must be on desks, particularly the youth. This will, in no small way, help in keeping the climate change crisis among youth in check.

Conclusion and Recommendations

The impact of climate change is devastating and the severity of its effects on vulnerable youths can only be imagined and not comprehended as most youth in Osun State are experiencing a high level of worry and emotional trauma due to the impact of climate change. The youths are not only worried about the impact of climate change on their health but are also concerned about the ripple effect of the catastrophe on their education, and future. These youths have experienced different emotions about climate change, including

feelings of powerlessness, helplessness, anger, and optimism. The majority are fearful of the future and what awaits them as this monster called climate change is wreaking havoc daily impacting the livelihood and health of many. Majority of youths are highly susceptible to developing heat-related illnesses such as headaches, depression, panic attacks, and increased risks of suicide. The impact of climate change on their mental health can also cause post-traumatic stress disorder, anxiety and depression, phobias and panic, sleep disorders, cognitive deficits, and intellectual disabilities. This aligns with past research that confirms climate change presents significant affective, embodied, and existential challenges for young people.

Youth education represents one of the most effective tools to combat the destructive potential of climate change and cultivate an international understanding among members of the next generation. They are adept at spreading new habits and technologies that are eco-friendly. They are therefore well-placed to contribute to the fight against climate change. Climate change anxiety is influenced by factors such as social, psychological, and geographical factors, leading to disruptions in youth sense of safety, stability, and anxiousness about their future life and education. Despite the impact of climate change on youth, they are also taking action to mitigate the impact of the change. Majority of them have embarked on activities such as proper waste disposal, self-education, reducing energy consumption, and engaging in climate change activism.

To combat the climate change crisis, it is important that:

1. everyone must work together as global environmentally friendly and sustainable citizens in this fight.
2. adults should actively be involved in the fight against climate change as this will provide a form of reassurance, and model pro-social and eco-friendly behaviours for the youths.
3. needed support must be given to the youths who are more vulnerable to the impact of climate change but can also be used as instruments of change in the fight against climate change because they possess the tools and strength needed in this fight.
4. adults should support their concerns and actions around climate change and create avenues for them to engage meaningfully in climate change mitigation strategies.

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THEORETICAL ASPECTS REGARDING SOCIAL ASSISTANCE IN SCHOOL

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Abstract: *Social assistance within the educational structure is considered to be beneficial to contemporary society, bringing benefits to the development of young people. "They expect from school the guarantee of the success of a fulfilled social life, that is, the concomitant material satisfaction, stable social relationships, but also the active contribution to building society'' (Neamţu, 2003)*

Keywords: *social worker; education; support; student; society.*

The role of the social worker in school to support equal opportunities:

- support for vulnerable students, the social worker helps children who come from disadvantaged backgrounds, families with problems or who face emotional difficulties;
- prevention of school dropout, through early identification of risks and appropriate intervention, cases of school dropout can be reduced;
- mediation between school, family and community, the social worker facilitates communication and collaboration between parents, teachers and other institutions;
- counseling and emotional support, students can receive help for issues such as bullying, anxiety, family disagreements or trauma;
- promoting inclusion and equity, social assistance contributes to the integration of students with disabilities, those of other ethnicities or who face discrimination.

Thus, the need for school social workers is supported by a reality in which there are more and more social, psychological, and medical problems that students may face.

"Social assistance in schools represents one of the most important areas of intervention at the community level because it is in school that the personality of adolescents is truly formed, and they need, in addition to educational practices and professional training, emotional support" (Romanian Sociological Journal, Sorin Mitulescu, Changes in Romanian Education in the Post-communist Transition Period. Effects on the Young Generation).

Social assistance in school is an important element of the educational structure that aims to support students in overcoming social, emotional and family difficulties that may affect their educational journey.

The work of the school social worker is carried out in a complex setting, marked by numerous challenges: poverty, domestic violence, parental neglect, school dropout, discrimination or social exclusion. In this context, the objectives of school social work are essential for creating an equitable, safe and development-friendly educational environment.

The school social worker has a multidimensional role, acting as a mediator between the student, the family and the community institutions. One of his main duties is to identify and assess the social needs of students, especially those who come from vulnerable backgrounds – single-parent, poor, disorganized families or with parents abroad (Runcan; Buzducea, 2017).

The social worker also collaborates with teachers and school psychologists to develop individualized intervention plans and support the integration of children with special educational needs (Gavrila-Ardelean & Gavrila-Ardelean, 2017). Supporting communication between the family and the school is another major responsibility, given that the parent-school relationship directly influences the student's educational path (Cojocaru, 2005).

Social intervention in school covers a variety of areas, the most important of which are:

Preventing and combating school dropout – by monitoring student attendance and counseling families at social risk;

Managing cases of violence and abuse – the social worker is often the first specialist to notice signs of physical, emotional abuse or neglect and can trigger legal protection procedures;

Supporting students with behavioral problems or emotional difficulties – in collaboration with the psychologist, individual or group counseling is offered;

Facilitating access to social and medical services – especially for children from disadvantaged families or rural areas (Buzducea, 2010).

The social worker's work in the school environment is deeply interdisciplinary. The success of interventions depends on cooperation

with teachers, psychologists, school doctors, local authorities and NGOs. Thus, a support network is created around the student, which favors his personal and educational development (Zamfir; Zamfir, 1995).

In Romania, although the role of the school social worker is legally recognized, in practice there are numerous difficulties. The low number of social worker positions in schools, the lack of financial resources and sometimes the reluctance of the educational community to involve them limit the impact of interventions (Dumitru; Păunescu, 2016). In addition, excessive bureaucracy and the lack of continuous training contribute to the decrease in the efficiency of this service.

The social worker plays an essential role in promoting an inclusive and equitable school, actively contributing to the prevention and management of social problems affecting students. Strengthening this service, by employing specialists in each school unit and by forming a culture of interdisciplinary collaboration, is a necessary condition for a modern educational system, centered on the real needs of the child.

One of the fundamental objectives of social assistance in schools is the prevention and reduction of school dropout, an alarming phenomenon in Romania. The role of the social worker is to identify students at educational risk (frequent absenteeism, low school performance, family problems) in advance and to develop support strategies together with teachers and families. Through counseling, home visits and collaboration with local authorities, attempts are made to maintain students in the educational system (Runcan; Buzducea, 2017).

Social work aims to ensure that all students benefit from equal opportunities in education, regardless of their social status, ethnicity, gender or disability. This objective translates into direct support for students from disadvantaged backgrounds – either by facilitating access to educational resources or by mediating relationships with peers and teachers. The social worker thus becomes an active factor in promoting inclusive education, a principle also supported by European and international policies (UNICEF Romania, 2017)

Another important objective is to facilitate students' personal development. Social workers support students in overcoming emotional or relational obstacles, through individual or group counseling activities, personal development workshops and conflict management. These interventions contribute to strengthening self-esteem, social skills and prosocial behavior (Cojocaru, 2005).

A functional relationship between school and family is vital for the educational success of the student. The social worker has the role of facilitating the dialogue between parents and teachers, especially in the case of socially disadvantaged families or parents who have gone

abroad. In this context, the objective is to create an active and sustainable partnership between the family and the school institution, for the benefit of the child (Dumitru; Păunescu, 2016).

School is often the place where the first signs of high-risk situations can be identified: physical or emotional abuse, neglect, domestic violence or child trafficking. The social worker is trained to observe these signals, investigate the situation and initiate the necessary legal procedures for the protection of the child. Preventing and combating these forms of abuse is a priority objective in the daily work of the social worker (Buzducea, 2010).

The social worker's intervention in the school environment is guided by a set of fundamental principles that guarantee ethics, efficiency and orientation towards the real needs of the beneficiaries. These principles reflect the universal values of the social worker profession, adapted to the school and educational specifics.

1. Respect for human dignity and children's rights – The first and most important principle in school social work is the respect for each child's dignity and the promotion of their rights, in accordance with the UN Convention on the Rights of the Child. Students must be treated with respect, empathy, and without prejudice, regardless of their ethnic, religious, economic, or social background (UNICEF Romania, 2017). The social worker has the obligation to ensure that the child's voice is heard and taken into consideration in any decision affecting them.

2. Confidentiality and privacy protection – Another fundamental principle is the confidentiality of information. The school social worker has access to sensitive data about students and their families, and maintaining confidentiality is essential for building a relationship of trust. Although certain situations require reporting to the appropriate authorities (e.g., abuse or neglect), disclosure of information must always be done with discretion and in compliance with the legal framework (Cojocaru, 2005).

3. Student-centered intervention – Social work in schools is based on personalized intervention, adapted to the specific needs of each child. This principle involves an individual assessment of the student's social, family, and educational situation and the development of tailored support strategies. Each child is unique, and interventions must reflect this reality (Buzducea, 2010).

4. Equity and equal access to resources – The social worker is responsible for promoting equity in education by facilitating equal

access to opportunities and resources for all students. This is especially crucial for children from vulnerable communities, ethnic minorities, low-income families, or children with disabilities. The principle of equity involves active efforts to reduce inequalities and discrimination (Runcan & Buzducea, 2017).

5. Self-determination of the beneficiary – A core principle of social work practice is the respect for the autonomy of the student and their family. Even though minors do not have full legal decision-making capacity, it is important that their opinions are valued. The social worker encourages student participation in the decision-making process, without imposing solutions, but rather guiding them toward making informed choices (Zamfir & Zamfir, 1995).

6. Interdisciplinary collaboration – In schools, effective intervention does not occur in isolation. The social worker must constantly collaborate with homeroom teachers, educators, school psychologists, parents, doctors, and local authorities. Interdisciplinary cooperation is a key principle in addressing complex cases and in building a support network around the child (Dumitru & Păunescu, 2016).

7. Prevention and proactivity – Another important principle is the focus on prevention, not just crisis management. The social worker must identify early warning signs (such as absenteeism, aggression, or behavioral changes) and intervene proactively to prevent the situation from worsening. Prevention is more effective and less costly than intervention during a crisis (Runcan & Buzducea, 2017).

The fundamental principles of school social work provide an ethical and professional framework for the intervention of the social worker. They ensure the protection of children's rights, educational equity, confidentiality, and effective teamwork. Respecting these principles is essential for building a safe, inclusive educational environment focused on the holistic development of the student.

School social work plays a vital role in protecting the right to education, promoting social equity, and supporting students facing difficulties. Its goals range from preventing school dropout to fostering inclusion, all aiming toward a more humane, equitable, and effective educational system. Strengthening this profession within the educational environment is essential for the development of a society committed to social justice and inclusion.

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MAINSTREAMING GENDER IN TEACHER CANDIDATES' USE OF STRATEGIES TO REDUCE DISSONANCE IN SUPERVISORS' FEEDBACK

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Abstract: *Teacher candidates often experience cognitive dissonance due to conflicting feedback from university-assigned supervisors during teaching practice. Previous studies have examined strategies for reducing such dissonance and the factors influencing their use, often assuming the unidimensionality of these strategies rather than considering how specific factors affect each one. This study identifies four distinct dissonance reduction strategies: minimal intervention, recourse to supervisor, significant others, and self-directed learning. Given the influence of gender on decision-making, including teaching-related decisions, this study explores its impact on the use of these strategies among pre-service teachers. Using a descriptive research design, data were collected from 442 pre-service teachers at Obafemi Awolowo University, Ile-Ife, Nigeria, through the Dissonance in Supervisors' Feedback Reduction Strategies Use Questionnaire (DSFR-Q). The findings indicate that gender is not a statistically significant factor in the choice of dissonance reduction strategies. However, it is suggested that female pre-service teachers may be more inclined to use minimal intervention, significant others, and self-directed learning, whereas their male counterparts may prefer seeking recourse to supervisors. These findings are discussed in relation to the ethnographic realities of teacher education in Nigeria.*

Keywords: *cognitive dissonance; dissonance reduction strategies; gender; teacher candidates and teaching practice.*

Introduction
Teacher education refers to the programme instituted for the purpose of ensuring that pre-service and in-service teachers acquire relevant skills

and competencies needed for them to teach and facilitate learning among students. Teacher education for pre-service teachers is referred to as initial teacher education (ITE) while that for in-service teachers is called Continuing Professional Education (CPE). One essential component of teacher education is the teaching practice which allows students being trained for the teaching profession, otherwise referred to as pre-service teachers, to be exposed to practice teaching in a real school setting for single or combined duration of six weeks to one session. The merits of such practice include helping pre-service teachers translate theory to practice, acquire necessary competencies for teaching and management of the classroom and create room for evaluating the teacher education programme (Adeleke, 2008). Some of the challenges that threaten the continuous undertaking of teaching practice yet include lack of funds; lack of synergy between teacher training institution's calendar and that of cooperating schools; hostility of some schools to pre-service teachers; waning attitude and apathy of teacher education entrants to teaching and teaching profession; increasing cost of living including transportation and feeding which influences trainees absenteeism in schools during teaching practice; security concerns for pre-service teachers and supervisors among others. It is pertinent for teacher educators to seek ways of improving teaching practice component through vigorous teacher education research that focus on deficit teaching skills such as pedagogical content knowledge (Tyas, Wilujeng, Rosana, & Jumadi, 2025), the infusion of emerging innovations such as national and international virtual exchanges and field trips and continuing engagement with all concerned stakeholders. Yet, one understudied subtle issue with far reaching consequence is the cognitive dissonance emanating from feedback from supervisors with significant variations from what pre-service teachers were taught in pedagogy and teaching methodology classes and how these pre-service teachers respond to same with a view to resolving them.

Cognitive dissonance which has been credited to the scholarly work of Leon Festinger (1957) arises when individuals receive stimuli and or information that are contradictory to what they have hitherto received. Such stimuli and or information set in place an imbalance in the cognitive schemata of the receiver that need to be resolved in order to maintain balance needed for optimal human functioning. Cognitive dissonance in the case of pre-service teachers could arise when supervisors give feedback that are not in tandem with what these pre-service teachers have previously learnt in teaching methods classes. For example, cognitive dissonance might arise when a pre-service teacher who has been taught to reinforce students' behaviour was given

a feedback that s/he should use reinforcement sparingly and that clapping of hands ceases to be a motivator for students at the onset of adolescence.

Some of the realities of teacher education in Nigeria include that male and females do not have equal access to teacher education; there is disparity in terms of professional growth and; there are no school policies discriminating against gender in teacher education (Patrick, 2010). Akinbi and Akinbi (2015) added that the education of the girl child has not made appreciable and rapid progress as that of boys on account of the universal devaluation of women in Africa. Hence, there are substantive statistical evidences on the disparities between male and female enrollment across different levels of education including teacher education. The disparities according to Akinbi and Akinbi (2015) could be adduced to female sex's social role that has been traditionally linked to the home while there is the well grounded assumption that they can find happiness and fulfillment only as mothers and wives (Akinbi & Akinbi, 2015).

On the other hand, it is often believed that teaching is a job for females and they could be found in that profession than their male counterparts. Evidences, for instance as could be obtained from Nigeria in Tables 1 and 2, however reflect that this latter assertion does not hold true for all school levels except for public pre-primary schooling. In lieu of the above, there has been persistent calls for gender mainstreaming. Gender mainstreaming means the "elimination of subtle practices, the misconceptions and myths, so that girls can dream to be whatever they want to be like anybody else" (Maroba Miriam in International Institute for Educational Planning, 2022). It means that men and women are both fairly considered and represented in decisions.

Asides the four issues jointly identified by Patrick (2010) and Akinbi and Akinbi (2015); sexual harassment is a reality of higher (teacher) education in Nigeria and other African countries. The latter statement does not seek to simply give it away as an African malaise as it has recorded high incidence rate in United Kingdom and United States of America too (Joseph *et al*, 2023). The recent video released by British Broadcasting Corporation (BBC) (2020) and such other reports (Punch, 2019; Tyessi, 2022; African Feminist Initiative, n.d.; Mbonyinshuti, 2022) on sex for grades syndrome in higher education institutions in Africa are weighty-evidence that could not easily be discarded with the margin of committal tending towards male lecturers than female lecturers. Researchers including Thompson, *et al* (2024), Etta, Agbor & Ekpo (2024), Joseph, *et al* (2023), Olugbenga-Bello *et al* (2023), Muoghalu and Olaoye (2016), Erinosho, Femi-Oyewo and Oduwole (2018) and, Ladebo (2003) have established empirical evidence of the

prevalence and outcomes of sexual harassment in Nigeria's higher institutions. Sexual harassment has far reaching (psychological) consequences on female students than their male counterparts including a form of 'job withdrawal' behaviour involving changing of their major subject choices, avoiding a threatening situation or altercation of career plans (Schneinder, *et al* in Ladebo, 2003). Again, such consequences could include distrust in significant others who are meant to provide care and support for them. In fact, they may develop phobia of seeking crucial help from male supervisors (and even female supervisors) when dissonances arise in the feedback given to them during supervisor-trainee conference during teaching practice supervision. The exposition on risk of sexual harassment becomes important as it is one of the envisaged reasons for teacher candidates deflection to dissonance reduction strategies in relation to gender.

The subject of teacher candidates' use of strategies to reduce dissonance in supervisors' feedback has been previously studied by the researcher and his associates: Oyetoro, Eyebiokin & Adesina (2020) and Oyetoro, Omoteso & Adeleke (2019). The findings of Oyetoro *et al* (2020) indicated that pre-service teachers have sophisticated epistemic beliefs; utilise the deep learning approach than the surface approach and; that both learning approaches with the epistemic beliefs of simple knowledge, omniscient authority and certain knowledge contributed positively to their use of strategies to reduce dissonance in supervisors' feedback. Oyetoro *et al* (2019), however reported that there is no significant influence of pre-service teachers' sex on their use of strategies to reduce dissonance in supervisors feedback. An evaluation of the technique utilised in these primal studies revealed the pooling of responses on the strategies as against consideration of each as a distinct strategy. More so, further exploration and classification revealed that the 14 items could be classified into four distinct strategy viz.: minimal intervention, recourse to supervisor, significant others, and self-directed learning.

Strategies employed by pre-service teachers in the resolution of dissonance arising from supervisor feedback
Preliminary investigations via exploratory data gathering and informal talks with pre-service teachers by the researcher and his associates revealed that pre-service teachers use a range of strategies to tackle in order to reduce dissonance in supervisor feedback when they occur. These strategies were as outlined in the Dissonance in Supervisors' Feedback Reduction Strategies Use Questionnaire (DSFR-Q)(Oyetoro *et al*, 2019). The items were reported to be unidimensional with a Cronbach alpha value of 0.83 (Oyetoro *et al*, 2019, 2020). Further

reflections on the strategies however reveal four distinct strategies viz.: minimal intervention, recourse to supervisor, significant others and, self-directed learning.

Minimal intervention: This strategy entails least resistance to the emanating dissonance but immediate acceptance of same by the pre-service teacher. This may be adduced to various reasons ranging from the acceptance of the authority of the supervisor in the subject matter cum pedagogy, likability of the personae of the supervisor including the tone of feedback (a form of personae worship), fear of intimidation and undue exposure leading to sexual harassment, etc.

Recourse to supervisor: This strategy involves deliberate attempt on the part of the pre-service teacher to meet the supervisor for further clarifications on the resultant area of disagreement(s). The pre-service teacher discusses what he or she believes is the current practice as taught in pedagogy courses or as read in the literature.

Significant others: This strategy could either be used in conjunction with "Recourse to supervisor" most especially where the pre-service teacher could not agree with the supervisor or it could be used singularly for reasons earlier stated for minimal intervention.

Self-directed learning: Using this strategy, pre-service teachers seek to personally engage themselves in the resolution of cognitive dissonance arising from supervisor feedback using a combination of self-curated techniques such as reading relevant texts and journals and; exploration of different personal ways of thinking and self-reflection in order to inwardly resolve the disagreement.

The above classification amends with prior established theories of More Significant Others (Andersen, Chen & Miranda, 2002; Hatteberg, 2020), More Knowledgeable Others (MKOs) by Lev Vygotsky (McLeod, 2024; Abtahi, Graven & Lerman, 2017), Self-Directed Learning which is attributable to the works of Cyril Houle, Allen Tough, Malcolm Knowles, Eduard Lindeman, John Dewey, Jean-Jacques Rousseau, Alexander Neill and Lev Vygotsky among others (Loeng, 2020). Adequate understanding of the pattern of responses to each strategy and to the sub-scales of strategies used provides scaffolds for vital decision making for instruction and improving pre-service teachers professional identities. The choice of strategies in order to reduce dissonant supervisor feedback may depend on contexts including cultural contexts and individual prejudice of the pre-service teacher. For instance, cultural context of *respect for elders* (Sesanti, 2010; Korn, 2023) which is deeply ingrained in the African cultural system impact communication patterns (Wójtowicz, 2021) that prevent trainees from querying the opinions and feedback of supervisors that are incongruent with the prior established knowledge of the students in

the content and pedagogy of the subject. Provocations have been made against the blind adherence to this culture on the premise that they are falsified version of African culture by postcolonial power-hungry dictators who benefit from it and seek ways to perpetuate their stay in power (Sesanti, 2010). In fact Idang (2015) called for a holistic reassessment of African values and culture in order to re-establish and sustain their relevance for the validation of the authentic African identity. Individual prejudice of the possibility of sexual harassment could also inhibit a student teacher from seeking a formal up-close discussion with the supervisor who gave an incongruent feedback.

One limitation of this research is the non-inclusion of direct questions that would elicit the feedback needed on risk of sexual harassment and the culture of respect in the instruments. This is because these could jeopardize the research as respondents might not respond to it due to the culture of silence on these issues.

This study thus determined gender differences on each of the strategies (items) and each of the four distinct broad-based pre-service teacher response to dissonance in supervisor feedback.

Objectives of the Study

The objectives of this study are to:

1. determine the influence of gender on each of the item-by-item strategies used to counteract dissonance in supervisors' feedback and;

2. assess gender differences on sub-scales of identified types of strategies used to counteract dissonance in supervisors' feedback viz.: minimal intervention, recourse to supervisors, significant others and self-directed learning.

Table 1: National Teacher Information 2016/2017 Session
Source:https://ubec.gov.ng/data/
Federal Ministry of Education (2019)
NA-Not Available (Not easily deducible from the information available)

Level of Schooling	All Teachers				Public Qualify Teachers				
	M	F	MF	%F	M	F	MF	% qualified	% Female
Public	388	874	126	69.	247	603	851	67.36	70.8

Pre-Primary School Teachers	98	94	392	22	86	57	43		9
Public Primary School Teachers	247472	232640	472077	49.28	162380	183421	345801	73.25	53.04
Public Junior Secondary School Teachers	109410	90362	199772	45.23	NA	NA	NA	NA	NA
Private Junior Secondary School Teachers	92317	83583	175900	47.52	NA	NA	NA	NA	NA
Private & Public Junior Secondary Schools	201727	173945	375672	46.30	99888	85585	185473	49.37	46.14
Public Senior Secondary Schools	100365	74255	174620	42.52	66463	48546	115009	65.86	42.21
Private and	318582	274033	592615	46.24	198052	166562	364614	NA	NA

Public Senior Secondary Schools										

Table 2: Summary of Teachers Registration Council of Nigeria (TRCN) registered members from 2015-2018

Gender/Year	2015	2016	2017	2018
Primary				
Male	386896	464275	557133	569626
Female	508574	610289	732347	741362
Total	895470	1074564	1289480	1310988
Secondary				
Male	197757	217538	238293	251077
Female	201532	221687	243857	255885
Total	399289	439225	483150	506962
Tertiary				
Male	12438	12369	12491	13261
Female	7560	7737	7714	8091
Total	19998	20106	20205	21352

Source: Teachers Registration Council of Nigeria (2019). Statistical Digest of teachers in Nigeria 2015-2018

Methods
Design
This study utilized the descriptive research design. This design was considered appropriate for this study as it seeks to study and describe how gender influences pre-service teachers' use of strategies to counteract dissonant supervisors' feedback without manipulating any variable.
Population, Sample and Sampling Technique
The population comprised 1,991 pre-service teachers in their third and fourth year of the four-year teacher training programme of Obafemi Awolowo University, Ile-Ife, Nigeria between 2014/2015 and 2016/2017 academic sessions. The sample consisted of 442 pre-service teachers who were selected using the disproportionate simple random sampling technique from three Departments viz.: Arts and Social Science Education, Science and Technology Education and Physical and Health Education. The profile of the selected samples is as follows: male-196, female- 246; 274 were in their third year while 168 were in

their fourth year; age range is between 17-38 years with a mean age 23.35 years and a standard deviation of 3.16 years.

Instrument

One research instrument titled "Dissonance in Supervisors' Feedback Reduction Strategies Use Questionnaire" (DSFR-Q) was adopted for use in this study. The instrument which had earlier been used by Oyetoro, Adeleke and Omoteso (2019) and Oyetoro, Adesina and Eyebiokin (2020) measures how pre-service teachers' respond to dissonant supervisor feedback when they occur during their mandatory two-block teaching practice exercise. The instrument contains 14 items which were categorized into four overarching strategies viz: minimal intervention (3 items), recourse to supervisors (3 items), significant others (4 items) and self-directed learning (4 items). The items of the instrument have been reported to have good item-by-item reliability indices with overall Cronbach alpha values of .85 (Oyetoro, et *al*., 2019, 2020). For the present study, an overall Cronbach alpha value of .83 was obtained. Cronbach alpha values of .56, .64, .59 and .79 were also established for the minimal intervention, recourse to supervisor, significant others and self-directed learning sub-scales respectively. Three of the reliability values for the sub-scales though controversial were considered appropriate for the present study.

Procedure

The instrument was administered on the pre-service teachers after their consent was sought and the purpose of the study has been explained to them. The filled instrument was collected and collated for data analysis based on the questions asked in the study. The data analysis was done using chi-square and independent *t*-test with *V* Cramers' and Cohen *d*'s statistics respectively to test the strength of the gendered differences observed.

Results

Research Objective One

Determine the influence of gender on each of the item-by-item strategies used to counteract dissonance in supervisors' feedback

In order to determine the influence of gender on each of the item-by-item strategies used to counteract dissonance in supervisors' feedback, the responses from the pre-service teachers were correlated with their gender. The responses obtained are as presented in Table 3.

Table 3: Item-by-item analyses of gender differences in the use of strategies to counteract dissonance in supervisors' feedback

N=442

S/N	Strategies to counteract dissonance	χ^2	*p*	*V*	Remarks[†]

	in supervisors' feedback				
	Minimal Intervention				
1	accept the position of the supervisor as the current state of events in the field of teaching. (5)^β	2.14	.83	.07	NS
2	accept the position of the supervisor without dispute if he/she is from one of the teacher education departments and not from other departments (12)	13.39	.02	.17	S
3	accommodate the new knowledge if it is offered within a constructive feedback framework. (14)	7.14	.21	.13	NS
	Recourse to Supervisor				
4	ask the supervisor for further clarification on the perceived area of conflict. (3)	11.30	.05	.16	NS
5	engage the supervisor, in company of other students, in a discussion to clarify the expressed divergent opinion. (7)	1.93	.86	.066	NS
6	assimilate the new knowledge if it is backed up with reasonable explanation by the supervisor. (13)	10.23	.07	.15	NS
	Significant Others				
7	discuss the area of conflict with an expert in the field of teacher education. (4)	5.72	.34	.11	NS
8	seek the opinion of senior members of the faculty on the area of conflict. (10)	4.37	.50	.099	NS
9	seek the opinion of junior members of the faculty on the area of conflict. (11)	1.86	.90	.065	NS
	Self-directed Learning				
1	try to see how different facts and ideas fit together. (1)	6.94	.23	.13	NS
1	discuss the area of conflict with other students. (2)	4.07	.54	.096	NS
1	work harder as a result of the conflicting feedback (6)	4.22	.52	.098	NS
1	read articles or books on the areas of the disagreement. (8)	6.95	.22	.13	NS
1	explore different ways of thinking on the area of disagreement. (9)	2.34	.88	.06	NS

†NS=Not Significant, N=Significant

β= The numbers in brackets represents the positions of the items in the adopted instrument

Results from Table 3 above shows that there is no significant influence of gender on the choice of strategies used by pre-service teachers in the resolution and or reduction of cognitive dissonance arising from incongruent supervisor feedback. The only strategy where significant difference was observed- *accept the position of the supervisor without dispute if he/she is from one of the teacher education departments and not from other departments* with a χ^2 value of 13.39 and *p*=0.02 revealed with further analysis a weak χ^2 strength of 0.17 via V Cramers' statistics. It could therefore be said that the adoption of these strategies by both male and female would-be teachers are similar.

Research Objective Two
Assess gender differences on sub-scales of identified types of strategies used to counteract dissonance in supervisors' feedback
In order to determine the assess gender differences in the use of strategies used to counteract dissonance in supervisors' feedback, the pooled responses from the pre-service teachers in each of the distinct four strategies were compared along the lines of two gender, male and female. The responses obtained are as presented in Table 4.
Table 4: t-test analysis of gender differences in the use of strategies to counteract dissonance in supervisors' feedback

Strategies to counteract dissonance in supervisors' feedback (in variables)	Gender	N	Mean	sd	df	t	*p*	*d*
Minimal Intervention	Male	196	8.85	3.04	440.00	-	0.26	0.11
	Female	246	9.19	3.17		1.12		
Recourse to Supervisors	Male	196	9.19	2.97	437.05	.24	0.81	0.023
	Female	246	9.12	3.43				
Significant Others	Male	196	8.61	2.82	438.75	-.84	0.40	0.081
	Female	246	8.86	3.36				
Self-directed Learning	Male	196	14.84	4.92	440.00	-.33	0.74	0.032
	Female	246	15.00	5.38				

Table 4 depicts a classification of the strategies into four distinct categories of: Minimal Intervention, Recourse to supervisors, Recourse Significant Others and Self-directed Learning. Table 4 reveals that there is no significant difference between the use of the strategies based on this categorization by male and female pre-service teachers (-

$1.12 \leq t \leq .24$). The results also show the effect sizes of the t-values measured by Cohen's *d* statistics are small ($0.023 \leq d \leq .11$). The results however show that female pre-service teachers use the minimal intervention, recourse to significant others and self-directed learning strategies more than their male counterparts with mean gains of 0.34, 0.25 and, 0.16 respectively while male pre-service teachers utilize strategies where recourse is found to the supervisors more than their female counterparts.

Discussion
Results show that there is no significant gender differences in the use of strategies to counteract dissonance in supervisors' feedback when each item is taken as a distinct strategy and when they are grouped into the four sub-scales of minimal intervention, recourse to supervisor, significant others and self-directed learning. In the case of the grouping into the four distinct strategies, female pre-service teachers use all the strategies except recourse to supervisor more than their male counterparts. The present findings is in agreement with that of Oyetoro *et al* (2019) which reported that pre-service teachers' sex has no significant influence on their use of strategies to reduce dissonance in supervisors feedback. However, the lesser use of recourse to supervisor strategy by female teacher candidates compared to their male counterparts might reveal deeply seated issues of culture of respect which disapproves younger pre-service teachers disagreeing with the older supervisors on the incongruent feedback provided and the need to avoid contact with male supervisors for risk of sexual harassment. These two postulations are probable as teacher education is not immune and mutually exclusive to the values and malaise of society. The need for strategic collaborations for the training of the students in multicultural literacy and negotiation of meaning in difficult circumstances thus arises. In addition to this, the university management should ensure a free and safe environment where mutual respect thrives and risk of sexual harassment are minimized.

Conclusion
The study concluded that there is need for the promotion of a free and fair environment devoid of the malaise of risk of sexual harassment. Such environment would enable pre-service teachers develop transversal skills that would enable them navigate the anticipated complexities of negotiating meaning in their present and future communities of practice within the ambit of authentic African heritage which include respect for the More Significant and More Knowledgeable Others.

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PROFESSIONAL ATTITUDES AND BEHAVIORS THAT ENCOURAGE POSITIVE PARENTING IN THE SCHOOL ENVIRONMENT

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Abstract: *This article investigates the professional attitudes and behaviors of teachers who support the development of positive parenting in the school environment. Starting from the premise that teachers are essential partners in the educational process of children, this study explores how relationships based on empathy, mutual respect and effective communication contribute to strengthening the collaboration between school and family. The research was carried out in several schools in urban and rural areas, using qualitative and quantitative methods. The results highlight the importance of continuous professional training and socio-emotional competences of teachers in promoting an educational climate favorable to positive parenting. The conclusions of the study emphasize the need for coherent educational policies, including support programs for the development of constructive relationships between school and family.*

Keywords: *positive parenting; professional behavior; school-family relationship; teacher attitudes; educational climate.*

Introduction
The relationship between school and family is an essential pillar in building an effective and balanced education for the child. In recent decades, the literature has increasingly emphasized the importance of positive collaboration between teachers and parents, highlighting the significant impact of this partnership on students' socio-emotional and cognitive development (Epstein, 2018; Bocoș & Jucan, 2019). In this context, positive parenting has become a central concept in education,

being defined as a parenting style based on mutual respect, effective communication, empathy and unconditional support (Sanders & Turner, 2018).

The social, cultural and technological transformations of recent years, amplified by the challenges generated by the COVID-19 pandemic, have brought to the fore the need to rethink the relationship between school and family. Especially in the post-pandemic period, parents and teachers have had to cooperate more closely to ensure the continuity of the educational process and the emotional well-being of children (Oliva-Arocas et al., 2023). This period has accentuated the existing vulnerabilities in communication between parents and teachers, but has also created opportunities for the development of new forms of educational partnership.

Although the responsibility for raising and educating the child is shared between parents and the school, teachers' attitudes and behaviours can significantly influence the way parents assume their educational role. Teachers who promote a climate based on trust, openness and mutual respect contribute to strengthening parental involvement and reducing conflicts or communication barriers (Rad, 2020; Mușata Bocoș, 2021). Moreover, recent studies have shown that an empathetic, emotionally balanced and well-prepared teacher in the field of interpersonal relationships has a positive impact on collaboration with the family and on the general climate in the school (Delia Mușet, 2022; Puccioni, 2015).

In the Romanian context, cooperation between the family and the school is often carried out formally, through meetings with parents or administrative communication. However, the need to overcome the formal limits of the teacher-parent relationship is increasingly recognized in recent research (Cristea, 2022). A teacher who supports positive parenting is more than a transmitter of knowledge; He becomes a facilitator of the balanced development of the child and an educational partner of the family.

This research aims to investigate how teachers' attitudes and behaviors can contribute to encouraging positive parenting, with a focus on the role of professional training, effective communication and building an authentic partnership with parents. The study focuses on the primary school environment, with observations from both urban and rural areas, where family dynamics and educational resources can differ significantly.

Theoretical foundation
The concept of positive parenting has been developed in the literature to describe a parenting style centered on the child's needs, based on

respect, affection, setting boundaries through empathy and constant emotional support. According to Sanders and Turner (2018), positive parenting does not mean the absence of discipline, but the use of educational methods that support the development of the child's autonomy and strengthen the affective bond between parent and child.

A central element of positive parenting is the educational partnership between parents and school. Epstein (2018) proposes a model of family involvement in education, based on six types of involvement: parenting, communication, volunteering, home learning, decision-making, and community collaboration. This model emphasizes the active role of the teacher in initiating and maintaining a functional collaboration with the family. In Bronfenbrenner's (2005) view, child development is the result of the continuous interaction between the different ecological environments in which he lives – and the family and school constitute interdependent micro-systems.

In terms of Romanian didactics, Mușata Bocoș (2021) emphasizes the need for teacher training in the development of relational skills and emotional intelligence, as premises for effective communication with the family. Similarly, Rad (2020) emphasizes that teachers should not be perceived only as transmitters of information, but as active agents in promoting a holistic education, in which the learning climate is strongly influenced by the relationship with parents.

Professional behaviors that encourage positive parenting include: active listening, empathic attitude, providing constructive feedback, avoiding judgment, and involving parents in relevant school activities (Delia Mușet, 2022; Al-Hassan & Takash, 2019). Teachers can also become role models for parents in terms of communication style with children, especially when the community lacks resources for formal parental counseling (Puccioni, 2015).

In contemporary literature, the importance of support programs for parents carried out in collaboration with the school is also noted. Parent training programs contribute to the development of healthy parenting behaviors and reduce the risk of authoritarian practices or non-involvement (Sanders, 2020; Martínez-González et al., 2021). In Romania, such initiatives are still in their infancy, but they can be supported by training teachers as facilitators of collaboration with the family.

Therefore, the theoretical framework of this study is based on the idea that teachers' attitudes and behaviors can act as protective factors and facilitators of positive parenting, with direct effects on the child's development and on the general school climate.

The theoretical reference model adopted in this research is that of the ecology of human development proposed by Urie Bronfenbrenner

(2005), who describes child development as a result of the interaction between several levels of influence: microsystem (family, school), mesosystem (relations between these environments), exosystem (educational policies, socio-economic conditions) and macrosystem (cultural values, social norms). In this model, the school-family relationship is part of the mesosystem and becomes essential in influencing the child's experiences.

At the same time, in order to understand the forms of parental involvement in education, the research refers to the parental involvement model formulated by Joyce Epstein (2018), which identifies six types of relationship between family and school: parenting support, two-way communication, involvement in school activities, support for learning at home, participation in decision-making and collaboration with the community. This model will be used as an analytical benchmark for interpreting the professional behaviors of the teachers in the investigated sample.

Research methodology

The present study aimed to investigate the professional attitudes and behaviors of teachers that contribute to supporting positive parenting in the school environment. The research was built on a mixed, predominantly qualitative approach, aiming at an in-depth understanding of the way in which primary school teachers relate to the relationship with parents and their role in strengthening the family-school collaboration.

The design of the research was exploratory-descriptive, appropriate for studies centered on social phenomena analyzed in their natural context. The methodology combined qualitative and quantitative elements, with the aim of ensuring the triangulation of the data and increasing the validity of the results. The collection and interpretation of the information were carried out in parallel, with a focus on identifying recurring themes and contextual particularities.

The sample was composed of 78 teachers who teach at the level of primary education in Arad County. In order to capture the diversity of educational contexts, educational units from urban (five schools) and rural (seven schools) were included. The participants were selected voluntarily, depending on their availability and interest in the proposed theme. Most of the teachers have more than ten years of professional experience, and over 60% of them have previously participated in continuous training courses on the relationship with parents or the development of communication skills.

Two complementary tools were used for data collection. The first was a semi-structured questionnaire consisting of 18 items, designed to highlight teachers' perceptions of the concept of positive parenting, the behaviors adopted in interacting with parents and the difficulties frequently encountered in this collaboration. The items were formulated on a five-step Likert scale, from "strongly disagree" to "strongly agree." The second tool consisted of individual interviews with 12 teachers selected from the initial sample, with the aim of deepening the issues identified in the questionnaire. The interviews, conducted online, had an average duration of 30 minutes and were recorded with the consent of the participants.

The data collection process took place between February and April 2025, in physical format for the application of questionnaires and online for interviews. All participants were informed about the purpose and methodology of the research and signed an informed consent agreement. The confidentiality of the answers was guaranteed, in accordance with the ethical principles of educational research.

The quantitative data analysis was carried out using descriptive statistical methods, following the frequencies, averages and percentage scores for each item. The answers obtained from the interviews were analyzed by the thematic analysis method, using an inductive coding according to the model proposed by Braun and Clarke (2006). The emerging themes were interpreted in relation to the specialized literature, in order to highlight both the convergences and the particular aspects of the Romanian educational context.

Results

The analysis of the collected data highlighted a number of significant trends regarding teachers' attitudes and behaviors in relation to supporting positive parenting in the school environment. As for the answers to the questionnaire, most teachers (82%) said they totally agreed with the idea that "the positive relationship with the student's family is an essential condition for the child's academic success". This percentage indicates a high level of awareness of the importance of collaboration with parents in the educational act.

Another relevant result was related to the communication style used in the relationship with parents. About 74% of respondents said they try to adopt an empathetic and open attitude, and 68% said they constantly provide constructive feedback to parents regarding the child's behavior and progress. However, only 39% of teachers said that they regularly organize individual meetings with parents, apart from the mandatory

ones, which suggests a practice that is insufficiently exploited for the development of an authentic school-family relationship.

In terms of perceived difficulties, 58% of respondents mentioned the lack of interest or availability from parents as the main obstacle in strengthening collaboration. Other frequently reported difficulties were the lack of time to organize joint activities (45%) and the lack of training of teachers in the field of parental counseling (41%).

The interviews provided a more nuanced perspective on these aspects. Many teachers reported that personal experience plays an important role in how they manage their relationship with their family. Some teachers in rural areas pointed out that parents tend to avoid involvement in school activities, either because of a lack of confidence in their own abilities or because of previous negative educational experiences. It was also noted that in schools where there is an open organizational culture and support from management, teachers are more inclined to initiate collaborative activities with parents.

A key aspect highlighted in the interviews was the importance of empathic communication skills. Teachers who have taken training courses in the field of emotional intelligence or in counseling parents said that they feel more prepared to manage difficult situations and support parents in adopting positive parenting practices.

In conclusion, the results of the research suggest that, although there is a generally favorable attitude towards positive parenting among teachers, concrete practices are significantly influenced by the educational context, the level of professional training and institutional support. Empathetic communication, constructive feedback and availability for authentic dialogue with parents are professional behaviors that favor the consolidation of a sustainable educational partnership.

Discussions

The results obtained from the research confirm the conclusions formulated by numerous authors in the literature regarding the crucial role of the teacher in stimulating positive parenting. The open attitude, empathy and effective communication not only facilitate a relationship of trust between school and family, but also contribute to creating an educational climate in which the child feels valued and supported. These findings are in line with the theoretical perspectives formulated by Epstein (2018), who emphasize the need for the active involvement of parents in children's education and the role of the teacher as a mediator between the family and the school.

A significant aspect identified in this study is the discrepancy between the positive attitudes declared by teachers and the concrete practices

implemented in the relationship with parents. Although the majority of respondents recognize the importance of collaboration with their family, a considerable percentage say that they do not frequently organize individual meetings or joint activities. This phenomenon can be explained by the lack of time, resources or adequate training in this regard, as Cristea (2022) points out in the analysis of the Romanian educational context.

The interviews highlighted the fact that teachers who participated in training courses in the field of communication, counseling or emotional intelligence show greater confidence in interacting with parents. This result underlines the importance of the continuous development of teachers' relational skills and the need to integrate these dimensions into initial and continuous training programs, as Bocoş and Jucan (2019) also argue.

The differences between urban and rural areas, observed in practices and perceptions, draw attention to the community context as an influential factor in the school-family relationship. In rural areas, where parents' level of education is often lower and resources are limited, collaboration can be affected by cultural barriers and the lack of a previous positive model of relating to educational institutions. This observation is also supported by the study conducted by Al-Hassan and Takash (2019), which emphasizes the importance of adapting educational interventions to the specificity of the community.

Also, the results of the research validate the ecological model of Bronfenbrenner (2005), demonstrating that the child's development is influenced not only by the direct interaction with parents and teachers, but also by the quality of the relationship between these two environments. An authentic educational partnership between family and school works as a protective factor for the child, especially in vulnerable or unstable contexts.

Therefore, in order to transform teachers' positive attitudes into consistent educational behaviours, it is essential that schools provide teachers with systematic support, resources and continuous training. Creating an institutional framework conducive to positive parenting requires not only the individual involvement of teachers, but also a coherent institutional vision, supported by educational leadership and clear policies.

Conclusions

The results of the research highlighted the fact that primary school teachers mostly show a favorable attitude towards positive parenting and recognize the importance of the collaborative relationship with the family in supporting the child's development. However, this positive

attitude is not always reflected in coherent and constant educational behaviors, there are differences between intentions and practices, influenced by contextual factors such as lack of time, specialized training or institutional support.

The study confirmed the essential role of empathetic communication, willingness to dialogue and constructive feedback as key elements of professional behavior in the relationship with parents. It was also highlighted that continuous training in the field of emotional intelligence and parental counseling contributes significantly to strengthening teachers' confidence in their own relational skills.

The differences found between urban and rural areas, as well as between teachers with different experience in working with families, suggest the need for interventions adapted to the specificity of the community and the school. It is necessary to develop coherent educational policies that promote an open organizational culture, based on real partnership between school and family, as well as the implementation of training programs focused on the development of teachers' socio-emotional skills.

The contribution of this study is to provide an integrated perspective on how teachers can act as supportive factors for positive parenting, as well as to highlight the real needs in current educational practice. The limitations of the research concern the relatively small size of the sample and the geographical concentration on Arad County, aspects that can be overcome in future research by expanding the area of investigation and by including parents in the comparative analysis of perceptions.

In conclusion, the promotion of positive parenting in the school environment cannot be achieved in the absence of a teaching profession aware of its own formative impact, capable of building authentic relationships with parents and supported by an educational vision that puts the child at the center of all initiatives.

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IMPACT OF PEER GROUP AND PARENTAL SOCIOECONOMIC STATUS ON CAREER SELECTION AMONG SENIOR SECONDARY SCHOOL STUDENTS IN BUSINESS DEPARTMENT, LAGOS STATE

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Abstract: *This study examined impact of peer group and parental socioeconomic status on career selection among senior student's secondary schools in Business Department. Simple random sampling was used to select five senior secondary schools within Alimosho Local Government Area. Forty students were randomly selected from each of the five schools, resulting in a sample size of 200 students. Out of the 200 questionnaires distributed, 183 were returned and deemed valid. The reliability index of the instrument was 0.87 using split half method. The findings showed a significant relationship between parental socioeconomic status and students' career selection in business department. It also revealed a significant influence of peer groups on career selection among these students. It was recommended that the schools should implement career guidance programs that address peer and parental influences, offering workshops, seminars, and counselling to help students explore career options and make informed decisions.*

Keywords: peer *groups; career selection; parental income; parental; socioeconomic status.*

Introduction

Under the 6-3-3-4 educational framework, Business Studies has been integrated as a mandatory subject within junior secondary school curricula (Education System in Nigeria, n.d.). Positioned as part of the compulsory subjects, Business Studies serves as a pre-vocational course aimed at providing students with foundational knowledge in general business concepts (Innocent, 2022). While the curriculum does not specifically train students for professional roles at the junior secondary level, its primary aim is to instill fundamental understandings of business principles among students (Walker, et al., 2023). Career selection among students refers to the process through which individuals make decisions regarding their future occupational paths, considering factors such as interests, skills, values, and opportunities (Mutanga,2023). It involves a series of steps, including self-assessment, exploration of various career options, gathering information about different industries and professions, setting goals, and making informed decisions aligned with personal aspirations and circumstances (Hall, et al, 2018).

Peer groups constitute an integral part of adolescents' social environment, exerting considerable influence on their attitudes, behaviours, and decision-making processes (Orben, et al., 2020). Within the school setting, peer groups serve as platforms for socialization, information exchange, and normative guidance, shaping students' perceptions of themselves and the world around them (Kumar, et al, 2023). Consequently, the composition and characteristics of peer groups can significantly impact students' career aspirations and choices, as individuals seek validation, acceptance, and belongingness within their social circles (Slaten, et al, 2014).Moreover, parental socioeconomic status emerges as a salient determinant of students' career trajectories, reflecting the resources, opportunities, and expectations available within the familial context (Hu, et al 2022). Parents serve as primary influencers and role models for their children, providing guidance, support, and access to educational and vocational pathways (Kearney, & Levine, 2020). The socioeconomic status of parents influences students' exposure to diverse career options, educational attainment, and aspirations for upward mobility, thereby shaping their perceptions of suitable career paths and future prospects (Abbas et al, 2025).

Socioeconomic status (SES) is a complex, multifaceted construct encompassing income, education, occupation, and social standing. The

challenge lies in defining and measuring SES accurately. As highlighted by Paterson, (1991), discrepancies in how SES is operationalized can lead to varied findings and interpretations in research, impacting the understanding of its influence on career selection. Socioeconomic Status as a Multi-Dimensional Construct. Socioeconomic status (SES) refers to the social standing or class of an individual or group, which is often measured as a combination of education, income, and occupation (Oakes, & Andrade, 2017). This multi-dimensional construct reflects not only the economic resources available to an individual but also the social position and opportunities for advancement within society.

Oakes, and Andrade, (2017) expressed SES as a measure of an individual's or family's economic and social position in relation to others, based on income, education, and occupation. Higher SES typically correlates with better access to educational and professional opportunities, which can lead to improved health and well-being. Cultural Context and SES: SES is defined as an economic and sociological combined total measure of a person's work experience and of an individual's or family's economic and social position in relation to others, based on income, education, and occupation. Observes that the influence of socioeconomic status can differ greatly across various cultural contexts, affecting aspects such as career decisions and educational achievements (Wale, 2023).

Lyu, et al, (2021) describe socioeconomic status as a significant determinant of health, encompassing not only the financial resources available to an individual or family but also the educational attainment and occupational status that influence access to healthcare, living conditions, and overall quality of life. Measurement of SES: According to Sirin (2005), socioeconomic status is typically measured by assessing a combination of income, education level, and occupational prestige. These indicators collectively provide a comprehensive view of an individual's or family's social and economic standing within a community.

Socioeconomic status (SES) is often considered a multi-dimensional construct encompassing education, income, and occupation, reflecting an individual's or group's access to resources and social position (Paterson, 1991). According to the National Centre for Education Statistics (NCES, 2018), highlights the cultural variability in SES impacts, particularly in relation to career selection and educational outcomes. Moreover, SES is a key determinant of health outcomes, as noted by Fujishiro, et al(2010). that elaborates on the measurement of SES, emphasizing the combined assessment of income, education, and occupational prestige.

Peer groups are important social learning agents that help individuals develop social norms and personal identity (Reitz, et al 2014). Kiuru, (2007) highlights the critical role of peer groups during adolescence, influencing academic, social, and emotional aspects of life. Terry, (1999) notes that peer group influence varies across cultural contexts, shaping behaviours and attitudes based on societal norms. He, (2023) points out the importance of peer groups in identity formation, offering a sense of belonging and self-expression. Eisenhart, & Holland, (1983) emphasize the role of peer groups in reinforcing social norms and providing support. Erikson (2018) emphasizes that during adolescence, peer groups help in highlights the critical role of peer groups during adolescence, influencing academic, social, and emotional aspects of life. Harris (2019) notes that peer group influence varies across cultural contexts, shaping behaviours and attitudes based on societal norms. Erikson (2018) points out the importance of peer groups in identity formation, offering a sense of belonging and self-expression. Prinstein and Giletta, (2021) emphasize the role of peer groups in reinforcing social norms and providing support.

Career selection among business students involves a multifaceted decision-making process considering personal interests, skills, and market demand (Ahmed, et al, 2017). Educational experiences, including internships and faculty interactions, significantly influence these decisions (Bayerlein, (2020)). Hu, et al., (2022) highlight the role of socioeconomic status in providing access to resources and networking opportunities, affecting career choices. Earl, et al (2019) emphasize the importance of personality traits and interests in guiding career selection, impacting job satisfaction. Career selection among business students is a complex decision-making process that involves evaluating personal interests, skills, market demand, and potential career growth. Students consider various factors such as job security, financial rewards, and alignment with personal values when making career choices (Mutanga, et al, 2023). Career selection among business students is also guided by their personality traits and interests. The alignment between a student's personality and their chosen career field can significantly impact job satisfaction and career success (Williamson, et al, 2005).

In the dynamic economic landscape of Lagos State, characterized by rapid urbanization, cultural diversity, and socio-economic disparities, the business department in senior secondary schools holds particular significance. Students enrolled in business studies are exposed to a range of vocational opportunities in areas such as commerce, finance, entrepreneurship, and management, positioning them at the nexus of economic development and career advancement (Nkomo, 2015).

Understanding how peer group dynamics and parental socioeconomic status intersect to influence career selection among business department students provides valuable insights into the socio-cultural, economic, and psychological factors shaping educational and vocational decision-making processes within the context of Lagos Stateand beyond.

Statement of the problem

The process of career selection among senior secondary school students enrolled in the business department in Lagos State, Nigeria, is influenced by various factors, including peer group dynamics and parental socioeconomic status. However, the specific nature and extent of these influences remain inadequately understood, posing significant challenges for educators, policymakers, and stakeholders seeking to enhance students' career readiness and outcomes.Peer groups, comprising friends, classmates, and social circles, exert substantial influence on adolescents' attitudes, behaviours, and decision-making processes. Within the school environment, peer interactions play a crucial role in shaping students' perceptions of themselves, their interests, and their future aspirations, including career choices. However, the precise mechanisms through which peer group dynamics impact career selection among business department students in Lagos State have not been systematically explored.

Concurrently, parental socioeconomic status emerges as a significant determinant of students' educational and vocational trajectories. Parents, as primary influencers and providers of guidance, support, and resources, play a pivotal role in shaping their children's career aspirations and opportunities Yet, the ways in which parental socioeconomic status interacts with peer group influences on shape career selection among business department students in Lagos State remain largely unexamined. Therefore, this study examined impact of peer group and parental socioeconomic status on career selection among senior secondary school students in Business Department, Lagos State.

 Research Questions

1. What is the extent of peer group influence on career selection among senior secondary school students in Business Department?

2. How does parental socioeconomic status influence the career selection among senior secondary school students in Business Department?

Research Hypotheses

HO1: There is no significant relationship between parental socioeconomic status and career selection among senior secondary school students in Business Department.

HO2: There is no significant influence of peer groups on career selection among senior secondary school students in Business Department.

Methodology

The study was a descriptive survey research design with the target population of all the business department students in all the senior secondary schools in Alimosho Local Government Area of Lagos State. Simple random sampling was used to select five senior secondary schools among all the senior schools in Alimosho Local Government Area. 40 students were randomly selected from each of the five selected schools. The total number of 200 students were sampled.Primary data gathering via questionnaire was used for data collection. A standardized questionnaire with a five-points Likert scales measuring strongly agreed (5) Strongly agreed (4) Agree, (3) Undecided (2) Disagree (1) Strongly disagree was used. The instrument comprises section A which is the Bio-data and section B is the questionnaire items. This structure ensures consistency in responses and facilitates quantitative analysis. the open ended allow participants to provide detailed explanations, insights, or personal experiences related to peer group and parental socioeconomic status on career selection. To ascertain the validity of the instrument, the researcher presented the questionnaire to three experts in Business Education Department for validation. A pilot test was conducted to 20 respondents and pre-test was administered has reliability coefficient index of 0.87 using the Split–Half method.The administration of the questionnaire took two weeks. Descriptive, inferential statistics of frequence count and percentages were used to answer the research questions, while t-test was used to test the hypotheses.

Results

Research Questions

Research Question One:What is the extent of peer group influence on career selection among senior secondary school students in Business Department?

Table 1: Percentages of the respondents of peer group influence on career selection

S/N	ITEMS	SA	A
1.	Peer group discussions significantly impact my career choices	9 57%	83 45.4%
2.	I often consider my peers' opinions when deciding on a career path	43 23.5%	104 56.8%
3.	My friends' career aspirations influence my own career decisions	74 40.4%	51 27.9%

| 4. | I am more likely to pursue a career that is popular among my peer group | 63 34.4% | 93 50.8% | 17 9.3% | 1 5 |
| 5. | Peer group advice is an important factor in my career selection process | 74 40.4% | 81 44.3% | 6 3.3% | 2 1 |

Source: Field survey 2024

Item 1 shows that 8.8 % respondents strongly disagree, 13.7% disagree, 45.4 % agree and 31.1% strongly agree that Peer group discussions significantly impact my career choices. Item 2 shows that 10.4% respondents strongly disagree, 9.3% disagree, 56.8 % agree and 23.5% strongly agree that they often consider their peers' opinions when deciding on a career path. Item 3 shows that 18% respondents strongly disagree, 13.7% disagree, 27.9 % agree and 40.4% strongly agree that they often consider their peers' opinions when deciding on a career path.

Item 4 shows that 5.5% respondents strongly disagree, 9.3% disagree, 50.8% agree and 34.4% strongly agree that they were more likely to pursue a career that is popular among my peer group. Item 5 shows that 2.2% respondents strongly disagree, 3.3% disagree, 44.3% agree and 40.4% strongly agree that peer group advice is an important factor in my career selection process.

Research Question Two: How does parental socioeconomic status influence the career selection among senior secondary school students in Business Department?

Table 2: Percentages of the respondents on parental socioeconomic status influence on the career selection

S/N	ITEMS	SA	A	D	SD
1.	My parents' socioeconomic status has a significant impact on my career choices.	57 31.1%	91 49.7%	19 10.4%	16 8.7%
2.	I am more likely to pursue a career that aligns with my family's socioeconomic background.	74 40.4%	81 44.3%	6 3.3%	22 12.0%
3.	The financial resources available in my family influence my career decisions	58 31.7%	76 41.5%	23 12.6%	26 12.4%
4.	My parents' educational and occupational background affects my career aspirations	66 36.1%	67 36.6%	33 10.8%	16 8.7%
5.	I receive career guidance from my parents based on their	73 39.9%	73 39.9%	24 13.1%	13 7.1%

	socioeconomic status				

Source: Field survey 2024

This item 1 shows that 8.7% respondents strongly disagree, 10.4% disagree, 49.7% agree and 31.1% strongly agree that parents' socioeconomic status had significant impact on my career choices. Item 2 shows that 12% respondents strongly disagree, 3.3% disagree,44.3% agree and 40.4% strongly agree that they are more likely to pursue a career that aligns with my family's socioeconomic background. Item 3 shows that 14.2% respondents strongly disagree, 12.6% disagree, 41.5% agree and 31.7% strongly agree that the financial resources available in my family influence my career decisions.

Item 4 shows that 8.7% respondents strongly disagree, 18% disagree, 36.6% agree and 36.1% strongly agree that their parents educational and occupational background affects my career aspirations. Item 5 shows that 7.1% respondents strongly disagree, 13.1% disagree, 39.9% agree and 39.9% strongly agree that they had receive career guidance from my parents based on their socioeconomic status.

Hypotheses Testing

HO1: There is no significant relationship between parental socioeconomic
status and career selection among senior secondary school students in Business Department.

Table 3: ANOVA Analysis on relationship between parental socioeconomic status and career selection

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	43.251	1	43.251	81.080	.000
Within Groups	96.552	181	.533		
Total	139.803	182			

Source: Field survey 2024

a. Predicator: Parental income, parental socioeconomic status
b. dependent Variable: career selection
P=0.000" means `p<0.0005'
Software output P=0.001
p = .000" with "p < .001," interpretation" that the p-value is 0.000 means the results are significant. Recall that, we accept the null

hypothesis if the critical tabulated value is greater than the calculated value, otherwise, we reject HO. The table shows that the analysis of the variance of the fitted regression equation is significant with an F value of 81.1 Since the p-value (0.001) is less than 0.05, it shows a statistically significant positive effect between the variables at a 95 percent confidence level. Therefore, the null hypothesis of no significant relationship is rejected, and we concluded that there is significant relationship between parental socioeconomic status and students' career selection in the business department among the selected senior secondary schools in Alimosho Local Government Area of Lagos State.

This finding aligned with Abbas, et al., (2025) that the socioeconomic status of parents influences students' exposure to diverse career options, educational attainment, and aspirations for upward mobility, thereby shaping their perceptions of suitable career paths and future prospects. Also,Bankole, (2024) supported that the ways in which parental socioeconomic status interacts with peer group influences on shape career selection among business department students in Lagos State remain largely unexamined.

HO2: There is no significant influence of peer groups on career selection among senior secondary school students in Business Department.

Table 4: ANOVA Analysis on influence of peer groups and career selection

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	42.594	1	42.594	130.834	.000
Within Groups	58.925	181	.326		
Total	101.519	182			

Source: Field survey 2024
a. Predicator: Peer groups
b. dependent Variable: career selection
P=0.000" means `p<0.0005'
Software output P=0.001
p = .000" with "p < .001," interpretation" that the p-value is 0.000 means the results are significant. Recall that, we accept the null hypothesis if the critical tabulated value is greater than the calculated value, otherwise, reject Ho. The table shows that the analysis of the variance of the fitted regression equation is significant with an F value

of 130.1 Since the p-value (0.001) is less than 0.05, it shows a statistically significant positive effect between the variables at a 95 percent confidence level. Therefore, the null hypothesis of no significant relationship is rejected,

This finding aligned with Barrera and Alonge (2018) that the composition and characteristics of peer groups can significantly impact students' career selection and choices, as individuals seek validation, acceptance, and belongingness within their social circles. Erikson (2018) pointed out the importance of peer groups in identity formation, offering a sense of belonging and self-expression. Prinstein and Dodge (2018) emphasized the role of peer groups in reinforcing social norms and providing support.

Discussion of Findings

The research work was specifically designed to examineon impact of peer group and parental socioeconomic status on career selection among senior student's secondary schools in Business Department, Lagos State. According to Table.1, 50.8% (93 respondents) agreed, and 34.4% (63 respondents) strongly agreed that they are more likely to pursue a career that is popular among their peer group. This finding illustrates the tendency of students to align their career aspirations with those that are favoured or pursued by their peers, indicating a collective approach to career decision-making. Lastly, Table 2 shows that 44.3% (81 respondents) agreed, and 40.4% (74 respondents) strongly agreed that peer group advice is an important factor in their career selection process. This reinforces the earlier findings that peer influence is not only significant but also plays a decisive role in guiding students' career paths.

The research findings strongly indicate that peer influence is a critical factor in career selection among students in the Business department within the selected senior secondary schools in Alimosho Local Government Area of Lagos State. The high percentages of agreement and strong agreement across various tables suggest that students place considerable importance on the opinions, discussions, and career choices of their peers. This peer influence manifests in multiple ways, from considering peers' opinions during decision-making to choosing careers that are popular within their peer groups.The analysis of research question two highlights the significant relationship between parental socioeconomic status and career aspirations of students in the business department among the selected senior secondary schools in Alimosho Local government, area of Lagos State

Table 3 provides insights into how parents' educational and occupational backgrounds shape students' career aspirations. The data reveals that 36.6% (67 respondents) agreed, and 36.1% (66

respondents) strongly agreed that their parents' educational and occupational background affects their career aspirations. This implies that students often look to their parents' achievements and professions as benchmarks for their own career goals, indicating that parental role models play a crucial role in shaping career aspirations. Finally, Table 4 highlights the role of parental guidance in career selection, with 39.9% (73 respondents) agreeing, and another 39.9% (73 respondents) strongly agreeing that they received career guidance from their parents based on their socioeconomic status. This finding suggests that parents actively engage in their children's career decision-making process, offering advice that is often grounded in their own socioeconomic realities.

The findings from the analysis underscore the profound influence of parental socioeconomic status on the career choices of students in the Business department within the selected senior secondary schools in Alimosho Local Government Area. The alignment of career choices with the family's socioeconomic background reflects a tendency among students to choose careers that they perceive as compatible with their family's financial situation and social expectations. Additionally, the significant role of parental guidance based on socioeconomic status indicates that parents actively shape their children's career aspirations, often steering them towards career paths that align with the family's values and resources. The analysis of the research question three examine on how peer group and parental socioeconomic status influence career selection among students in the Business department of selected senior secondary schools in Alimosho Local Government Area, Lagos State, reveals the profound impact of these factors on students' career decisions. The findings from various tables provide insights into the dynamics at play.

Conclusion

The research on impact of peer group and parental socioeconomic status on career selection among senior student's secondary schools in Business Department, Lagos State reveals significant insights into the factors that shape students' career choices. It is evident that peer groups play a crucial role in shaping students' career aspirations. The norms, values, and information shared within these groups create a social environment that can either reinforce or challenge individual career preferences. However, when these influences diverge, students may experience confusion or pressure, potentially leading to indecision or a compromise in their career selection. Both peer group dynamics and parental socioeconomic status are pivotal in determining career choices among students in the Business department of senior secondary schools in Alimosho. These findings underscore the need for targeted

interventions that consider both social and familial factors in career guidance programs. By fostering environments where students receive balanced support from both their peers and parents, educators can help ensure that career decisions are made based on informed choices rather than external pressures.

Recommendations

Based on the findings regarding on impact of peer group and parental socioeconomic status on career selection among senior student's secondary schools in Business Department, Lagos State, the following recommendations are proposed:

1. Schools should create opportunities for students to engage in peer mentorship programs, where older students or alumni who have successfully pursued business careers can share their experiences. These role models can provide guidance and inspiration, helping to shape positive peer group dynamics that encourage informed and thoughtful career choices.

2. Educational authorities should provide scholarships, counselling, and extracurricular activities to ensure students from lower socioeconomic backgrounds have equal access to career resources and opportunities.

3. Schools should facilitate internships, job shadowing programs, and field trips to business organizations, giving students first-hand experience of the business world. Such exposure can help students make more informed career decisions by providing practical insights that are often lacking in purely academic settings.

4. Policymakers and educational leaders should focus on addressing broader socioeconomic disparities that influence career choices. This might include initiatives aimed at reducing inequality, improving access to quality education across all socioeconomic levels, and supporting community programs that offer career development services.

5. Adopt a collaborative approach to career decision-making, involving students, parents, teachers, and counsellors to provide well-rounded guidance. Schools should monitor career selection trends and adjust programs to meet student needs. By doing so, schools in Alimosho can better support students in making informed career choices that align with their strengths, interests, and external influences.

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METHODS FOR FOSTERING CREATIVE TRAITS IN PRESCHOOL CHILDREN

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Abstract: *The article explores methods for stimulating creativity in preschool children, analyzing the impact of both traditional and modern approaches on their development. The characteristics of each approach are highlighted, emphasizing how traditional methods, focused on repetition and conformity, limit personal initiative, while modern strategies, such as brainstorming and the thinking hats method, foster divergent thinking and active participation. Additionally, the article presents the results of an experimental study conducted in the field of "Language and Communication," highlighting the benefits of a balanced educational approach that combines structure with free exploration, with a view to fostering children's creativity and expressiveness.*

Keywords : *creativity ; preschool ; teaching methods ; education ; divergent thinking ; language ; expression ; innovation ; personal development.*

Introduction

The fundamental goal of the preschool age is "to establish the foundations of psychological activities and define the characteristics of personality, with an emphasis on personality. The first 6 years of education have become an important period for the formation of factors such as attitude, personality, complex emotional states, will, motivation, and communication, which shape the future behavior of an individual" (Piaget, Inhelder, 2005).

The preschool child becomes an active explorer in the intellectual stage, directly exposed to a variety of experiences and expanding social and cultural interactions. This development is not limited to the extension and diversification of behavior but also includes the

emergence and expansion of key elements of personality. These include attitudes, personality, complex emotional states, will, motivation, and communication skills.

G.W. Allport introduced the term "creativity" in psychology to describe a formation of personality. According to his view, "creativity cannot be restricted only to certain categories of personality manifestation, such as aptitudes (intelligence), attitudes, or temperamental traits" (Allport, 1950). This is one of the main reasons why the term "creativity" was not included in specialized dictionaries before 1950.

Currently, there are a variety of definitions for creativity. According to psychologists, being creative means "to create something new, original, and suitable for reality. The act of creation can mean making something exist, giving it life, generating, producing, being the first to interpret a role and bring a character to life, composing quickly, conceiving, and others" (Popescu, 2009). A creative person is characterized by originality, expressiveness, imagination, openness to new ideas, inventiveness, and innovation.

A. Roșca (1988) argues that "due to the complexity of the creativity phenomenon, it is unlikely that a unanimously accepted definition will be reached, as each author emphasizes different dimensions." Some authors consider creativity to be the ability to produce something new and valuable, while others define it as a process through which a product is achieved.

Within the domain of Language and Communication, "creativity represents an exceptionally valuable skill that contributes to the improvement of individual expression and communication. This subsection focuses on traditional methods, integrated over time in the learning and development process in this fascinating field" (Chirev, 1964).

Specialized literature highlights the fact that the development of creativity in preschool children is not a spontaneous process, but the result of a structured educational intervention that encourages divergent thinking, exploration, and experimentation. In this context, innovative teaching methods, such as starbursting, the pyramid method, double bubble, brainstorming, Venn diagrams, the cube method, the A.T.I (R.A.I.) method, and the thinking hats method, become valuable tools for educators, facilitating both the learning process and the development of a creative spirit among children (Dughi & Bold, 2022; Dughi, 2010).

Stimulating creativity in preschool children requires a variety of activities that allow them to express themselves freely and explore. Artistic, mathematical, and personal development activities provide

natural contexts for fostering creativity. For example, free drawing, modeling, storytelling, and creating their own games are recommended methods. It is important for educators to create an environment that supports the expression of original ideas, where children are not afraid of making mistakes or being subjected to rigid evaluation (Chiș, Moldoveanu, Alzner, Șerban, Cotoi, 2021).

The use of active teaching methods, such as discovery learning, educational games, and project-based work, is essential in the context of creativity development at the preschool and primary levels. These methods encourage the direct involvement of children in the learning process and give them the opportunity to explore multiple solutions to a problem. Additionally, integrating technology into the educational process, when possible, is recommended to stimulate children's imagination and visual thinking (Știrbu, 2024).

Other useful techniques for developing creative thinking include methods such as "Starbursting," "Thinking Hats," and "Dream Technique." These involve challenges that require generating multiple ideas, free association, or shifting perspectives on a problem—essential elements in creativity development. Furthermore, activities such as inventing stories or riddles enhance children's imagination and expressive language (Răsunetul.ro, 2024).

Recent studies show that organizing extracurricular activities, such as educational field trips, artistic performances, or role-playing games, significantly contributes to children's creative development. These experiences support symbolic thinking and experiential learning, especially when connected to classroom topics. Moreover, interaction with nature or the surrounding environment can trigger curiosity and creative initiative (PMC, 2023).

In the traditional Romanian educational system, classical methods can be adapted creatively. Even frontal lessons or repetitive exercises can become opportunities for creativity if students are given the freedom to choose, autonomy, and the chance to formulate their own questions. Techniques such as "6/3/5" (six people, three ideas, five minutes) or adapted brainstorming can be successfully applied in early education classes.

Although alternative methods (such as those from Montessori or Waldorf pedagogy) are often more focused on creativity, research shows that even the traditional framework can support the development of creative traits if educators are flexible and concerned with children's free expression. Continuous professional development for teachers is essential in applying these methods in a personalized way, adapted to the characteristics of each group of children (Paiu, Bostan, 2020).

Characteristics of traditional methods
Traditional teaching methods focus on the transmission of knowledge through direct instruction and repetitive exercises. These methods emphasize conformity, memorization, and the faithful reproduction of information. Some of the most commonly used traditional techniques include (Cerghit, Radu, Popescu, Vlăsceanu, 1991):

- **Retelling and Recitation** – Children are encouraged to repeat the information presented by the educator, without the opportunity to express their personal ideas.
- **Worksheets** – Structured activities that involve completing predetermined tasks, with only one correct answer.
- **Directed Didactic Games** – Activities that, while involving playful elements, are strictly controlled by the adult.

These methods contribute to the child's disciplined development, but they limit personal initiative and creative exploration of ideas. Children have fewer opportunities to experiment and find original solutions to proposed problems.

Characteristics of modern methods
Unlike traditional methods, modern approaches focus on the active participation of the child, collaboration, and exploration. These methods are child-centered, encouraging children to freely express their ideas and discover concepts through experimentation. Some of the most effective modern methods for stimulating creativity in preschool children include:

- **Starbursting** – an interactive method that stimulates divergent thinking through the formulation of essential questions related to a given topic.
- **Brainstorming** – encourages the spontaneous generation of ideas, without the fear of being judged or immediately corrected.
- **Thinking Hats Method** – develops critical and creative thinking by assigning different roles to each child, with each hat representing a distinct perspective on the problem being discussed.
- **Pyramid Method** – promotes collaboration and problem-solving by involving each child in group activities.
- **Venn Diagrams and Double Bubble** – visual methods that help children identify similarities and differences between concepts.

These methods promote a stimulating learning environment where children have the freedom to explore, collaborate, and develop creative

thinking. They facilitate learning through discovery, offering multiple opportunities for experimentation and critical reflection.

Comparing the effectiveness of both approaches
Comparing the two types of methods, it can be observed that traditional approaches are effective in transmitting fundamental knowledge and developing self-discipline, but they limit personal initiative and the ability to think innovatively. On the other hand, modern methods encourage the development of creativity by stimulating curiosity, critical thinking, and cognitive flexibility.
Another important aspect is the level of involvement of the child in the educational process. In traditional methods, the child plays a more passive role, being a receiver of information, whereas in modern methods, the child becomes an active participant in the learning process, having the opportunity to contribute to their own development.
In conclusion, while both traditional and modern methods have advantages and limitations, the integration of a balanced approach, combining structure and discipline with free exploration and creativity, can lead to a more effective preschool education that is better adapted to the current needs of children.

Study on methods for stimulating creative traits in preschool children
To identify the most efficient methods for stimulating creativity in preschool children, we conducted an experimental study within the field of "Language and Communication." The research aimed to analyze the impact of different educational methods on the development of creative thinking, by comparing traditional strategies with modern ones based on exploration, collaboration, and free expression.

Research purpose
The main goal of the study is to investigate the effectiveness of a specific method within the "Language and Communication" domain in developing creativity in preschool children. Through a rigorous experimental approach, the research aims to evaluate the extent to which the applied teaching strategies influence the child's ability to formulate original ideas, express thoughts creatively, and explore language from various perspectives.

Research objectives
To achieve this goal, the study pursued the following objectives:

- **O1** – To assess the initial level of creativity and linguistic abilities of preschool children during a pre-experimental stage, using specific evaluation methods.
- **O2** – To implement and analyze the impact of modern techniques on the creativity of preschoolers in the experimental group during the formative-ameliorative stage.
- **O3** – To compare the progress made by the experimental group and the control group based on the results obtained in the post-experimental stage.
- **O4** – To evaluate the effectiveness of the applied methods by analyzing the significant differences between the two groups of participants.
- **O5** – To identify and interpret the effects of modern strategies for stimulating creativity in comparison with traditional methods.

Research hypothesis
Based on theoretical premises and practical observations, the following hypothesis was formulated: *If methods specific to the "Language and Communication" domain are applied in activities aimed at developing creativity in preschool children, then a significant improvement in their creative abilities will be observed.*

Research sample
For the purposes of this study, we selected a sample of 27 preschool children from the "Grupa Mare B" (Senior Group B) at the "Căsuța Piticilor" Full-Day Kindergarten in Arad. The children were between 4 and 6 years old, with some having attended kindergarten since the age of 2.
The language development activities were adapted to the annual themes, which were structured around the key questions: *"How do we express what we feel?"* and *"When, how, and why do things happen?"*

Content sample description
The research is structured into three stages—**pre-experimental**, **formative-ameliorative**, and **post-experimental**—each involving specific activities designed to develop preschoolers' linguistic, cognitive, and socio-emotional skills through storytelling, dramatization, and interactive methods.

Pre-experimental stage (September 2023 – October 2023)
This initial stage introduces children to the world of stories through:

- **Teacher-led storytelling** (*"The Kid with Three Goats"* by Octav Pancu);
- **Dramatization** (*"Maricica"* by Luiza Vlădescu), a technique that stimulates expressiveness and creativity;
- **Open-ended story prompt** (*"A Day at Kindergarten"*), which encourages children to develop their imagination and narrative ability.

Formative-Ameliorative Stage (November 2023 – April 2024)
During this stage, various teaching methods are applied to foster critical thinking, vocabulary development, and creativity:

- **Familiar stories** such as *"Little Red Riding Hood"* by the Brothers Grimm and *"Autumn"* by Elena Dragoş;
- **Interactive methods**, including:
  o **The Cube Method** (*"The Goat with Three Kids"*) – exploring a story from different perspectives;
  o **The Pyramid Method** (*"The Steadfast Tin Soldier"* by Hans Christian Andersen) – analysis and sequencing of information;
  o **Puppet Theater** (*"The Old Woman's Daughter and the Old Man's Daughter"*) – encouraging empathy and expressiveness;
  o **Starbursting Method** (*"Dino's Friends"*) – enhancing vocabulary and the ability to generate ideas;
  o **Open-ended story prompt** (*"A Different Elsa"*), offering children creative freedom.

Post-Experimental stage (April 2024 – May 2024)
This final stage aims to consolidate the skills acquired by the children through:

- **Teacher-led storytelling** (*"Cinderella"* – Brothers Grimm);
- **Open-ended story prompt** (*"A Puppy Named Bobi"*) designed to assess children's autonomy in expression;
- **Dramatization** (*"The Three Little Pigs"* – James Orchard Halliwell-Phillipps), integrating elements of collaboration and performance.

Overall, this research uses a combination of narrative techniques and interactive methods to enrich preschoolers' learning experience, fostering their linguistic, social, and creative competencies.

In order to test the hypothesis that applying language and communication-based methods significantly contributes to the development of preschoolers' creativity, a pedagogical-experimental study was planned and implemented. The study was structured into three key stages, designed to offer a clear view of the children's progress in both language use and creative thinking.

Research stages
Initial stage (Pre-Experimental)
This phase aimed to establish the initial level of creativity and linguistic abilities of preschool children, both in the experimental group and the control group. Using appropriate assessment tools, data were collected regarding each child's baseline level, internal group composition, and communication skill structure.
Formative-ameliorative stage
Conducted between November 2023 and April 2024, this phase involved applying specific methods to stimulate linguistic and expressive creativity in children from the experimental group. Implemented activities included interactive storytelling, dramatization, role-playing, and modern communication techniques designed to support language development and innovative thinking.
Final evaluation stage (Post-Experimental)
Scheduled for May 2024, this phase aimed to analyze the progress made by the children following the pedagogical intervention. The same research tools were used as in the initial stage, such as structured observation grids, narrative discourse analysis, and creative exercises involving both verbal and non-verbal expression.

To ensure a rigorous assessment of preschoolers' progress, the study pursued the following specific objectives:

- **O1:** To evaluate children's ability to express ideas and emotions creatively using various verbal techniques, such as storytelling, description, comparison, and the use of metaphors.
- **O2:** To analyze how children explore and experiment with alternative forms of nonverbal communication (facial expressions, gestures, mimicry) to express their thoughts and feelings in original ways.
- **O3:** To investigate preschoolers' involvement in group activities that require collaboration and communication, such as role-playing, thematic discussions, and creative problem-solving.

- **O4:** To assess children's ability to create their own linguistic structures, including rhymes, riddles, stories, and mini-dramas, using expressive elements appropriate to their age and developmental level.

By applying these innovative educational methods and strategies, the research aims to demonstrate the effectiveness of modern approaches in developing creative traits in preschoolers and to offer practical recommendations for optimizing the teaching process in early childhood education.

Research implementation
Within the framework of this study, educational activities were organized to stimulate preschoolers' creativity through various interactive teaching methods. These activities were carefully structured to encourage the development of imagination, communication skills, and cooperation among children.
By using stories, dramatizations, and role-playing games, the goal was not only to improve narrative competence but also to strengthen learning through playful and practical experiences.
In the following section, we present the activities carried out during the pre-experimental stage of the research.

Pre-experimental stage
Activity No. 1 – Storytelling based on images: "The kid with three goats"
Group: Senior (5–6 years)
Goal: Developing children's narrative skills through the use of images to construct and interpret a story.
Objectives: Stimulating creativity, recognizing characters, interpreting story actions, developing vocabulary, and fostering group collaboration.
Method: Image observation and analysis, guided discussions, collaborative storytelling, role-playing games.
Procedure: The teacher presents images and character cutouts from "The Kid with Three Goats." Children are invited to create a story based on these visuals. They are encouraged to participate actively in storytelling, contribute ideas, and act out characters.
Assessment: Based on observation of individual involvement and contributions during the activity.

Activity No. 2 – Storytelling based on images: "Little Maricica"
Group: Senior (5–6 years)

Goal: Developing narrative skills and awareness of personal hygiene through the use of images from the story "Little Maricica."
Objectives: Expressing creativity, recognizing characters and their actions, learning the importance of hygiene, and collaborating in groups.
Method: Image observation, guided discussions, collaborative storytelling, and role-play activities.
Procedure: The teacher shows images from the story "Little Maricica" and encourages children to create a story based on them. Throughout the activity, children discuss personal hygiene, learn self-care lessons, and collaborate to build the story's ending.
Assessment: Conducted through observation of children's participation and creative contributions.

Activity No. 3 – Storytelling based on images: "A day at kindergarten"
Group: Senior
Goal: Stimulating creativity and communication skills by using images to create a story about a typical kindergarten day.
Objectives: Encouraging creativity, improving speaking skills, promoting group collaboration, and respecting turn-taking in conversation.
Method: Image observation, guided discussions, collaborative storytelling, and drawing activities.
Procedure: The teacher presents images related to daily kindergarten activities and encourages children to create a story based on them. Each child contributes an idea, and the group collaborates to complete the story. At the end, children may illustrate the story or act it out through role-play.
Assessment: Based on observation of individual contributions and group collaboration.

Experimental Stage
Activity No. 1 – Teacher's Storytelling: "Little Red Riding Hood"
Group: Senior
Purpose: To stimulate imagination and develop listening and concentration skills in children, using a classic story adapted to their age.
Objectives: Improving listening skills, developing the ability to identify characters, expressing emotions and reactions to the story, encouraging group collaboration and discussions.
Method: Storytelling by the teacher, guided discussions, role-play, drawing or coloring activities.

Procedure: The teacher narrates the story "Little Red Riding Hood" using illustrations, encouraging discussions and the expression of children's feelings. Follow-up activities include role-playing and drawing. Evaluation is carried out through observation of participation and involvement.

Activity No. 2 – Image-based torytelling: "Autumn"
Group: Senior
Purpose: To develop children's narrative skills through the use of thematic images to create stories.
Objectives: Expressing creativity, observing and interpreting details in images, vocabulary development, and group collaboration.
Method: Observation and interpretation of images, guided discussions, collaborative storytelling, drawing activities.
Procedure: The teacher presents images related to autumn and encourages the children to create a story based on them. Collaboration is stimulated, and evaluation is conducted through observation of group activity and individual contributions.

Activity No. 3 – "The Goat with Three Kids" – The Cube Method
Purpose: To stimulate imagination by exploring the story from different perspectives using the cube method.
Objectives: Analyzing the story "The Goat with Three Kids" from six different perspectives, understanding moral lessons, and developing expression skills.
Method: Using the storytelling cube to explore various aspects of the story.
Procedure: Children discuss different perspectives of the story, with each side of the cube representing a different element. Evaluation is based on active participation in discussions and the expression of ideas.

Activity No. 4 – "The Tin Soldier" – The Pyramid Method
Purpose: To develop the ability to synthesize information and ideas, encouraging teamwork and critical thinking.
Objectives: Recognizing characters and key moments, organizing information, and fostering teamwork.
Method: Using the pyramid method to organize story elements.
Procedure: Children work in teams to build a pyramid with the key moments of the story. Evaluation is based on collaboration and the correct structuring of ideas.

Activity No. 5 – "The Old Woman's Daughter and the Old Man's Daughter" – Puppet Theater

Purpose: To develop creativity, communication, and cooperation through puppet theater.
Objectives: Representing the story using puppets, creating and handling them, and reflecting on the theatrical experience.
Method: Puppet theater activity.
Procedure: Children create puppets and sets, then participate in the staging of a play. Evaluation is based on creativity and involvement in the theatrical activity.

Activity No. 6 – "A Different Elsa" – Story with a Given Beginning
Purpose: To develop creativity through collective storytelling and stimulate critical thinking.
Objectives: Creating a collective story, encouraging diversity and acceptance, developing storytelling abilities.
Method: Collective storytelling with input from each child.
Procedure: Children complete the story started by the teacher and illustrate it. Evaluation is based on contributions to the story and the imagination expressed.

Post-Experimental stage
Activity No. 1 – Image-Based Storytelling: "Cinderella"
Purpose: Familiarizing children with the story of *Cinderella*, promoting values such as kindness and inner beauty, stimulating imagination and creativity through active participation in storytelling and role-play.
Objectives: Active listening to the story, identifying its messages and moral, expressing opinions and feelings, developing collaboration skills through role-play.
Method: Interactive storytelling, guided discussions, role-playing, creative activities.
Procedure: The teacher begins the *Cinderella* story with enthusiasm, using engaging illustrations to capture the children's attention. Throughout the story, children are encouraged to participate through questions and suggestions related to the characters' behavior. After the storytelling, a discussion follows about the lessons learned and the story's moral. Children then take part in creative activities such as puzzles, drawings, or role-playing. The activity concludes with a review of the lessons and an evaluation of the children's active participation.

Activity No. 2 – Story with a given beginning: "A Puppy Named Bobi"

Purpose: Developing children's imagination, creativity, and storytelling skills through active contribution to the creation of a collective story.

Objectives: Stimulating imagination and creativity, developing oral expression skills, reinforcing cooperation and social interaction, encouraging active listening and attention to detail.

Method: Story with a given beginning, guided discussions, collective creative activities.

Procedure: The teacher introduces the story *"A Puppy Named Bobi"* with a captivating beginning and encourages children to add ideas and details to develop the plot. As the story takes shape, the teacher records their contributions on flipcharts or the board. Children are encouraged to illustrate key scenes or dramatize certain moments from the story. The activity ends with a discussion about the creative process and positive feedback from the teacher.

Activity No. 3 – Dramatization of "The Three Little Pigs"

Purpose: Developing creativity and collaboration skills through dramatizing the story *"The Three Little Pigs."*

Objectives: Stimulating imagination and creativity, developing communication and teamwork skills, expressing emotions and artistic expression through dramatization, encouraging self-confidence and team spirit.

Method: Dramatization, group collaboration, creative activities.

Procedure: The teacher reads *"The Three Little Pigs"* and discusses the characters and events with the children. Each child chooses a character to portray, and the teacher guides them in learning their lines and the character's behavior. Children help create props and costumes, and the activity culminates in a performance of the story in front of the other children or parents. After the dramatization, there is a discussion about their experience and the lessons learned from the story.

Presentation, analysis, and interpretation of results from the Pre-Experimental Stage

Through the interpretation of the results from the pre-experimental stage, we will shed light on the needs and particularities identified in the researched context, thus contributing to the foundation of future decisions in the development of the study. At the same time, we will be aware of the possible limitations of the research and how these may influence the interpretation of the collected data.

The data obtained through observation are presented and statistically analyzed in the following comprehensive analyses, tables, and charts.

Diagram 1. Distribution of Results Obtained in the Pre-Experimental Stage

Analysis of experimental group results:
Interpretation of Pre-Experimental Stage Results
The chart presents the initial results of the preschoolers in the pre-experimental stage, based on four specific objectives (O1, O2, O3, O4). The assessment was conducted using three performance levels: "Needs Support" (green), "In Progress" (red), and "Achieved" (blue).

General analysis of the results
The results show that a significant percentage of children require additional support, especially for O1 (44%), which indicates difficulties in the creative expression of ideas and emotions through language. This suggests the need for supplementary activities to stimulate vocabulary development and oral expression.
In the case of O2 and O3, the number of children categorized as "In Progress" is considerable (37% for O2 and 51% for O3). This suggests that many preschoolers are in an active learning phase but need structured activities to improve their nonverbal communication and group collaboration skills.
For O3 (Active participation in group activities), only 11% of the children achieved the objective, indicating greater difficulty in active involvement and collaboration with others. This aspect points to the need for educational strategies that encourage interaction and teamwork, such as role-play and collective activities.
Regarding O4 (Creating their own language structures), there is an improvement compared to O3, with 22% of the children achieving the objective. However, a large portion remains in the "In Progress" category (40%). This shows that while there is some progress in

creative expression, many children still need support in developing storytelling and language structure skills.

Conclusions and intervention directions:

  1. **Improving oral expression** – Additional storytelling and guided description activities could help children who struggle to express ideas and emotions.

  2. **Stimulating nonverbal communication** – Interactive exercises and dramatizations could support the development of this type of communication.

  3. **Encouraging active group participation** – Organizing more collaborative games may improve engagement and social interaction.

  4. **Developing creativity in expression** – Story-creation exercises and the use of playful methods (rhymes, riddles) could increase the number of children achieving this objective.

Overall, the data suggest that preschoolers are at varying stages of development, and educational interventions should be tailored to meet the specific needs of each category.

The results highlight the need for intervention and additional support in developing participants' creative communication skills. It is essential to offer them stimuli and individualized guidance to enhance their creativity in expression, nonverbal communication, active participation in group activities, and the development of their own language structures.

Presentation, analysis, and interpretation of results from the Post-Experimental stage

Through the interpretation of the results from the post-experimental stage, we will shed light on the needs and particularities identified in the researched context, thereby contributing to the foundation of future decisions in the conduct of the study. At the same time, we will be aware of the possible limitations of the research and how these may influence the interpretation of the collected data.

Diagram 2. Proportion of Results Obtained from the Post-Experimental Stage

Interpretation of results from the Post-Experimental stage
The graph reflects the results obtained by the preschoolers after the implementation of the educational interventions, in relation to the four specific objectives (O1, O2, O3, O4). Compared to the pre-experimental stage, significant progress can be observed in achieving the objectives.

General analysis of the results
The results show a remarkable increase in the number of children who have achieved the proposed objectives. For O1 (Creative expression of ideas and emotions through language), 92% of the children succeeded in achieving the objective, with only 4% in the development stage, while the percentage of those requiring additional support decreased to 4%. This progress signals a considerable improvement in linguistic and expressive   competencies.
In the case of O2 (Exploration of nonverbal communication), the results are even more encouraging: 96% of the children achieved the objective, and only 4% remain in the development stage, with no child requiring additional support. This indicates the effectiveness of the activities implemented in developing expressiveness and body language.
For O3 (Active participation in group activities), the progress is evident, with 100% of the children achieving the objective. This result shows that the educational strategies used had a strong impact on the development of collaboration and group interaction skills.
Regarding O4 (Development of own language structures), 88% of the children achieved the objective, and 12% are in the development stage. While there is a small percentage of children who still require

reinforcement, the results indicate a clear improvement compared to the previous stage.

Conclusions and implications

      1.   The applied educational interventions had a positive impact, significantly increasing the number of children who achieved the proposed objectives.

      2.   The initial difficulties observed in verbal and nonverbal expression were largely overcome through interactive activities and innovative teaching methods.

      3.   Participation in group activities significantly improved, demonstrating that the methods used stimulated cooperation and active involvement of the preschoolers.

      4.   Although the majority of children achieved the objectives, a small percentage still requires reinforcement of certain competencies, especially regarding creative expression through language.

In conclusion, the implemented program proved to be effective, demonstrating that innovative methods and interactive activities significantly contribute to the development of preschoolers' linguistic, expressive, and collaborative skills.

Conclusions and proposals

The conclusions of the research show that the activities carried out during the experiment had a significant impact on the development of language and creativity in the subjects involved. Through storytelling, dramatization, and the exploration of various communication techniques, the subjects had the opportunity to expand their vocabulary, improve their expression skills, and develop their imagination and creative thinking.

By comparing the development of results from the pre-experimental and post-experimental stages, it can be observed that the activities conducted within the experiment had a significant impact on the development of language and creativity in the subjects involved. In the pre-experimental stage, the percentages for achieving the objectives and the need for support reflected a lower level of linguistic competencies and creative expression. However, in the post-experimental stage, the percentages for achieving the objectives significantly increased, indicating an improvement in verbal and nonverbal communication skills, as well as the creative abilities of the subjects. This suggests that the experimental activities and strategies contributed to the development of expression skills and creativity among the participants. Through storytelling, dramatization, and the

exploration of various communication techniques, the subjects had the opportunity to expand their vocabulary, improve their expression abilities, and develop their imagination and creative thinking.

These results highlight the importance of implementing innovative strategies and methodologies in the educational process, which provide children with diverse opportunities for expression and the development of creative skills. By using a stimulating environment and ensuring the active involvement of children in creative activities and communication, it is possible to contribute to the development of a generation of individuals who can express their ideas and emotions in an original way and use creativity to solve problems and explore the surrounding world.

The research also highlighted that active involvement in group activities, such as role-playing games and thematic discussions, facilitated the development of communication and collaboration skills. Through interaction with others and the expression of ideas and emotions within a social context, children had the opportunity to develop self-confidence and interpersonal skills.

Another important aspect is related to the role of adults or educators in supporting and encouraging the learning and development process. By offering a safe and supportive environment in which children feel free to express their ideas and explore creativity, adults can positively influence their development and contribute to the formation of solid linguistic and creative skills.

In conclusion, the results of the research emphasize the importance of a child-centered approach in the educational process, one that focuses on developing linguistic competencies and creativity through various and interactive activities. By adapting teaching strategies and methodologies to the specific needs and interests of children, a holistic and balanced education can be ensured, providing them with the necessary tools to become active and creative citizens in contemporary society.

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EXAMPLES OF GOOD PRACTICE IN PARENTAL EDUCATION FOR EARLY CHILDHOOD EDUCATION TEACHERS

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Abstract: *This article aims to highlight the importance of parental education in the training of future educators specializing in Primary and Preschool Pedagogy (PIPP). Based on theoretical and empirical foundations, the paper analyzes parenting both as a continuous learning process and as a key practice in developing communication and collaboration skills between parents and teachers. It presents educational models and practical activities implemented in the training of students, through which the essential role of parents in the harmonious development of children is explored, as well as the ways in which educators and primary school teachers can become active partners in the educational process. The article emphasizes the defining dimensions of parenting, underlines the importance of preparing students for effective collaboration with families, and describes the methods, techniques, and tools used in educational activities that involve parental participation.*

Keywords: *parenting, early childhood education, parent-teacher collaboration, pedagogical practice, students*.

Introduction

The concept of parenting has gained significant relevance in the contemporary context of early childhood education, being increasingly addressed in specialized literature from the fields of psychology, sociology, and educational sciences. Parenting is not only a practical skill but also an essential component of the child's emotional and cognitive development. In the current vision, the family is no longer a passive actor in the educational process but a strategic partner, alongside teachers, in supporting the child's educational path (Davies, 2000; DeClaire & Gottman, 2016). Therefore, the initial training of educators must include a welldefined parental dimension that enables students to understand, accept, and support the diversity of parenting

styles. Educational activities that involve collaboration with parentssuch as counseling, thematic meetings, and joint projectsrequire specific skills that can be developed through an adapted pedagogical curriculum. This article aims to highlight the essential role of parenting in the training of PIPP students and to present examples of good practices applied in didactic activities.

Theoretical aspects of parenting
The notion of parental education, derived from anthropology and psychology, refers to the set of behaviors, attitudes, and responsibilities assumed by parents in raising and educating their children. The term was introduced in 1930 by Bronislaw Malinowski in the context of studies on traditional family structures (Houzel, 1999). Later, in the specialized literature, the terms "parenting," "parentality," or "parentage" were defined as interconnected concepts that reflect the interaction between parent and child (Bornstein, 2002; Pânişoară, 2022). Didier Houzel proposed a classification of parental education into three fundamental dimensions: parental responsibility (the moral and legal duty of the parent), parental experience (reflexivity in the relationship with the child), and parental practices (observable behaviors in daily life) (Houzel, 1999). These dimensions are influenced by the family's cultural, economic, and educational context. In the training of future educators, understanding these perspectives is essential to facilitate the educational partnership between families and educational institutions (Lacharité, 2015). Thus, parenting is viewed not merely as a natural instinct but as an educable skill that can be developed through specific programs and psycho-pedagogical support.

Psychopedagogical Perspectives in Early Childhood Education
Parenting in early childhood education is analyzed from an integrative perspective, in which the parent is seen as an active partner in the child's formative process. According to Davies (2000), parenting is a process of holistic support and development of the child, from birth to maturity. This process involves active responsibility, which includes not only material and physical support but, more importantly, emotional and social support.
Brooks (2012) emphasizes that effective parenting entails a deep understanding of the child's needs, the use of educational strategies based on empathy and non-violent communication, as well as the assumption of a long-term educational commitment. Similarly, Bornstein (2002) defines parenting as a form of family intervention based on attachment, which plays a crucial role in shaping the child's behavior and value system.

In the training of students specializing in Preschool and Primary Education (PIPP), these concepts contribute to the development of an educational vision that is both child-centered and responsive to the needs of parents, thus facilitating the construction of an authentic partnership between families and educational institutions. Consequently, the psychopedagogical dimension of parenting becomes a fundamental component of the modern early childhood education strategy (Rickman, 2021).

Adapting Parenting to the Child's Temperament
Adapting the parenting style to the child's temperament is essential for building a healthy and functional parent-child relationship. Temperament is defined as the set of innate traits that influence how a child responds to internal and external stimuli (Farca et al., 2010). Children with an emotional temperament require a stable and affectionate environment where they feel heard and emotionally supported. These children may react intensely to minor events and need an empathetic adult to help them regulate their emotional experiences.

 Children with an active temperament often impulsive or defiant benefit from clear boundaries and consistent parenting, along with controlled freedom that allows them to express their autonomy (Brooks, 2012). Sensitive children may be withdrawn or anxious and need constant emotional validation and a predictable climate. On the other hand, rational children prefer logical explanations, consistent rules, and a relationship based on mutual respect and cooperation.

An informed parent must adjust their communication and educational strategies according to the child's temperament in order to prevent conflict and support personal development. In the training of students specializing in Preschool and Primary Education (PIPP), it is essential to develop these differentiated skills, as successful parental counseling requires a personalized approach based on the child's temperamental profile (Bornstein, 2002; Rickman, 2021).

The CALM Parenting Method (Colari, 2019) The CALM method, proposed by Jennifer Colari (2019), is a conscious parenting model that supports the development of a relationship based on empathy, trust, and emotional self-regulation. The name derives from the initials of its four core stages: Connect, Affection, Listen, and Mirror. The first stage, Connect, involves the parent being authentically and empathetically present, offering the child full attention and emotional validation. Affection refers to the sincere expression of love and supporting the child in managing negative emotions through empathy (DeClaire & Gottman, 2016). The Listen stage emphasizes the adult's

ability to receive the child's needs without interruption, judgment, or immediate correction, thereby cultivating open communication (Brown, 2019). Mirror means reflecting the child's behavior and emotional experiences, helping them understand and regulate their emotions. This model is effective in preventing conflict, supports the development of secure attachment, and encourages the formation of a healthy identity. In the context of training students in Preschool and Primary Education (PIPP), the CALM method can serve as a valuable educational tool in parental counseling and in developing child-centered educational relationships (Rickman, 2021).

Parent–Teacher Partnership
The educational partnership between parents and teachers is the foundation of quality education, built on cooperation, trust, and mutual involvement. Effective collaboration requires respecting the roles of each educational actor and maintaining clear and open communication. Parents have the deepest knowledge of the child's family context and personal characteristics, while teachers contribute with pedagogical expertise and organizational support. When communication is consistent and bidirectional, educational outcomes are visibly improved, both academically and socio-emotionally (Epstein, 2001).
According to Davies (2000), the family is "the first educational environment," and the partnership must be based on mutual recognition of each party's contribution. Activities such as thematic meetings, individual consultations, joint projects, and parent–child workshops help strengthen this partnership. In training students in Preschool and Primary Education (PIPP), integrating these practices into the curriculum is essential, as future educators must be able to collaborate effectively with families to ensure the child's harmonious development (Pânișoară, 2022). Thus, the educational partnership becomes a valuable tool for supporting learning and preventing school-related difficulties.
"Parental education plays a significant role in inclusive early education. Future educators must be trained to communicate effectively with families, especially in contexts where children have diverse learning needs." (Roman, A., 2019)
Effective collaboration implies mutual respect and open communication. This ensures the transfer of knowledge and team-based problem-solving in educational contexts.
"Teacher-parent collaboration should be cultivated through experiential learning and reflective practices during pedagogical training." (Rad, D., 2018).

Forms of Collaboration
Collaboration between parents and teachers can take multiple forms, adapted to the educational context, the specific characteristics of the community, and the needs of the children. Some of the most common forms include: regular informational and assessment meetings, individual consultations, interactive thematic workshops, joint educational projects, and extracurricular activities of a cultural, artistic, or sporting nature (Epstein, 2001; Pânișoară, 2022).
Meetings allow for discussions on the child's progress and the setting of shared goals, while consultations provide a space for personalized dialogue. Thematic workshops facilitate the exchange of ideas and the development of educational solutions through direct parental involvement. Joint projects strengthen the cohesion between school and family, while extracurricular activities support informal learning and the reinforcement of emotional bonds.
In the training of Preschool and Primary Education (PIPP) students, these forms of collaboration should be integrated into the curriculum through simulations, internships, and reflections on family engagement practices. In this way, future educators will be better prepared to harness family involvement in early childhood education.

Practical Activities with PIPP Students
Rad (2018) emphasizes the importance of experiential learning during pedagogical training as a means of developing authentic relationships with families.
Practical activities carried out with PIPP students are essential for developing applicable competencies relevant to their future teaching profession. These include simulated parental counseling workshops, in which students take on the role of the educator in realistic scenarios and receive constructive feedback. Creating informational materials for parents such as brochures, guides, or postersenhances synthesis skills, clarity of expression, and pedagogical thinking.
Joint educational projects with parents, conducted in partnership with kindergartens or schools, provide concrete experiences in teamwork and the management of educational relationships (Călineci & Țibu, 2013). Reflective journals support the self-evaluation of professional progress and the development of critical thinking in relation to educational practice.
These activities help form educators who are able to integrate theory into practice, build partnerships with parents, and respond adaptively to diverse educational situations. Overall, they support the professionalization process of future teachers.

Conclusions

Parenting is a fundamental dimension of early childhood education, and its integration into the training of PIPP students represents a strategic and necessary endeavor. The educator–parent relationship has a significant impact on the child's development, and students must become aware of the importance of authentic and ongoing collaboration with the child's family (Bornstein, 2002; Pânișoară, 2022).

According to Roman (2019), effective parental education also contributes to inclusive practices, preparing educators to respond to diverse family backgrounds and children's specific developmental needs.

Professional training is not limited to the transmission of theoretical knowledge but also includes the development of interpersonal skills, communication abilities, and pedagogical reflection. Practical activitiessuch as simulated workshops, educational projects, and written reflectionscontribute to building a professional profile centered on empathy, dialogue, and responsibility.

Moreover, pedagogical mentoring supports the integration of knowledge into authentic and relevant practices. Through this type of training, the student becomes not only a well-prepared professional but also an educational actor capable of managing family diversity and actively supporting educational inclusion.

Parenting, thus understood, becomes a valuable resource in the educational architecture of early schooling (Rickman, 2021; Brooks, 2012).

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BUILDING ADOLESCENT RESILIENCE THROUGH EDUCATION: THE ROLE OF TEACHERS IN STRENGTHENING POSITIVE PARENTING

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Abstract: *The article investigates the contribution of teachers to the development of adolescent resilience by cultivating an inclusive educational climate and by stimulating a collaborative relationship between school, family and community. Based on self-determination and ecological theories of development, the interactions between individual and contextual factors that facilitate the positive adaptation of young people are analyzed. The importance of the support provided by teachers in reinforcing positive parenting styles and in promoting a multisystemic network of support for adolescents is highlighted.*

Keywords: *resilience; adolescents; teachers; positive parenting; educational partnerships.*

Introduction

In a society characterized by instability and accelerated change, adolescents face multiple pressures – academic, social, and family – that can affect their psychological balance. In this context, the development of resilience can no longer be conceived as an isolated individual attribute, but as the result of an ecological process, rooted in the interactions between the adolescent and his or her support systems (Ungar, 2011; Twum-Antwi, Jefferies & Ungar, 2019).

Resilience, understood as the ability to overcome adversity and return to optimal functioning, is supported by the interrelational dynamics between youth, family, school, and community (Masten, 2014). According to Bronfenbrenner's ecological model, teachers occupy a central position in the adolescent's microsystem, exerting a direct influence on motivation, self-regulation, and social development (Bryan & Henry, 2012).

Self-determination theory (Deci & Ryan, 2000) provides a pertinent framework for understanding how meeting the needs for autonomy, competence, and relatedness supports intrinsic motivation and school engagement. These needs can be cultivated in both the family and educational settings through a pedagogy centered on relationship and collaboration (Ryan & Deci, 2000).

In this sense, the article proposes a transdisciplinary analysis on how teachers can support positive parenting and become key factors in strengthening adolescent resilience.

Positive parenting as a vector of resilience

Positive parenting is a set of educational practices focused on emotional support, authentic communication, setting consistent boundaries, and promoting child autonomy. According to Heryanti and Nurhayati (2023), this parenting style promotes the harmonious development of the child and functions as a protective factor against stress and daily adversities. When the parent-adolescent relationship is characterized by empathy, mutual respect, and emotional validation, it becomes an important source of emotional security and support for exploring the outside world and one's own identity.

The importance of a positive family climate is also supported by the ecological model of resilience, according to which the family constitutes a fundamental support system in building adaptive capacities (Ungar, 2011; Masten, 2014). In this sense, positive parenting not only responds to the basic needs of adolescents, but also actively contributes to the development of emotional and social skills necessary for healthy psychological functioning.

Self-Determination Theory (Ryan & Deci, 2000) provides a robust theoretical framework for understanding the influence of positive parenting on adolescent development. Thus, a parenting style characterized by affection and democratic orientation promotes the satisfaction of three fundamental psychological needs: autonomy, competence, and relatedness. The fulfillment of these essential needs is associated with an increase in intrinsic motivation, a higher level of school engagement, and an enhanced subjective well-being among adolescents (Zhang, He & Deng, 2023).

Further, in the study by Liu, Cho, & Liu (2025), they also found that positive parenting predicts learning engagement, which is mediated by grit, as a combination of consistency of interests and perseverance of efforts toward long-term goals. These findings emphasize that having a positive perception of parental support is associated with higher grit, which in turn is directly related to engagement in school, academic resilience and being able to sustain effort.

It can be observed that the Grit-PE dimension (persistence of effort) presents a higher predictive value than the Grit-CI dimension (consistency of interests), suggesting that parental support primarily supports the willingness to make an effort despite difficulties.

The research also highlights a significant association between positive parenting and high levels of social competence, emotional self-regulation, and prosocial behaviors (Twum-Antwi, Jefferies & Ungar, 2019; Bryan & Henry, 2012). These indicators are specific to a resilient, persevering, and relational-skilled profile.

In such a family context, adolescents not only benefit from emotional support, but also learn through modeling behaviors of effective problem management and responsibility. This experience is reinforced by teachers, who – by collaborating with parents – can support the values and practices of positive parenting. Teachers thus become true educational mediators, who can strengthen the sense of coherence between what the adolescent lives at home and what he experiences in the school space.

Last but not least, according to data from Zhang, He, and Deng's (2023) study, consistent satisfaction of psychological needs in the family environment is associated with lower levels of academic burnout and higher life satisfaction. These results reinforce the idea that positive parenting is not only an effective educational practice, but also a strategic vector for promoting adolescent resilience in an increasingly challenging social environment.

In conclusion, positive parenting, through its functions of protection, emotional support and autonomy stimulation, becomes a key element in the architecture of adolescent resilience. When supported by teachers through an authentic educational partnership, it can amplify young people's internal resources and facilitate their development of an autonomous, stable and involved identity.

The role of teachers in supporting positive parenting
Within the ecological paradigm of human development (Bronfenbrenner, 1979), teachers are recognized as primary educational agents, whose influences are not limited to the cognitive level, but extend to the affective, social and relational dimensions of students. Teachers act in interdependence with the family and other community actors, constituting essential nodes in a network supporting child and adolescent development.

In this perspective, the school is reconfigured from an institutional space for transmitting information into a relational ecosystem, which mediates between family, child and community (Bryan & Henry, 2012). The role of the teacher is no longer strictly didactic, but

integrative and relational, involving functions of counseling, facilitation and educational mediation. Teachers become promoters of inclusive education and partners in supporting positive parenting, especially in situations where parents are faced with socio-economic, emotional or educational difficulties.

According to the analysis proposed by Bryan and Henry (2012), teachers can actively contribute to strengthening adolescent resilience and supporting positive parenting through four strategic directions:

1. **Providing constant emotional support**– teachers who practice relational and empathetic pedagogy become alternative sources of secure attachment for adolescents, especially in unstable family contexts. Positive school relationships contribute to the development of socio-emotional skills and the modeling of healthy behaviors.

2. **Setting clear expectations and encouraging high standards**– by providing a predictable framework, teachers can contribute to the development of students' sense of competence and self-efficacy, indirectly reflecting on parenting style. Thus, parents can be encouraged to adopt similar educational practices – firm, but emotionally supportive.

3. **Involving parents in the educational process**– joint activities organized by teachers (meetings, parenting workshops, community projects) can reduce the symbolic distance between school and family. These initiatives strengthen parents' confidence in their own educational role and provide concrete models of positive interaction with their children.

4. **Facilitating access to resources**– teachers can function as bridges between families and community support services (counseling centers, NGOs, educational support programs), especially in the case of marginalized families.

The importance of this role becomes particularly evident in the context of family vulnerability. Studies by Kourkoutas et al. (2015) show that teachers who demonstrate inclusive attitudes and intercultural competences manage to establish functional supportive relationships with parents and create a school climate perceived as safe and encouraging. Thus, the school becomes a space of mutual learning, where parents are not judged for their shortcomings, but supported to improve their parenting skills through collaboration and dialogue.

Also, from the perspective of promoting positive parenting, teachers play an important role in indirectly shaping parental behavior. Through their style of interaction with students – respectful, predictable and supportive – teachers provide parents with concrete examples of empathetic communication, setting limits and encouraging autonomy.

In this sense, they can constitute true models of "educational co-parenting".

A key aspect of this process is building a school climate based on mutual respect, equity, and emotional security. According to Twum-Antwi, Jefferies, and Ungar (2019), such an environment helps to strengthen adolescent resilience by reducing toxic stress and promoting healthy relationships with significant adults. Teachers who invest in the relationship with the family and the student contribute to creating a cohesive educational framework that supports the balanced development of young people.

Moreover, interactions between school and family must go beyond administrative or bureaucratic logic and become dialogic processes, focused on finding solutions and understanding the real needs of adolescents. Communication should not be unidirectional (from teacher to parent), but a partnership, based on active listening, constructive feedback and mutual support (Bryan & Henry, 2012).

In conclusion, teachers are essential educational actors in supporting positive parenting, especially in the current context, in which the family and the school are facing multiple challenges. Through empathetic involvement, transdisciplinary collaboration and continuous professional training, teachers can contribute to strengthening a support network around the adolescent, maximizing his or her potential for positive adaptation.

Educational partnerships and community support

In the current context, where the challenges faced by adolescents are increasingly complex and multisystemic, educational partnerships are becoming an essential condition for promoting the harmonious development and resilience of young people. The relationship between school, family and community must be seen as a collaborative trinomial, in which each actor contributes to shaping a coherent, inclusive and adapted ecosystem of support to the individual needs of the adolescent.

According to Bryan and Henry (2012), effective educational partnerships are based on mutual trust, transparency, ongoing communication, and shared goals, and these elements allow for the creation of a solid relational framework that supports students' educational and personal progress. Such a framework prevents the fragmentation of educational messages and ensures normative and behavioral coherence between the family, school, and community environments. Adolescents need stable and congruent landmarks to build a coherent identity and to develop functional mechanisms for adapting to stress and uncertainty.

From a systemic perspective, the development of resilience does not occur in isolation, but is the result of an ecological process, in which the positive interaction between the adolescent and his or her support networks plays a crucial role (Ungar, 2011; Twum-Antwi et al., 2019). In this sense, educational partnerships become vectors of social inclusion and educational equity, especially in vulnerable communities or in areas where parents have limited resources.

Parental involvement in school life, facilitated by constant dialogue, shared activities, and the provision of accessible educational resources, contributes to an increased sense of parental efficacy and the development of coherent educational practices. Recent studies highlight the fact that parents who actively participate in their children's school activities are more confident in their own parenting skills and become more receptive to positive parenting strategies (Heryanti & Nurhayati, 2023). On the other hand, children who come from such families show a higher level of academic engagement, self-regulation, and social responsibility.

The effectiveness of educational partnerships is all the more visible when they are accompanied by an institutional openness towards the community. Community activists – for example NGOs, psychopedagogical support services, religious leaders, or intercultural mediators – may also act as a reinforcing support network around the adolescent. They provide access to resources, relational models as an alternative proposal and discipline the promotion of social inclusion, particularly in case of adolescents in situations of marginalization or at psycho-social risk (Kourkoutas et al., 2015). School, NGO, and public sector partnerships have been successful in delivering socioemotional development, psychological support, and parenting education programs to underprivileged communities (Twum-Antwi et al., 2019). When implemented as part of the local education policy, such interventions may help to reduce educational inequalities and contribute to a safer environment for all adolescents, irrespective of their socio-economic background.

These partnerships also support intergenerational learning and the building of a community educational culture. Adolescents begin to perceive education not as an isolated process in the classroom, but as a phenomenon integrated into social life, supported by adults from diverse backgrounds.(Iosim, Runcan, Runcan et al., 2022)This perspective contributes to increasing intrinsic motivation and developing a sense of belonging – fundamental factors of personal resilience.

A strategic and systematic vision is needed from school institutions for these partnerships to be sustainable and effective. At the same time,

clear policies for parent and community involvement, professional training for teachers in the field of communication and collaboration, as well as periodic evaluation sessions of the needs of the educational community must be implemented.(Gavrilă-Ardelean & Gavrilă-Ardelean, 2017).

Therefore, partnerships between school, family, and community are not merely complementary options, but represent fundamental pillars of a resilient and equitable educational system. They contribute to the formation of a collaborative ecosystem, in which adolescents benefit from coherent, stable, and tailored support for their needs, and parents are encouraged to effectively manage their own parental role.

Conclusions and directions for action

Teachers, as facilitators of resilience development and promoters of positive parenting, play a central role in shaping an inclusive, collaborative and balanced educational environment. Through empathetic communication, personalized support and the strengthening of authentic partnerships with family and community, teachers significantly contribute to the formation of a generation of autonomous, responsible and resilient adolescents.

For the results of this mission to be effective, it is essential that educational policies promote the continuous training of teaching staff in fundamental areas such as communication with the family, social inclusion and socio-emotional development. In parallel, the school curriculum should integrate, in a manner adapted to current realities, topics such as mental health and emotional intelligence, thus responding to the authentic needs of contemporary adolescents.

Therefore, it is necessary to adopt multisystemic, sustainable interventions that support collaboration between teachers, parents and the community, in order to build an educational ecosystem capable of responding to the complexity of current challenges and contributing to the development of solid resilience among adolescents.

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THE IMPACT OF EXPERIENTIAL AND NON-FORMAL EDUCATION ON ADAPTIVE PARENTING IN A DIGITAL SOCIETY

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Abstract: *In the context of an increasingly technological and dynamic world, parenting demands adaptive strategies that can foster resilience and emotional well-being within families. This study explores the impact of experiential and non-formal education on developing adaptive parenting practices among families in Arad County, Romania. Through a mixed-methods approach, involving outdoor activities and multimedia-based interventions, 40 families participated in a six-week program designed to enhance emotional regulation, problem-solving, and parent-child interaction. Pre- and post-intervention assessments using standardized questionnaires and semi-structured interviews revealed significant improvements in parental adaptability, communication, and emotional support strategies. The results highlight the relevance of integrating non-formal educational practices into parenting programs, particularly in addressing the challenges posed by technological transformations. Implications for educational policies and future research directions are discussed.*

Keywords: *adaptive parenting; non-formal education; experiential learning; multimedia strategies; resilience; family dynamics.*

Introduction

In a rapidly evolving technological society, the traditional models of parenting face unprecedented challenges. Adaptive parenting strategies have become crucial for maintaining emotional stability, resilience, and strong parent-child relationships (Parker, 2020). The capacity of families to adjust to dynamic social and technological changes directly influences children's psychological development and overall family well-being (Coyne et al., 2021).

Non-formal and experiential educational practices, such as outdoor learning activities and multimedia-based interventions, offer innovative pathways for strengthening parental resilience and adaptability (Beames, Higgins, & Nicol, 2012; Livingstone & Blum-Ross, 2020). Through such experiences, parents and children are encouraged to co-create knowledge, solve problems collaboratively, and develop emotional regulation skills essential in today's world (Waite, 2017).

The concept of adaptive parenting emphasizes flexible, responsive, and context-sensitive approaches to child-rearing (Skinner & Edge, 2021). This is particularly relevant in the face of technological immersion, which redefines family interactions and demands new forms of parental engagement and supervision (Uhls, 2017). The integration of non-formal education and multimedia strategies in parenting interventions is thus an emerging research frontier with significant implications for educational policy and family support systems. (Pânișoară, 2013; Bocoș, 2013)

This study aims to explore the impact of experiential and non-formal education programs on the development of adaptive parenting practices among families in Arad County, Romania. By examining both outdoor educational experiences and the use of multimedia tools, we seek to identify effective strategies for enhancing family resilience in a technological world.

Literature review

Adaptive parenting has emerged as a crucial framework in addressing the dynamic demands faced by modern families. According to Masten and Barnes (2018), adaptive parenting involves the ability to modify caregiving behaviors based on children's developmental needs and environmental changes. This flexible parenting style has been shown to promote resilience, emotional regulation, and social competence in children. (Pânișoară & Pânișoară, 2019)

Non-formal education offers a unique avenue for fostering these adaptive skills. Outdoor education programs, in particular, have been associated with increased problem-solving abilities, self-efficacy, and emotional well-being among both children and their parents (Becker et

al., 2017; Gill, 2014). These educational experiences differ from traditional classroom instruction by emphasizing experiential learning, autonomy, and cooperative engagement with the environment.

Multimedia strategies are also gaining prominence in contemporary parenting interventions. As argued by Livingstone and Blum-Ross (2020), the integration of digital tools such as video storytelling, virtual simulations, and mobile applications can support parents in promoting adaptive behaviors and emotional understanding in children. However, Coyne et al. (2021) caution that parental mediation is crucial to ensuring that technology use supports, rather than hinders, developmental outcomes.

Outdoor education combined with multimedia approaches provides a hybrid model of experiential learning that can be particularly effective in enhancing parental adaptability. Studies by Gray (2013) and Waite (2017) emphasize that shared outdoor experiences strengthen family bonds and improve communication skills, while multimedia tools can reinforce these experiences beyond physical activities.

Despite the growing interest in these interdisciplinary strategies, there remains a need for empirical studies that systematically evaluate their combined impact on adaptive parenting practices, particularly within diverse socio-economic and cultural contexts. Addressing this research gap, the present study focuses on families from Arad County, Romania, examining how non-formal, outdoor, and multimedia interventions contribute to the development of resilience-oriented parenting.

Fig 1. Conceptual map linking non-formal education to adaptive parenting and family resilience

Based on the reviewed literature, a conceptual framework was developed to illustrate the hypothesized relationships among non-formal education, adaptive parenting, and family resilience (Figure 1).

Methodology

Research design

This study employed a mixed-methods research design, integrating quantitative and qualitative approaches to comprehensively explore the impact of experiential outdoor education and multimedia-based strategies on adaptive parenting practices. Quantitative data were collected through standardized surveys administered before and after the intervention, while qualitative insights were gathered via semi-structured interviews. The combination of both methods allowed for a deeper understanding of the mechanisms through which non-formal education supports parenting adaptability (Creswell & Plano Clark, 2017).

Participants

The study involved 40 families from Arad County, Romania, selected through purposive sampling. Inclusion criteria required participants to have at least one child aged between 6 and 14 years, and an expressed willingness to engage in both outdoor educational activities and multimedia-based learning sessions. The sample was socio-economically diverse, encompassing families from both urban and rural settings.

Instruments

Quantitative data were collected using two validated instruments:

- The Parenting Sense of Competence Scale (PSOC) (Gibaud-Wallston & Wandersman, 1978; Johnston & Mash, 1989), which measures parents' perceived competence and satisfaction in their parenting role. The scale has been widely used to assess parental self-efficacy and emotional functioning.
- The Parent-Child Relationship Inventory (PCRI) (Gerard, 1994), which evaluates multiple dimensions of the parent-child relationship, including communication, emotional support, involvement, and limit setting.

Qualitative data were collected through semi-structured interviews based on a thematic guide focusing on perceived changes in parental strategies, emotional regulation, and family dynamics following participation in the intervention program.

Procedure

Participants engaged in a six-week intervention program combining experiential outdoor education and multimedia activities. The program included weekly sessions featuring cooperative outdoor tasks (e.g., resilience-building games, nature-based problem-solving) and multimedia workshops (e.g., creating digital narratives, interactive simulations on adaptive parenting). Pre-intervention assessments were conducted during the week prior to the program's commencement, while post-intervention assessments took place in the final week. Individual interviews with parents were conducted within two weeks after program completion to capture reflective experiences.

Data Analysis

Quantitative data were analyzed using IBM SPSS Statistics. Descriptive statistics (means, standard deviations) were calculated to describe the sample. Paired-sample t-tests were conducted to assess changes between pre- and post-intervention scores on the PSOC and PCRI scales. Statistical significance was set at $p < 0.05$. Qualitative data were subjected to thematic analysis following Braun and Clarke's (2006) six-phase framework, allowing for the identification of patterns and themes regarding parental adaptability and resilience development.

Results

Quantitative analyses revealed significant improvements in both parental competence and the quality of parent-child relationships following participation in the intervention program.

Descriptive statistics and paired-sample t-tests were used to compare pre- and post-intervention scores on the Parenting Sense of Competence Scale (PSOC) and the Parent-Child Relationship Inventory (PCRI).

Measure	Pre-Intervention Mean (SD)	Post-Intervention Mean (SD)	t	p
Parenting Efficacy (PSOC)	3.1 (0.5)	3.7 (0.4)	6.42	< .001
Parenting Satisfaction (PSOC)	3.0 (0.6)	3.5 (0.5)	5.89	< .001
Communication (PCRI)	3.2 (0.5)	3.8 (0.4)	6.10	< .001
Emotional Support (PCRI)	3.1 (0.6)	3.6 (0.5)	5.67	< .001
Limit Setting (PCRI)	2.9 (0.7)	3.4 (0.6)	5.05	< .001

Table 1. Descriptive statistics for pre- and post-intervention scores on PSOC and PCRI

As shown in Table 1, there were statistically significant increases across all measured domains following the intervention. Parenting efficacy and satisfaction, as assessed by the PSOC, improved notably, indicating a stronger sense of competence and emotional fulfillment among participating parents. Similarly, significant improvements were observed in parent-child communication, emotional support, and limit-setting practices, as assessed by the PCRI.

Paired-sample t-tests confirmed that all improvements were significant at p < .001. These findings suggest that participation in the combined outdoor experiential and multimedia-based program positively influenced adaptive parenting skills and family dynamics.

Initial analyses revealed significant improvements in parenting efficacy and satisfaction following the intervention. Descriptive statistics for these outcomes are presented in Table 2.

Subscale	Pre-Intervention Mean (SD)	Post-Intervention Mean (SD)	t	p
Parenting Efficacy	3.1 (0.5)	3.7 (0.4)	6.42	< .001
Parenting Satisfaction	3.0 (0.6)	3.5 (0.5)	5.89	< .001

Table 2. Changes in parenting efficacy and satisfaction scores pre- and post-intervention

In addition to improvements in parenting competence, significant changes were also observed in the quality of parent-child interactions. Table 3 summarizes the differences in communication, emotional support, and limit-setting practices assessed before and after the intervention.

Subscale	Pre-Intervention Mean (SD)	Post-Intervention Mean (SD)	t	p
Communication	3.2 (0.5)	3.8 (0.4)	6.10	< .001
Emotional Support	3.1 (0.6)	3.6 (0.5)	5.67	< .001
Limit Setting	2.9 (0.7)	3.4 (0.6)	5.05	< .001

Table 3. Changes in parent-child relationship dimensions pre- and post-intervention

To further examine the relationships between parenting competence and key dimensions of the parent-child relationship following the intervention, Pearson correlation analyses were conducted. The results are presented in Table 4.

Variables	Communication	Emotional Support	Limit Setting	p-value
Parenting Efficacy	.62	.58	.55	< .001
Parenting Satisfaction	.59	.63	.52	< .001

Table 4. Correlations between parenting competence and parent-child relationship dimensions post-intervention

Figure 2 visually illustrates the improvements in parenting competence and parent-child relationship domains from pre- to post-intervention.
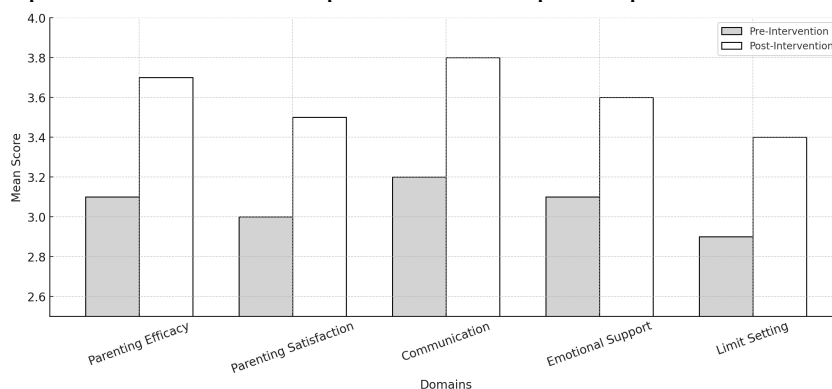
Figure 2. Pre- and post-intervention mean scores on parenting competence and parent-child relationship dimensions

Discussion

The findings of this study confirm that experiential outdoor education combined with multimedia strategies significantly enhances adaptive parenting practices. Improvements in parental efficacy and satisfaction, along with better communication, emotional support, and limit-setting within parent-child relationships, highlight the value of non-formal educational interventions in supporting modern family dynamics.

These results align with previous research emphasizing the benefits of outdoor experiential learning in fostering emotional resilience, problem-solving skills, and cooperative behaviors (Beames, Higgins, & Nicol, 2012; Gill, 2014). Outdoor activities encourage authentic parent-child interactions by removing technological distractions and

facilitating emotional connection, a factor critical for adaptive parenting (Gray, 2013; Waite, 2017).

Figure 3 presents a conceptual overview of how non-formal and experiential education influences adaptive parenting practices and promotes family resilience.
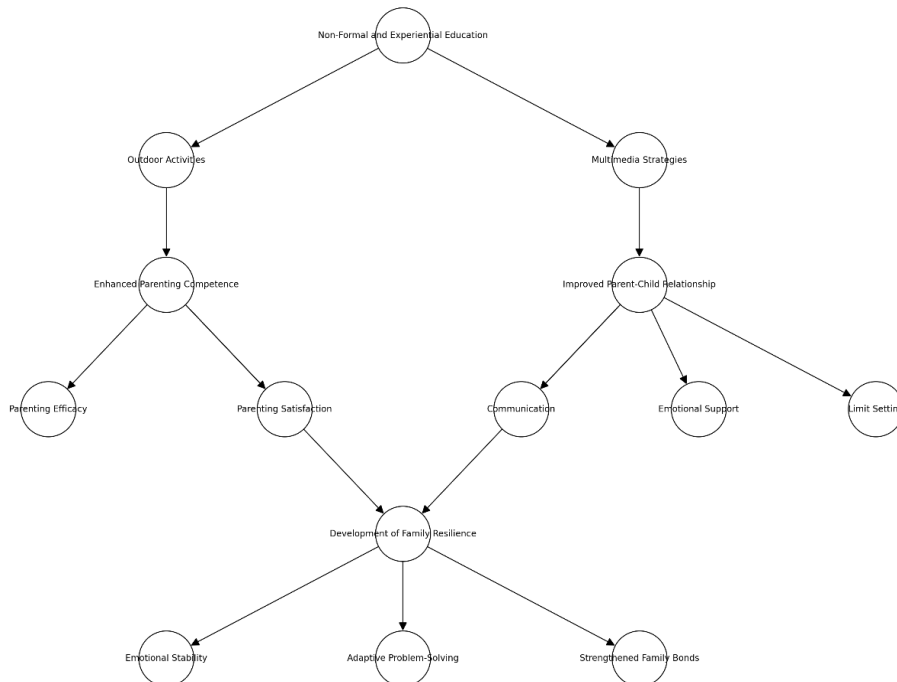
Figure 3. Conceptual map of the impact of non-formal education on adaptive parenting and family resilience

Furthermore, the multimedia-based components of the intervention provided an innovative extension of the learning process. As supported by Livingstone and Blum-Ross (2020), integrating technology in a structured and reflective way can strengthen parental guidance skills, especially in a context where digital engagement is inevitable. Parents participating in this study reported greater confidence in managing technology use and promoting emotional regulation within their families, reinforcing the idea that digital tools, when properly mediated, can complement experiential education (Coyne et al., 2021).

An important theoretical implication is the demonstration that adaptive parenting is not merely a personal trait but a skillset that can be developed through structured educational programs. This supports the developmental perspective on resilience proposed by Masten and Barnes (2018), emphasizing that resilience-building in parenting requires environmental support and intentional interventions.

From a practical standpoint, the integration of outdoor and multimedia strategies into parenting programs offers a scalable and flexible model adaptable to various socio-cultural contexts. Educational policies aiming to strengthen family resilience in the digital age should consider embedding such non-formal approaches into broader support frameworks.

Nevertheless, certain limitations must be acknowledged. The study sample, although socio-economically diverse, was geographically limited to Arad County, Romania. Future research should aim to replicate these findings with larger, more heterogeneous populations and explore longitudinal effects over extended periods. Additionally, further investigation is warranted into which specific components of outdoor and multimedia interventions yield the most significant impacts on adaptive parenting.

Conclusion

This study provides empirical support for the positive impact of experiential outdoor education combined with multimedia strategies on adaptive parenting practices. Participation in the intervention program led to significant improvements in parental competence, satisfaction, and the quality of parent-child relationships. These findings highlight the effectiveness of non-formal educational methods in fostering family resilience within an increasingly technological and dynamic world.

By integrating outdoor experiential learning and structured multimedia tools, parents were better able to develop flexible, responsive strategies essential for navigating modern parenting challenges. The results reinforce existing theoretical frameworks suggesting that resilience and adaptability are skills that can be cultivated through intentional educational interventions.

Although the study was geographically limited to families from Arad County, the promising outcomes advocate for broader application of similar programs across diverse socio-cultural settings. Future research should expand these efforts, investigating long-term effects and identifying the specific components that most effectively enhance adaptive parenting. Supporting resilient families through innovative, non-formal education remains a critical pathway for promoting children's well-being in a complex world.

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PERCEIVED INFLUENCE OF TEACHER PROFESSIONAL TRAINING ON PEDAGOGICAL PRACTICES AND STUDENTS PERFORMANCE IN BIOLOGY

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Abstract: *This research examines the perceived influence of teacher professional training on pedagogical practices and student performance in biology. In order to facilitate the investigation, three (3) research questions and two (2) hypotheses were formulated. A multistage sampling technique was employed to select a cohort of 14 biology educators and 200 students. A questionnaire was utilized to extract data from the educators, while student performance metrics were employed to gather information from the learners. Cronbach Alpha reliability coefficient was utilized to evaluate the instrument's reliability, resulting in a coefficient of 0.78. Statistical Package for Social Sciences (SPSS) was utilized to perform descriptive statistical analyses, specifically mean and standard deviation, to address the research questions, whereas inferential statistics was*

explored to evaluate the hypotheses posited at a significant level   of 0.05. The findings indicate that teachers' training and development   programme significantly influenced lesson planning and delivery (β = .210, t   = 3.32, p < .05). Similarly, the coefficient of teachers' training and   development programmes (β = .124, t = 6.846, p < .05) significantly   influenced students' performance in Biology. Based on the outcomes of our   findings, it is recommended that educators should engage in continuous   training   and   professional development programmes to remain informed and   current in both biological content and pedagogical methodologies.

Keywords: *training; biology; lesson plan; perceived; teacher; instructional delivery.*

Introduction

Teacher development encompasses the professional advancement attained by educators through the accumulation of experience and the systematic analysis of their pedagogical practices (Ganser, 2000). Professional development signifies the comprehensive and ongoing enhancement of professional competencies (Smith & Browne, 2024). Teacher professional training is intentionally structured to resonate with the practical experiences of educators (Gudeta, 2022). Through engagement in professional development, educators partake in reflective practices and concurrently augment their knowledge, skills, and attitudes, with the ultimate aim of enhancing instructional quality and facilitating student learning (Camburn & Han, 2017). Sustained and enhanced professional training has been empirically demonstrated to   exert   a beneficial   impact   on   student   learning   outcomes (Nassereddine & Nasserddine, 2024). Consequently, the type of professional training experiences for teachers emerges as a critical determinant of the resultant educational outcomes (Osei-Owusu, 2022). According to Onipede et al. (2025), teacher training programmes should prioritize the development of robust content knowledge and practical skills in the field of Biology. The provision of high-quality professional training for educators is imperative to elevate student learning outcomes (Saderholm et al., 2016). Effective programmes for professional development must be delivered on a continual basis, with support and encouragement from policymakers and practitioners, encompassing training, practice, and feedback (Adarkwa et al., 2021; Saleem et al., 2021; Popova et al., 2022).

Professional development encompasses a variety of activities aimed at augmenting the quality of teaching, including ongoing training and support, which facilitates the meaningful integration of learning to tackle specific challenges encountered by educators in their instructional environments (Avalos, 2011; Kennedy, 2016). When professional development is both continuous and collaborative, it fosters teamwork and innovative partnerships among educators to collaboratively identify and address shared obstacles and needs (Cojorn et al., 2024). Continuous collaborative training is
vital as it enables educators to exchange their prior knowledge and experiences, thereby enhancing their competence, confidence, and commitment to the pedagogical process (Adarkwa et al., 2021). Successful training involves educators in learning activities that mirror those they intend to employ with their students, thereby promoting the evolution of teacher learning (Buczynski & Hansen, 2010; Avalos, 2011). There exists an increasing interest in cultivating schools as institutions of learning, allowing educators to systematically share their experiences to bolster learning (Sierra-Huedo et al., 2023). The instruction and biology education within senior secondary educational institutions are designed to impart biological knowledge to students (Okenyi, 2015). This transmission of knowledge is broadly categorized into objectives as delineated in the biology curriculum.

According to the National Policy on Education (2013) as referenced in Ezeobi et al. (2020), the primary objective of teaching and learning biology is to provide students with adequate laboratory and field skills, meaningful and relevant biological knowledge, and the capacity to apply scientific knowledge to everyday situations concerning personal and community health, agricultural practices, and the cultivation of rational and functional scientific attitudes. Sonde (2021) asserted that in the execution of educational programs, educators represent crucial factors that must be acknowledged. Enhancing quality educators through the professionalization of the teaching vocation in Nigeria, alongside the provision of increased in-service training opportunities and additional incentives for educators (National Policy of Education, 2013), is imperative for the realization of the articulated objectives. to provide pupils with professionalization of instruction. The main focus of this study was the perceived impact that regular training and development programmes for teachers had on teachers' pedagogical practices and biology students' performance.

Conceptual framework
Conceptual structure Guskey's Model of Teacher Change serves as the foundation for the study. Guskey outlined three main goals for professional development programs: improving student learning

outcomes, changing educators' attitudes and beliefs, and changing their instructional practices.Numerous factors could make the process of change more difficult, and the relationships between these outcomes are complex and multidimensional (Fullan, 1991; Guskey & Sparks, 1996). However, professional development initiatives are deliberate and strategic endeavors, and the changes a professional development leader hopes to accomplish are usually clearly stated (Griffin, 1983). Efforts to promote change should consider the order of outcomes that are most likely to result in the desired change and the sustainability of that change, even though the relationships between the desired outcomes are somewhat reciprocal (Guskey, 2000).

Professional development is predicated on the notion that modifications in attitudes and beliefs are generally structured to secure acceptance, commitment, and enthusiasm from educators and educational administrators prior to the adoption of new practices or strategies. This involves engaging educators in planning sessions and conducting needs assessments to ensure that the new practices or strategies align well with educators' preferences (Joyce et al., 1976). However, despite the significance of these procedures, they rarely lead to substantial changes in attitudes or elicit strong commitment from educators (Jones & Hayes, 1980). The "Model of Teacher Change" illustrated in Fig. 1 proposes an alternative sequence among the three primary outcomes of professional development.

Fig. 1: A model of teacher change (Guskey, 2022).

According to the model, notable alterations in educators' attitudes and beliefs predominantly transpire after they have obtained evidence of enhancements in student learning. Such improvements typically stem from adaptations educators have implemented in their classroom practices, whether through the adoption of a novel instructional approach, the utilization of new materials or curricula, or simply a revision in teaching methodologies or classroom configurations. The salient point is that it is not the professional development itself that induces change, but rather the experience of successful implementation that reshapes educators' attitudes and beliefs. They come to believe in

its efficacy because they have witnessed its success, and that experience informs their attitudes and beliefs. Hence, according to the model, the pivotal factor in significant transformation in educators' attitudes and beliefs is unequivocal evidence of advancement in the learning outcomes of their students (Guskey, 1985, 1986, 1989). This model of change is based on the premise that change is fundamentally an experiential learning process for educators. Practices that are demonstrated to be effective namely, those that educators find beneficial in assisting students to achieve desired learning outcomes are retained and repeated, while those that prove ineffective or yield no substantive evidence of success are typically discontinued. Demonstrable results in terms of student learning outcomes are the key to the endurance of any change in instructional practice.

Research objectives

1. To ascertain how professional development and training affect teachers' lesson planning and delivery in the classroom.
2. To ascertain the impact of teachers' professional development and training on biology learning outcomes.

Research questions

1. What is the impact of teachers' training and development on effective lesson plan?
2. What is the impact of teachers' training and development on teachers' instructional delivery in biology?
3. To what extent does teachers' training and development influence students' performance in biology?

Hypotheses

H_{01}: Teachers' professional development does not significantly influence teachers' lesson delivery.
H_{02}: Teachers' professional development does not significantly influence students' learning outcomes in of biology.

Methodology
Research design

This research employed a descriptive survey methodology. The demographic scope of the investigation encompassed all accredited secondary educational institutions within the Abeokuta South Local Government Area of Ogun State.

Respondents of the study

The sample size consisted of 214 participants, comprising 14 Biology educators and 200 students from both private and public educational establishments within the designated area. A multistage sampling technique was utilized for the research. Initially, a stratified random sampling approach was implemented to categorize the schools into

seven (7) private and public secondary institutions. Subsequently, seven (7) private and seven (7) public secondary schools were randomly chosen for the research. Furthermore, fourteen (14) Biology educators were purposefully selected to engage in the study, while a random sampling technique was applied to select 200 students' scores in Biology to assess student performance in the subject.

The research instrument employed for data collection from the educators was an open-ended, structured questionnaire, which underwent both face and content validation.

To ensure the reliability of this instrument, a pilot test was conducted on a sample that did not belong to the target group but possessed similar characteristics. The Cronbach Alpha reliability coefficient was utilized to evaluate the instrument's reliability, resulting in a coefficient of 0.78. This outcome indicated that the instrument was both reliable and suitable for the study.

Data collection
Data was gathered by the researcher through the administration of questionnaires and the collection of students' Biology scores.

Statistical analysis
Inferential statistics were employed to test the hypotheses formulated, maintaining a significant level of 0.05.

Results
Table 1: Demographic Characteristics of the Respondents (Biology Teachers)

Demographic Characteristic of the Respondents	Frequency (F)	Percentage (%)
Gender		
Male	4	28.57
Female	10	71.43
Age		
22-30yrs.	3	21.43
31-40 yrs.	6	42.85
41-49 yrs.	5	35.71
Qualification		
NCE	2	14.28
B.Sc/B.Ed	7	50.0
M.Sc/M.Ed.	5	35.71
Year of Experience		
1-5yrs	2	14.23%
6-15yrs	3	21.43%
16-20yrs	5	35.71%
21-25	4	28.57%

Result in table 1 revealed the respondents' demographic variables. The result shows that 71.43% of the respondents' biology teachers were female while the remaining 28.57% are male; 21.43% of the respondents are within the age of 22-30 years, 42.85% fall between the age 31-40 while 53.71% are with the age of 41-49 years of age. Also, 14.28% of the respondents had NCE, 50.0% had B.Sc/B.Ed while 54.71% had M.Sc./M.Ed. This indicate that majority of the respondent had teaching qualification. In addition, the result revealed the teaching experience of the respondents: it was observed that 14.23% of the teachers had 1-5 years of experience in teaching profession, 21.43% had 6-15 years of experience, 33.71% had 16-20 years of experience while 28.57% of the respondents had 21-25 years of experience in the teaching profession.

Research Question One: What is the impact of teachers' training and development on effective lesson plan?

Table 2: Impact of Teachers' Training and Development on Effective Lesson Plan?

S/N	Items	$\bar{x}$	Std.dev
1	Professional development helped me proffer solutions to challenges I encounter during lesson planning.	3.71	.469
2	Professional development has helped me incorporate new strategies in my lesson plan.	2.86	1.099
3	Professional development has helped me achieve effective lesson planning.	2.00	.961
4	Attending professional training programmes has enhanced my ability to include activities that would engage my students in my lesson plans	3.21	.1251
5	Attendance at professional seminars and workshops had improved my ability to align my lesson plans with curriculum standards	3.93	.267
6	Regular attendance at professional training has supported me in adapting lesson plans for students with diverse learning needs	2.94	.531

Results above (Table 3) revealed the result of impact of teachers'

professional training and development on effective lesson plan. The result showed that all the items had mean value of $\bar{x}$ = 3.71, 2.86, 3.21, 3.93 and 2.94 which is above the criterion mean value of 2.50 which indicates that the respondents strongly accept the statements.

Research Question Two: What is the impact of professional training and development on teachers' lesson delivery in Biology?

Table 3: Impact of Professional Training and Development on Teachers' Lesson Delivery in Biology

	Items	$\bar{x}$	Std.dev
1	Professional training and development inspire innovative approaches to presenting information, making lessons more engaging.	3.93	.267
2	Professional training and development train teachers to adapt their delivery methods on classroom dynamics and student feedback.	3.93	.267
3	Professional training and development equip teachers' interpersonal skills to foster trust and rapport with students	2.86	1.027
4	Professional training and development build self-assurance through mastery of teaching techniques and content.	3.57	.646
5	Professional training and development programmes enhance teachers' ability to explain concepts clearly and respond to student queries effectively.	3.14	1.099
6	Professional training and development programmes introduce cutting-edge pedagogical strategies, enriching lesson delivery with creativity and variety.	3.29	.743

The findings in Table 3 above demonstrate how professional development and training affect biology teachers' delivery of lessons. The findings showed that the respondents strongly agreed with every item, with mean values of 3.93, 2.86, 3.57, 3.14, and 3.29, respectively, above the criterion mean value. This suggests that the respondents believed that regular training and development programs for biology teachers would improve the way that biology lessons were taught.

Research Question Three: To what extent does teachers' training and

development programmes influence students' performance in Biology?

Table 4: Impact of teacher training and development initiatives on biology students' performance.

S/N	Items	$\bar{x}$	Std.dev
1	There is no traceable impact of attending biology science seminars, conferences, workshops, professional meetings on my students' academic performance.	2.21	.802
2	There is a traceable impact of attending biology science seminars, conferences, workshops, professional meetings on my students' academic performance.	3.14	.949
3	There have been improvements on my students' performance as a result of my knowledge from biology seminars, conferences, workshops, professional programmes.	3.29	.994
4	Through the knowledge I gained during training and development programmes, my students now have better understanding of biological concepts and respond to queries effectively.	2.71	1.139
5	Professional training and development programmes had helped me to inculcate positive learning attitudes in my students.	3.71	.469

The result (Table 4) above shows the extent to which teachers' training and development programmes influenced students' performance in Biology. From the result, it was observed that the respondents strongly indicated that teachers' regular attendance at training and development programmes significantly predicts better performance of students' in biology. Also, the result further revealed the degree of the agreement on the items, the items with mean value of $\bar{x}$3.14, 3.29, 2.71 and 3.71 indicates that the respondents' views on the impact of professional development inference were statistically significant since the weighted mean value of all the items are above the criterion mean value of $\bar{x}$2.50.

Test of Hypotheses
Hypothesis One: Teachers' training and development programmes do not significantly influence lesson planning and delivery

Table 5: Regression Coefficients for the influence of Teachers' Professional Development on Lesson Planning and Delivery

	B	Std Error	Beta	t	Sig.
(Constant)	11.42	5.40		14.08	.000
Teachers' Development	0.315	0.03	0.210	3.32	.002

Findings revealed (Table 5) teachers' training and development programmes significantly influenced lesson planning and delivery (β = .210, t = 3.32, p < .05). As such, the null hypothesis is rejected while the alternative hypothesis is upheld.

Hypothesis Two: Teachers' training and development programmes do not significantly influence academic performance of biology students

Table 6: Regression Coefficients for the Teachers' Training and Development on Students' Academic Performance in Biology.

	B	Std Error	Beta	t	Sig.
(Constant)	48.422	0.735		65.855	.000
Teachers' Development	0.353	0.018	0.124	6.846	.000

Dependent Variable: Students' Performance in Biology

Result presented in table 6 showed that there exists a significant relationship between teachers' training and development programmes and students' performance in Biology. The coefficient of teachers' training and development programmes (β = .124, t = 6.846, p < .05) significantly influenced students' performance in Biology. Consequently, the null hypothesis is rejected while the alternative hypothesis is upheld.

Discussion of findings
Effective lesson planning is greatly impacted by teachers' training and development because it improves their competencies and encourages reflective practices. In order to give teachers, the tools they need to design and deliver lessons in an efficient manner, which will ultimately improve student learning outcomes, it is imperative that they participate in continous professional training and development

programmes. Lesson planning and delivery were significantly impacted by teacher training and professional development programmes, according to the results of the hypothetical statement one. This supports Sabilah et al. (2021) findings that teachers' training and development greatly improved their comprehension of educational regulations and lesson plan design, which in turn led to higher-quality lesson planning.

According to Chowdlhury (2024), teacher training and professional development programmes improved pedagogical skills, enabling educators to create effective lesson plans catered to a variety of learning needs. Muzaffar et al. (2023) supported the findings by finding that teachers' professional training significantly improved their instructional techniques and classroom management, resulting in more effective lesson planning. The findings also demonstrated that teachers who participated in continous training and development programmes delivered lessons more effectively. This corroborates the findings of Anif (2019) and Hassan et al. (2024), who found that continuing professional development programmes improved the competencies of certified biology teachers, thereby improving the quality of their lessons. The results of the second hypothesis analyses showed that students' performance in biology was significantly impacted by continous teacher training and development initiatives. This result is consistent with the findings of Borg (2018), Kiran et al. (2022), and Mohamed et al. (2024), who proposed that there is a positive relationship between students' academic performance and the frequency of teachers' attendance at workshops and seminars.

Conclusion
This research examines the perceived influence of continuous teachers' training and development programmes on pedagogical strategies and the academic performance of biology students in Abeokuta South Local Government Area of Ogun State. The results from this study revealed that the exposure of biology educators to regular training and development programmes significantly influenced their lesson planning, delivery, as well as students' performance in Biology. It is recommended that educators should engage in continuous training and professional development programmes to remain informed and current in both biological content and pedagogical methodologies.

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EDUCATION AND RESILIENCE: HOW TEACHER–PARENT COMMUNICATION CAN SHAPE CHILDREN'S FUTURES

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Abstract: *In today's context, marked by instability and uncertainty, children's ability to develop resilience is essential for their success and emotional balance. This article explores the role of communication between teachers and parents in shaping this fundamental skill. Drawing on contemporary psycho-pedagogical theories and recent research, the paper demonstrates that authentic and empathetic collaboration between the significant adults in a child's life is key to developing healthy adaptation and learning strategies.*

Keywords: *resilience; education; communication.*

Introduction

Resilience is a key concept in developmental psychology and education, defined as an individual's ability to cope with, adapt to, and recover from difficult experiences (Masten, 2014). In the school environment, where children face both academic demands and social pressures, support from both family and teachers can be the difference between failure and harmonious development (Panisoara, 2017). In this context, teacher–parent communication gains particular value, acting as a bridge that supports the child throughout their learning and growth journey.

Resilience is not merely an innate trait but rather a skill that can be developed and strengthened over time through supportive relationships and meaningful experiences. This cultivation process depends heavily on the environment in which a person lives and the quality of their interpersonal relationships. According to Ungar (2011), resilience emerges from the interaction between individual factors, social environment, and life experiences—a dynamic framework that can be improved. Protective factors play an essential role in facilitating this

development. These include stable and trusting relationships with supportive adults—such as parents, teachers, or mentors—who offer emotional support and guidance. Safe school environments that foster mutual trust and support also contribute to the growth of resilience. A coherent emotional support system that meets individual needs and encourages personal development is another critical component in strengthening this ability (Masten, 2014). Hence, investing in the creation of stable and supportive environments and promoting trust-based relationships and emotional support systems are essential for fostering resilience at the individual, family, and community levels.

Teacher–parent communication is a process of co-participation and ongoing collaboration that significantly influences students' behavior, attitudes, and academic performance. This partnership contributes to creating a favorable educational climate and supports the child's holistic development. According to Epstein (2001), effective and open communication between teachers and parents enhances family involvement in the educational process, which leads to better learning outcomes and a more positive attitude toward school.

Additionally, Pânisoara and Pânisoara (2010) emphasize that the teacher–parent relationship should be grounded in fundamental elements such as empathy, active listening, and mutual respect. Empathy enables parents and teachers to understand and respond to one another's needs and emotions, fostering a climate of trust and openness. Active listening ensures effective communication in which both parties feel heard and understood, facilitating information exchange and problem-solving. Mutual respect strengthens the relationship and helps build a solid partnership focused on the child's well-being and development.

By adopting an approach based on empathy, open communication, and mutual respect, the teacher–parent relationship not only fosters a positive educational atmosphere but also promotes a shared sense of responsibility for the child's progress and well-being. In essence, effective and empathetic communication between teachers and parents is a foundational pillar for establishing a learning environment that supports school success and the development of appropriate student behaviors and attitudes.

Joyce Epstein's (2001) model identifies six essential types of parental involvement in education, each playing a distinct role in supporting children's development and promoting school success. In addition to communication and active collaboration, which facilitate information exchange and direct parental participation in education, the model includes: promoting high expectations, supporting learning at home,

participating in school decisions, and volunteering in school activities (Epstein, 2001).

Promoting high expectations involves parents showing clear and consistent interest in their children's academic performance, expressing confidence in their abilities, and setting ambitious educational goals (Epstein, 2001). Research shows that positive parental expectations correlate with greater student motivation and higher academic achievement (Jeynes, 2007). Supporting learning at home means creating a study-friendly environment, providing adequate learning resources, and engaging in educational activities such as helping with homework or discussing school topics (Epstein, 2001). This involvement reinforces cognitive processes and helps develop the skills needed for autonomous learning (Fan & Chen, 2001).

Parental involvement in school decision-making refers to participating in governance structures and shaping school policy, which fosters a sense of shared responsibility and institutional support (Epstein, 2001). This engagement encourages an inclusive school climate that adapts to students' needs (Sheldon & Epstein, 2005). Volunteering in school activities involves direct parental contributions to events and projects, providing logistical and emotional support (Epstein, 2001). Such activities strengthen family–school connections and boost students' sense of belonging (Epstein & Sheldon, 2006).

The importance of these forms of involvement is confirmed by numerous studies that show positive effects on children's socio-emotional and cognitive development. Notably, parental involvement supports children's ability to manage stress and challenges and fosters the development of independent, informed decision-making (Desforges & Abouchaar, 2003; Hill & Tyson, 2009). Thus, Epstein's model offers a comprehensive and practical framework for educational policies focused on close collaboration between family and school to maximize children's developmental potential.

An interesting method for enhance communication is bibliotherapy. This activity plays a significant role in enhancing communication between parents and teachers by providing a shared framework for understanding children's emotional and behavioral development. Through carefully selected books and stories, both parties can explore common challenges, gain insights into children's needs, and develop a mutual language for discussing sensitive topics. This collaborative approach fosters empathy, builds trust, and encourages open dialogue, ultimately leading to a more supportive and effective educational environment for the child. (Dughi, Cotrău, 2014)

Effective and ongoing teacher–parent communication is fundamental in supporting students' emotional development and, consequently, in

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strengthening their resilience. An open and consistent communication channel allows for early detection of emotional and social issues such as anxiety, stress, or adjustment difficulties, thereby enabling timely and tailored interventions (Siegel & Bryson, 2018). Close collaboration between parent and teacher facilitates the sharing of relevant information about the student's behavior and emotional state, creating a support network that helps the child navigate academic and personal challenges (Epstein, 2001).

This communication also allows parents and teachers to coordinate emotional support strategies, contributing to a deep sense of security and belonging at school and home (Masten, 2014). The feeling of safety is crucial for students to feel protected and encouraged to express emotions and develop effective emotional regulation strategies (Siegel & Bryson, 2018). In this way, teacher–parent communication becomes a vector for resilience development, helping children cope with stress and recover from adverse events by fostering constructive adaptation skills (Luthar, Cicchetti, & Becker, 2000).

Moreover, parental involvement in educational and emotional dialogue with teachers contributes to a positive climate based on mutual trust and respect, which directly influences the child's emotional state (Hill & Tyson, 2009). Thus, the emotional dimension of teacher–parent communication involves not only problem identification but also the construction of a psychological support environment, essential for developing students' resilience competencies. In this context, perceived social support, as highlighted by Dughi, Demeter, and Vancu (2020), plays a crucial role in reducing anxiety levels, reinforcing the importance of strong collaborative relationships as parents and teachers.

Ongoing communication between teachers and parents about learning styles, difficulties, or progress is crucial for creating a coherent and effective educational plan. Through continuous information sharing, both the parent and the teacher can tailor educational interventions to the child's specific needs, avoiding inconsistencies that could hinder the learning process (Pânișoară, 2017). Transparent collaboration enables early detection of academic issues and the implementation of personalized solutions, significantly contributing to the student's academic success (Epstein, 2001).

Well-structured communication builds an educational support network that not only promotes academic progress but also strengthens the child's self-confidence (Panisoara, 2017). Confidence in one's abilities is a key factor in resilience, as it provides the motivation and perseverance necessary to overcome difficulties and persist in learning despite challenges (Zimmerman, 2002). Thus, effective educational

communication not only facilitates tailored pedagogical interventions but also creates an environment where the student feels supported and encouraged to express needs and develop autonomy.

Furthermore, this type of dialogue between parents and teachers promotes a shared understanding of educational goals and the responsibilities of each party, reinforcing active involvement and partnership in the educational process (Epstein, 2001). Therefore, the educational dimension of teacher–parent communication plays a vital role in developing students' resilience by helping them acquire cognitive skills and effective coping strategies.

Effective and frequent teacher–parent communication also contributes to creating a coherent framework of rules and expectations, reducing ambiguity and providing students with clear guidance in their learning process (Eccles & Harold, 1996). This clarity supports the development of self-regulation and academic responsibility—core skills for building resilience, as students learn to manage time, effort, and learning strategies autonomously and efficiently (Pintrich, 2000). Thus, teacher–parent communication not only enables appropriate educational interventions but also fosters a sense of competence and control in students over their own educational journey.

School programs that actively involve parents through various forms of communication and collaboration have demonstrated significant positive impacts on student engagement and the development of adaptive and resilient skills. Regular meetings between parents and teachers provide a structured framework for exchanging information about students' progress and needs, facilitating personalized and coordinated educational interventions (Weiss, Caspe & Lopez, 2006). These meetings help build a strong school–family partnership that reinforces students' sense of support and belonging.

Interactive workshops for parents are another effective practice, equipping them with practical strategies to support both educational and socio-emotional development at home. Parent participation in such activities increases involvement levels and positively affects students' motivation and adaptability (Epstein, 2001). The use of digital communication platforms between parents and teachers has also become increasingly common and effective in modern education. These tools allow for continuous, rapid, and transparent dialogue, facilitating mutual updates on students' academic performance, challenges, and behavioral development (Damșa et al., 2020). As such, digital technology helps create a dynamic support network that strengthens both the educational and emotional dimensions of children's resilience development.

In the Romanian educational context, effective teacher–parent communication is crucial for developing students' resilience, especially in the face of challenges such as limited resources, overburdened teachers, and students' diverse socio-economic backgrounds (Ministry of Education, 2022). While regular class-level meetings, such as parent-teacher conferences, are a traditional practice, their frequency and quality vary significantly across schools and regions.

In many Romanian schools, active parental involvement is limited by cultural or logistical barriers. However, the use of digital platforms like WhatsApp or school-specific apps is beginning to facilitate more consistent and accessible communication, particularly in urban areas (Ionescu & Marinescu, 2021). These tools allow teachers to quickly share updates about students' progress and enable parents to participate more actively, even with busy schedules.

Educational programs that include parent workshops organized by schools or school inspectorates add significant value by offering practical strategies for supporting children's learning and emotional development at home (Ștefan, 2019). In rural areas, where access to educational resources is often limited, such initiatives can play a decisive role in reducing performance gaps and boosting students' confidence.

Conclusion

For teacher–parent communication models to be truly effective in Romanian schools, they must be adapted to local contexts. This includes leveraging digital technologies, consistently organizing interactive activities for parents, and creating open communication channels that encourage genuine and sustained family involvement in children's education.

Despite the proven benefits of effective teacher–parent communication, there are still significant challenges that may limit its positive impact on students' resilience. One of the most common difficulties is the lack of time—both for parents and teachers—which hampers regular, in-depth interactions (Panisoara & Panisoara, 2010). In the Romanian school system, where teachers face heavy administrative loads and parents may work demanding schedules, finding shared time for meaningful dialogue is a real challenge.

Cultural and social barriers can also negatively affect communication. In some communities, the parental role in education is seen as passive, and some parents may display defensiveness or mistrust toward teachers, limiting openness and collaboration (Epstein, 2001). These attitudes may be rooted in past negative experiences or in the lack of a culture of partnership between families and schools, a phenomenon

frequently encountered in certain communities in Romania (Ionescu & Marinescu, 2021).

Another important aspect is the lack of shared responsibility in the educational process. Both parents and teachers may have misaligned expectations regarding their roles, which leads to tensions and to a dysfunctional or even non-existent dialogue (Panisoara & Panisoara, 2010). This highlights the need for specific education for parents, emphasizing the importance of their active involvement and open communication for the well-being and development of children.

Moreover, teacher training in relational and communication skills is essential to overcoming these obstacles. Teachers must be prepared to manage the cultural and socio-economic diversity of families, adopt an empathetic attitude, and use communication strategies that encourage constructive dialogue and genuine partnership (Epstein, 2001; Panisoara & Panisoara, 2010). Only through sustained efforts in training and awareness can an inclusive and collaborative educational environment be built, in which parent-teacher communication becomes a cornerstone of children's resilience development.

Parent-teacher communication represents a key pillar in the process of developing resilience in children, influencing both their academic progress and emotional well-being. A genuine partnership, based on mutual trust, transparency, and active cooperation, has the potential to transform students' educational trajectories and emotional lives, offering them strong resources to cope with challenges and adapt constructively to changes in their school and social environments (Epstein, 2001; Siegel & Bryson, 2018).

To fully harness these benefits, it is imperative that national and local educational policies promote and support authentic forms of collaboration between parents and teachers. Thus, school practices must include systematic mechanisms for communication and parental involvement, provide specific training for teachers in relational competencies, and develop parenting education programs tailored to the cultural and social diversity of communities (Panisoara & Panisoara, 2010; Masten, 2014).

In conclusion, strengthening an educational framework that facilitates open dialogue and genuine partnership between school and family is an essential condition for the harmonious and balanced development of students. Only through a joint effort, based on respect and involvement, can children develop the resilience necessary to build a successful educational path and a healthy personal life.

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ARTIFICIAL INTELLIGENCE AND SOCIAL WORK: PREPARING STUDENTS FOR A HUMAN-CENTERED PROFESSION IN THE DIGITAL AGE

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Abstract: *The paper explores the perception of first-year students from the Department of Social Work regarding the use of artificial intelligence in the educational process as well as in the social work profession. A descriptive research design was employed, using a semi-structured interview guide, and 16 individual interviews were conducted. The practical implications focus on the ethical and responsible use of artificial intelligence, while simultaneously fostering critical thinking and qualitative learning. Furthermore, the professions of teacher and social worker are discussed in the context of the emergence of artificial intelligence in the digital era.*

Keywords: *digital era; social work; education; artificial intelligence; ethics.*

Introduction

The article "Artificial Intelligence and Social Work: Preparing Students for a Human-Centered Profession in the Digital Age" addresses the educational and professional resilience of students from the Department of Social Work at the West University of Timișoara in the context of the digital era.

The article focuses on the adaptation of students to digital transformations, given the widespread influence of artificial intelligence (AI) across all fields of activity. It is important to explore the perceptions held by students from the Department of Social Work regarding the role of AI in the educational environment of higher education, as well as in the social work profession. The study addresses

a highly relevant and contemporary topic, as future social workers will face numerous challenges related to digitalization and the integration of new technologies into professional practice, while also preserving professional ethics and values.

Within this context, the concept of digital resilience becomes increasingly significant. Social workers must continuously adapt to technological changes and uncertainty. Students in the Department of Social Work begin developing this resilience during their undergraduate studies, through the acquisition of competencies and skills that pertain to both human-centered practice and digital proficiency.

Understanding how students perceive artificial intelligence and how it can be integrated into professional practice—without compromising the human dimension—is essential. A final aspect addressed in this research pertains to educational innovation, focusing on the adaptation of teaching staff to AI and the ways in which AI can be successfully integrated into higher education. The goal is to promote an education system that is responsive to new challenges, grounded in present-day realities, and aligned with the growing need for digital literacy.

Asakura et al. (2020) developed an educational project within the field of social work education, integrating artificial intelligence into the curriculum. The authors employed natural language processing to design innovative and interactive simulations aimed at enhancing student engagement. The main findings of the study indicate that these simulations supported social work students in developing key communication competencies, including active listening, critical thinking, and empathy. The researchers emphasized that such training is essential to adequately prepare future social workers for professional practice in the digital age.

In the context of artificial intelligence applications within social work, Diez (2023) emphasizes the necessity of approaching AI from an ethical standpoint. Accordingly, artificial intelligence should be implemented in a way that reflects the core principles of the social work profession: equity, social justice, dignity, and respect for diversity. The author warns that the risks associated with AI can be significant, particularly when decision-making processes are automated. Such developments may have serious implications in areas like child protection and social investigations. Diez (2023) argues that human involvement remains irreplaceable in domains where human judgment is essential. Thus, the study concludes that social work professionals must be actively engaged not only in their field of

practice but also in the ethical development and governance of artificial intelligence.

Gillingham (2019) examined the use of predictive algorithms in decision-making processes within child and family protection services. The study focused on how social services for children and families utilize data analysis to identify potential risks. According to the author, while such technologies may enhance the capacity of social work systems to detect vulnerabilities, there are also significant concerns— particularly regarding algorithmic transparency and the reproduction of biases embedded in historical family data. These datasets, when analyzed without human oversight, may lead to misinformed conclusions. The core conclusion of the study asserts that critical decisions must remain within the domain of trained human professionals, as artificial intelligence cannot serve as the sole authoritative decision-maker. Consequently, AI can function as a supportive tool in social work, offering practical benefits, but only when its use is carefully monitored and ethically grounded.

Over the past five years, research has increasingly focused on the field of social work and the potential intersections that may arise through the lens of technology, particularly artificial intelligence. In this context, Goldkind (2021) raised several well-founded questions, considering the unique nature of the social work profession. The author reflects on whether professional autonomy, the decision-making process, and the human relationship established between practitioner and client may be compromised with the introduction of AI into the field. The main challenge identified in integrating artificial intelligence into social work lies in the tendency toward standardization— potentially diminishing or constraining the individualized, unique, and relational aspects of professional-client interactions. The study concludes that while artificial intelligence can contribute to innovation, transformation, and creativity within social work, it must be implemented in a manner that upholds the profession's core ethical principles and value framework.

The specialized literature highlights various techniques through which social workers can prevent professional burnout. Grządzielewska (2021) argues that machine learning can help anticipate and prevent burnout symptoms. Artificial intelligence can be effectively used by analyzing workplace-related data, including workload, health issues, mental health indicators, behaviors, stress levels, and interactions with supervisors and colleagues. By processing these variables, AI systems can identify specific patterns or typologies that either exacerbate or mitigate professional exhaustion. The main

conclusion of the study is that artificial intelligence can be introduced across multiple areas of practice to support the emotional well-being of social workers. However, this is only possible if professionals are directly involved in the process, ensuring that the data used is accurate and that implementation is carried out ethically and responsibly.

In 2024, Walter presented a new perspective on how artificial intelligence can be effectively integrated into higher education institutions. The author argues that AI has the potential to bring transformative changes to higher education, provided it is built upon three essential pillars: AI literacy, critical thinking, and prompt engineering. In this regard, Walter (2024) emphasizes that artificial intelligence should not be reduced to tools like ChatGPT, which are readily accessible to students. Instead, students must understand how AI systems function, as well as the ethical considerations and responsibilities associated with their use. Frequently, students struggle with formulating effective queries for AI tools. Walter suggests that students must be trained in constructing prompts in a way that elicits meaningful and relevant responses. Moreover, critical thinking plays a key role in objectively filtering information and understanding AI's role throughout the educational process. Ultimately, the author underlines the need for curricular reform that integrates the responsible and pedagogically sound use of artificial intelligence.

Pitts et al. (2025) state in a qualitative study that students hold diverse perceptions regarding the use of artificial intelligence in the educational process, particularly the use of tools such as ChatGPT. The main advantages of AI reported by student respondents include quick access to sources and information, faster text composition, support during examination sessions through supplementary information, and clarification of concepts that were not fully understood during lectures and seminars. However, the primary challenges identified by respondents relate to a growing dependence on ChatGPT, the tendency to rely on it continuously, and a risk of approaching education in a more superficial manner. Additionally, students reported encountering inaccurate or misleading information. The authors argue that there is a clear need for institutional policies at the level of higher education institutions to establish how AI tools can be used ethically and responsibly, in a way that genuinely supports students' educational and professional development.

Modern education systems can leverage artificial intelligence to keep up with the most significant trends in the field. In this regard, Owoc et al. (2021) identified several advantages of AI use in education. Among them, the authors emphasize the ability to adapt

educational content and course delivery based on the individual student's characteristics, level of understanding, and learning style—thus enabling a personalized learning approach. Furthermore, AI contributes to optimizing assessment time, allowing for automated and objective evaluation processes. However, the authors also noted several barriers that may hinder the integration of AI in education. These include the lack of digital preparedness among teaching staff, the potential long-term erosion of human interaction, concerns regarding ethics and data privacy, and various technical or infrastructural issues that may arise during implementation.

In 2024, Sidiropoulos and Anagnostopoulos conducted a study aimed at presenting how artificial intelligence can be applied in education, with a particular focus on ChatGPT. The authors developed a categorization of AI applications, beginning with its use in teaching support—for example, through virtual assistants that provide explanations and generate various educational materials. They then explored the role of AI in directly supporting the learning process, where the emphasis is on offering explanations, models, examples, and automated responses to students' questions. The third category centers on administrative functions, where AI can be employed to analyze data and support academic processes. While the authors acknowledge the benefits of these applications, they also highlight significant ethical and pedagogical challenges. These include issues related to intellectual ownership, the risk of plagiarism, data privacy, and ethical concerns more broadly. In conclusion, the authors stress the importance of training both educators and students, supported by clear institutional guidelines grounded in ethical practice and professional transparency.

Tambe & Rice (2018) explored the role of artificial intelligence in the field of social work and concluded that it can assist professionals in making objective decisions and facilitating social interventions. As observed, all researchers acknowledge the positive impact of artificial intelligence on social work, while also emphasizing the need for data protection and adherence to professional ethics. In this context, the authors argue that increased attention must be paid to the profession itself in order to effectively integrate and utilize artificial intelligence in the modern era.

Han et al. (2025) conducted a study similar to the one proposed in this article. The authors analyzed how higher education students use artificial intelligence. The study focused on the advantages of using AI in the educational process, with key findings showing that AI is employed in learning because it offers personalized support that progresses from general to specific. Students' individual perceptions

are subjective and reflect the ways in which they have used artificial intelligence.

The innovation of digitalization has been studied over time with a focus on both education and the field of social work. In 2023, Toros et al. explored how artificial intelligence influences the social work profession, the interpersonal relationships between professionals and clients, as well as organizations as a whole. The authors highlight visible advantages, such as adaptability and flexibility in professional training, and improved access to resources. At the same time, they also address concerns related to the future preparedness of professionals in the digital era. The authors argue that social workers need digital competencies in order to practice effectively both in the present and in the future. Ardelean &Veres (2023) explored the educational field and the implications of artificial intelligence, highlighting risks associated with students' potential dependency on technology due to the constant use of AI. Another concern relates to the reduction of human interaction and the limitations it may impose.

At the same time, Goian (2010) analyzed the role of language and its importance in the social worker profession. In this regard, the presence of artificial intelligence in social work may generate challenges related to linguistic consistency, particularly in the area of translation. Moreover, artificial intelligence could also serve as a solution for developing and standardizing terminology, especially in terms of synonymy.

Moreover, in the educational field, Goian (2020) highlighted students' perceptions of bullying. In this context, artificial intelligence can become a solution for counteracting bullying. Accordingly, AI algorithms can be used to detect aggressive behaviors, offensive language, or stigmatization within the educational environment.

Goian (2013) highlights how social work services in the Banat region can be developed both in the private and public sectors. The author emphasizes shortcomings such as the lack of qualified personnel, professional burnout, and the absence of adequate supervision. In this context, artificial intelligence can provide valuable support and a sustainable solution for streamlining administrative processes and enhancing continuous professional supervision in the field.

Reamer (2023) investigated the practical implications of artificial intelligence in social work intervention. The author noted that potential errors made by AI represent a major challenge for the social work system. Additionally, the author emphasized that by relying on technology, we can identify the problems and needs of each client

more efficiently, and our intervention can become significantly more effective, as it is based on real data and patterns. In conclusion, it is evident that there are highly current scholarly works focusing on the impact of artificial intelligence in both the educational environment and the social work system. In this regard, it is essential for education professionals to train students and future practitioners to access digital resources in an ethical and responsible manner.

Methodology

The purpose of this research is to identify the perceptions of students from the Department of Social Work at the West University of Timișoara regarding the use of artificial intelligence in the educational process and in the social work profession.

Objectives

O1: Identifying the perception of students from the Department of Social Work at the West University of Timișoara regarding the use of artificial intelligence in the educational process.

O2: Exploring the perceptions of students from the Department of Social Work at the West University of Timișoara regarding the use of artificial intelligence in the social work profession, as well as the risks associated with its use.

Research questions

Q1: What are the perceptions of students from the Department of Social Work at the West University of Timișoara regarding the integration of artificial intelligence into the educational process?

Q2: What are the perceptions of students from the Department of Social Work at the West University of Timișoara concerning the implementation of artificial intelligence in the social work profession, including the potential risks associated with its use?

Sample and instrument

The research group consisted of 16 students from the Department of Social Work at the West University of Timișoara. Among the 16 interviewed students, 4 are enrolled in the first year of the distance learning program in social work, while 12 are first-year students in the full-time social work program. The 12 full-time students are between 19 and 20 years old, while the four distance learning students are between 30 and 45 years old. Additionally, two students are male and twelve are female. A structured interview guide was used, and the qualitative method applied was the individual telephone interview.

Rowland et al., (2019) conducted a study that highlights how the interview is applied in the field of science education. The authors state that the interview technique is part of the qualitative method and

represents a tool that fosters a closer connection between the respondent and the researcher. Moreover, the structured individual interview contributes to ensuring that the research is logically organized and that data are maintained in a chronological order.

Rowland et al., (2019) emphasize the importance of the individual interview in research. The authors argue that the individual interview encourages the interviewer to reflect on specific details, thereby significantly improving the process of data collection and interpretation. Furthermore, the interview contributes to a clear chronological sequencing of events and provides greater stability within the dialogue. In this regard, the individual interview plays a crucial role even when considering the professional relationship between the interviewer and the research participant.

Data collection and processing

The respondents expressed their willingness to participate voluntarily in the research, and the confidentiality of the data as well as research ethics were fully respected. The interviews were conducted individually via telephone, scheduled by mutual agreement with the respondents, and transcribed verbatim to ensure maximum accuracy. Each interview lasted approximately 20 minutes and was conducted between April and May 2025. The respondents were informed about the overall purpose of the research, its objectives, and the research questions.

Results and Discussion

The main themes that emerged from the data collection and analysis are as follows: students' personal perceptions regarding the use of artificial intelligence in both educational and personal contexts; the impact of artificial intelligence on individual learning styles and the potential replacement of human professions with technology-driven roles; the ways in which artificial intelligence can be further utilized in the social work profession; and the ethical and responsible use of artificial intelligence.

Regarding respondents' perceptions of the use of artificial intelligence in both the educational sphere and personal life, the following patterns were identified. All respondents demonstrate a positive perception toward the use of artificial intelligence in both educational and personal contexts. They report frequent use of AI, particularly as a means to manage highly complex academic tasks. The use of AI often began out of curiosity, with many students being introduced to it by their university peers, who noticed that it helped streamline their academic workload.

„Yes, I used artificial intelligence to better structure my course materials, especially when they contained a large volume of information. I provided the content to ChatGPT, and it organized the course material for me, then generated multiple-choice questions." (R3)

Artificial intelligence is perceived as especially useful during exam sessions, as students rely on it to summarize large volumes of course materials. Moreover, AI provides sample multiple-choice tests, enabling students to assess their learning progress. Another significant advantage is the additional explanations AI offers regarding specific phrases and concepts that students struggle to understand.

AI is also seen as a valuable tool for generating examples, ideas, and solutions for starting academic projects. The main tool used by respondents is ChatGPT. For students, ChatGPT is not just a functional instrument but rather a digital application that offers guidance and academic support. Many students report that academic requirements can sometimes be vague or unclear, making AI a more accessible source of clarification than directly asking instructors.

„Yes, it helps me search for different types of information, both personal and related to university, but within certain limits." (R6)

Most respondents believe they use AI in an ethical and limited manner, and they are aware of the importance of maintaining boundaries in its usage. Furthermore, the information obtained from AI is regularly verified against reliable academic sources to avoid inaccuracies. This reflects a critical and balanced approach to integrating AI into their learning process.

In the personal sphere, several respondents indicated that they use AI to help structure their thoughts, express themselves more clearly, find synonyms or professional phrasing, and even seek feedback on how others perceive them. The most commonly cited advantage of AI is the significant time savings it provides. Students noted that they used to spend a lot of time starting projects from scratch without having access to explanations, ideas, examples, or outlines.

Most of the respondents have been using AI for at least two years, with some having started during high school. Encouragingly, students do not rely entirely on AI-generated content; instead, they view it as a source of suggestions worth developing independently and validating through academic research.

„Yes, I have used AI very frequently to help me understand certain concepts I didn't grasp at university and to assist me with starting some of my projects." (R10)

Most students consider it acceptable to use artificial intelligence for drafting academic assignments, but not entirely. They report that AI can support the generation of ideas and help structure the content of their work more effectively. There are, however, a few isolated cases where respondents admitted to having used AI entirely to complete a project—typically in critical moments, such as approaching submission deadlines.

The main benefits identified by students relate to the reformulation of their ideas in a more academic and professional style, as well as to the clarity of explanations provided in more accessible language compared to traditional course materials. Half of the respondents expressed significant concerns regarding the frequent use of AI, primarily due to the risk of receiving incomplete, outdated, or inaccurate information. Furthermore, students perceive the academic staff as trustworthy sources of guidance and information. When comparing AI tools such as ChatGPT to their instructors, respondents highlight the lack of empathy, humor, and human interaction in the former.

„I find that it sometimes provides inaccurate information. It seems artificial and lacks a human touch—it does not exhibit empathy." (R2)

Overall, students regard AI as a useful and accessible resource—particularly valuable for generating ideas when facing difficulties. A small portion of respondents believe that tools like ChatGPT can serve as assistants or learning aids that can be directed according to their specific needs. For all respondents, artificial intelligence remains a technical tool, whereas critical thinking is viewed as far more important in the long term. This indicates a high level of awareness and academic integrity among the students surveyed.

„I use it consistently for every assignment—I ask it to provide synonyms and rephrase my ideas. When I have thoughts that I struggle to articulate elegantly, it reformulates them in an academic style. The ideas remain mine; it simply helps them sound better." (R4)

Respondents were asked which tools they use to access artificial intelligence. All participants stated that they currently use only ChatGPT, citing its free access, objectivity, and efficiency as key reasons. They consider ChatGPT's interface to be user-friendly, relevant, and generally accurate in terms of the information provided.

Approximately half of the respondents reported having experimented with other tools or search engines—especially Google and Gemini—but ultimately returned to ChatGPT due to its more

concrete, specific, and direct responses, which do not require overly precise prompts. According to the students, ChatGPT quickly understands the question posed and avoids unnecessary digressions. The main qualities valued by respondents include the tool's objectivity, professional phrasing, and the ability to verbally convey educational content, which they associate with human-like characteristics. Very few respondents reported using other applications, and most students stated they are satisfied with ChatGPT and are not inclined to explore alternative tools.

„I have only used ChatGPT. The difference between ChatGPT and Google is that ChatGPT is much faster. It provides clear and direct answers, without wasting time." (R4)

Regarding the theme that explores the impact of artificial intelligence on learning styles and the human profession, students report a generally positive influence in the educational sphere. The main advantage mentioned is the absence of shame or inhibition—they feel free to ask as many questions as needed without fear of judgment. All respondents describe ChatGPT as a complement to the teacher, an assistant that replaces human interaction, yet remains accessible from anywhere.

They state that they no longer feel the stress of not understanding the material during in-person lectures. All respondents noted that artificial intelligence often feels human-like, and they frequently use phrases such as "please" and "thank you" in their conversations with ChatGPT, as they feel understood in a space free from pressure or criticism.

„There are things I don't understand during university courses, and AI has explained to me step by step what needs to be done. After the class is over, the information tends to be forgotten. AI acts more like an assistant. For example, I also save time when I use it. I have the main ideas, and it develops them for me—I just read through them, and the time required is cut in half." (R7)

However, some respondents expressed dissatisfaction, stating that summaries or responses are often too brief and require additional explanation. Distance learning students noted that AI is effective for short-term understanding, but for long-term retention and comprehension, reading, using academic resources, and creating personal summaries are essential.

Full-time students who also hold part-time jobs appreciate the usefulness of artificial intelligence, as it frees them from the obligation to attend every class. With the help of AI, they can access additional explanations in their own environment, on their own time.

„In terms of education, I think it helps me understand better. It's useful if you want to absorb the material more quickly. The downside is that it helps you in the moment, but it's not enough—you can't rely on it alone to truly learn." (R10)

All respondents were asked whether artificial intelligence could potentially replace the teaching profession in the future. All students unanimously agreed that no profession involving human interaction and emotional involvement can be fully replaced by AI. They emphasized that teachers are living, human beings who offer real interaction and exercise both critical and subjective judgment. Artificial intelligence is seen solely as an assistant, a support tool, not as a substitute for the teaching profession. Respondents noted that, due to their professional training, teachers offer more than just information—they provide emotional support, humor, and adaptability tailored to the specific needs of students.

„No one can replace the social worker or the teacher. If a student is experiencing a negative emotional state, the teacher can be there to support and encourage them." (R3)

The comparison between teachers and artificial intelligence was made by all participants, and the unanimous conclusion was that ChatGPT lacks empathy and real emotional presence; it is synthetic and objective. The most appreciated characteristic of a teacher is their ability to provide specificity. Teachers can personalize their discourse according to the emotional and educational needs of their students.

„From a teacher, I need full involvement, including emotional support. A social worker cannot be replaced by anyone—it is a profession that requires listening, empathy, and emotional engagement in order to build trust. A robot cannot provide help on an emotional level; everything would be mechanical and schematic." (R4)

The teaching profession was consistently compared to that of the social worker, with identical conclusions: ChatGPT cannot understand or replicate emotional nuance, as it functions only as an informant and educational support tool. Only one respondent mentioned that AI could potentially replace the teacher in very specific contexts—namely, when students suffer from chronic anxiety, shyness, or are extremely emotionally sensitive. In such cases, ChatGPT may yield more effective results than a human educator. The majority of respondents stated that AI can be successfully integrated—sometimes even entirely—in rigid and technical fields where human interaction is minimal or absent, such as IT, robotics, or industrial manufacturing, where work is conducted with materials rather than people.

„I don't believe that the profession of teacher or social worker can be replaced. If that were to happen, there would be no more human connections, no communication—only AI on its own. I think an AI teacher might be helpful for people who are emotionally sensitive or struggle with anxiety." (R15)

The participants in the study were asked whether they had ever experienced adverse effects as a result of using artificial intelligence. The majority of respondents reported going through short periods in which they lost their autonomy in managing educational tasks. They noted that they limited their own thinking processes and relied entirely on AI in the short term. After some time, they realized that they no longer had innovative ideas, creativity, or the ability to express themselves authentically, and they felt manipulated and misled.

„I often felt that I was no longer learning—I had lost my own thoughts and ideas, constantly turning to artificial intelligence. Eventually, I realized that this was not a good approach." (R5)

In retrospect, about half of the respondents experienced a sense of cognitive detachment following long-term use of AI. Distance learning students were the first to become aware of these negative effects and took a break from using AI, redirecting their focus toward reading, writing, and developing their own ideas. Full-time students began to notice the drawbacks of AI usage during examination sessions, where they realized they couldn't recall key information discussed in class. This was largely due to a reliance on AI for supplementary explanations, which led to decreased attention during lectures. A few students mentioned that they reduced their use of ChatGPT after receiving lower grades, as the information provided by the tool was occasionally inaccurate.

„I was constantly influenced by AI, relying on it non-stop. Eventually, I stopped and realized that it cannot help me in real life— AI can't take exams for me. I understood that it should only be used when necessary, in a controlled way." (R9)

The profession of social work in the digital era was also addressed. Students stated that artificial intelligence can become a simple tool for the social worker. The social worker is defined by their specific human intervention, including verbal, non-verbal, and paraverbal communication.

Most respondents believe that bureaucracy could be reduced if social workers integrated artificial intelligence into their professional practice. In this context, AI can serve as an effective tool for handling technical tasks such as: summarizing legislation, accessing specialized terminology, translation, structuring intervention plans, and searching

for potential solutions. All respondents agree that while artificial intelligence may be highly effective in managing documentation, it can never replace the direct interaction with beneficiaries.

„As a social worker, it is essential to establish human contact, to be seen as a real person. AI is quite intelligent, but it cannot offer the human aspects. For example, if I share how I feel, it may show limited empathy—it can help you know yourself better, and it acts like a good friend you can confide in, because it's discreet. In social work, it might help by providing faster responses, but it's crucial that you already have solid knowledge. Otherwise, it can mislead you, and you won't be able to distinguish truth from error." (R16)

In addition, students identified potential risks, such as the possibility that social workers might reject supervision and rely solely on AI-generated advice, potentially avoiding collaboration with the multidisciplinary team. Looking to the future, students envision the implementation of messaging-type applications that would allow anxious, fearful, or introverted beneficiaries to communicate directly with social workers—much like students currently interact with ChatGPT.

„In the future, artificial intelligence may assist the social work profession because people find it easier to communicate through messages rather than face-to-face. It becomes more comfortable for them to open up this way, without experiencing emotional barriers." (R6)

The study participants were asked about the necessity of academic training on the use of artificial intelligence. The majority of respondents stated that such training would be welcome, as many students believe it is ethical to use artificial intelligence entirely for academic tasks. Thus, respondents expressed the need for a guide to using AI ethically and responsibly in the academic environment. A small proportion of respondents, however, considered it a completely wrong idea to offer such training to students, arguing that it would dramatically increase the number of students relying on artificial intelligence in their educational processes. From this perspective, universities should avoid encouraging the use of AI, so that students do not become dependent on this type of search engine. Overall, the opinions on this issue remain divided.

„I don't necessarily see a need for it; we might no longer be able to control the way students learn directly. There is a risk they might rely on it excessively. The advantage would be that they use it for their benefit, but the downside is that they may stop learning altogether and deceive themselves." (R2)

Another point of the interview guide focused on the concerns and advantages experienced by students from the Department of Social Work regarding the use of artificial intelligence. The responses were complex, reflecting polarized opinions. Many of the study participants stated that schematic planning and organizing ideas in a logical way are the main advantages offered by this technology. Moreover, artificial intelligence serves as a pillar in avoiding uncomfortable or embarrassing questions that students might otherwise need to address to teaching staff.

Many students mentioned that artificial intelligence has become part of their daily lives and routines, being a useful tool to save time.As for the main concerns expressed by the respondents, these are related to the increasing passivity in thinking or expressing their own ideas, the potential errors generated by AI that are not subsequently verified from other sources, and the fear of job loss and professional replacement by robots.

„I like artificial intelligence because it helps me structure my outlines very clearly—I don't forget them, it organizes and details them well, and then I use them as a guide and know exactly what I need to write. This way, I can organize my ideas better." (R3)

The respondents also expressed their views on how university teaching staff should relate to artificial intelligence (AI) in the educational process. Participants believe that teachers' attitudes often shape students' own perspectives on the use of AI. The main perception among respondents is that students should not be restricted or punished by teachers if they choose to use AI alongside their own ideas.

„Professors should be understanding, especially considering that many students come from disadvantaged backgrounds and may lack a well-developed academic vocabulary. In such cases, ChatGPT can serve as a supportive tool—not by completing assignments for students, but by helping them improve their language and vocabulary, thus enabling them to express their ideas more effectively in an academic context." (R3)

Respondents emphasized the need for a practical, ethical, and useful guide to help them use AI correctly—more than the need for limitations or supervision. Half of the participants observed a rigid attitude from teaching staff toward AI and argued that instilling fear is not an appropriate solution. They also believe that in the digital age, it is entirely wrong to limit or even prohibit the use of technology.

The main long-term solution proposed by students is communication. They consider that human interaction, open dialogue,

and receptiveness to solutions are far more effective and sustainable approaches than implementing bans. Ultimately, students believe that teachers themselves need training to better understand how AI works, along with a transition period to adapt to the changes currently transforming education in Romania.

„Professors should explain to students the boundaries and limitations associated with the use of artificial intelligence, and they should acknowledge the current realities rather than impose absolute restrictions. I believe AI is a highly useful tool when employed within reasonable limits and in an ethical manner." (R11)

The final part of the interview focused on the ethical and responsible use of artificial intelligence. Students noted that, over time, the learning process tends to decline and become devalued, as attention shifts toward using AI to complete projects more quickly. The majority of participants in the study believe that future professionals, regardless of their field, require practical skills, critical thinking, personal reflection, and analytical capacity in order to achieve high performance.

Moreover, several students emphasized the connection between social work and emotional intelligence—an aspect that artificial intelligence cannot master or transmit—thus failing to contribute meaningfully to the formation of specialists capable of intervening in crisis situations.

„Employers would see that these students lack competencies and knowledge because they did not become emotionally involved. With artificial intelligence, you do not train your empathy." (R2)

Over time, all respondents agreed that language, terminology, and vocabulary used in direct interaction will suffer. While AI can provide technical and professional expressions, without sustained learning and repeated practice, these cannot be effectively assimilated or applied in face-to-face communication.

„The vocabulary of students who rely solely on artificial intelligence becomes virtually nonexistent, as all their projects have been generated by ChatGPT. When they are required to deliver a speech or communicate with a beneficiary, they are unable to understand or express themselves effectively due to an underdeveloped vocabulary." (R3)

In the context of digitalization, respondents consider that the skills, techniques, and aptitudes of new employees will increasingly decline, as excessive reliance on AI leads to a significant reduction in hands-on practice. Consequently, students who focus solely on task completion through AI support will experience visible shortcomings in

their professional practice, having failed to acquire solid professional competencies during their academic training.

One respondent argued that the daily use of AI affects both cognitive functioning and mental health, as it leads to the loss of valuable moments for learning and personal development. Furthermore, respondents stated that graduates who made extensive use of AI ultimately devalued themselves as individuals, as well as the profession and vocation they had chosen. Overall, students perceive that artificial intelligence—specifically, tools such as ChatGPT—should serve as a support instrument rather than a substitute for genuine learning and intellectual engagement.

„I do not believe one can complete their studies without actually learning. The risks are that such a student, once a professional, would be unable to truly support their beneficiaries and would be highly disoriented." (R6)

Some respondents stated that when artificial intelligence is used entirely for projects and academic tasks, it becomes abusive both for the individual and for the academic environment. When a student relies fully on artificial intelligence, they become unable to filter information through their own thinking.

„I would encourage them to use artificial intelligence because it can help develop their vocabulary, but not for assignments and projects—clear boundaries are needed in those cases, as we need to rely on our own ideas." (R10)

The final question addressed to the respondents focused on the recommendations they would offer regarding the use of artificial intelligence in the educational process. The majority support a conscious and responsible use of AI within the academic environment. They also believe that professional development can only occur through individual effort and sustained study. Respondents emphasized that motivation is significantly stronger when achievements result from one's own work. Additionally, they stated that if they were in the role of the professor, they would support a limited use of artificial intelligence. They also affirmed that the role of the educator should be one of support, guidance, and mentorship—not surveillance.

„The final outcome must be your own. Relying solely on content generated by others prevents genuine cognitive engagement and long-term retention. In the future, you may find yourself overwhelmed with questions simply because you failed to pay attention to what was taught at the time." (R14)

In conclusion, artificial intelligence is a topic of interest for both professors and students, and its use in the academic environment represents an ongoing challenge.

Conclusions

The first research question relates to the perceptions of first-year students from the Department of Social Work regarding the integration of artificial intelligence into the educational process. The research findings indicate that the majority of respondents are aware of the importance of maintaining ethical standards in education and research. Therefore, students believe that they should not be restricted by lecturers, but rather guided and empowered to use artificial intelligence—particularly the CHATGPT tool—in an ethical manner. Furthermore, respondents acknowledge that some students rely entirely on artificial intelligence; however, these individuals will lack, in the future, the skills, competences, and knowledge required to practice in such a complex field as social work. Additionally, students discussed aspects related to the importance of critical thinking and personal reflection within the learning process. All respondents perceive artificial intelligence primarily as an assistant—a support tool for word replacement, paraphrasing, and synonym generation—and state that the CHATGPT tool helps them communicate more effectively and refine their colloquial language, transforming it into an academic and professional discourse.

The second research question focuses on the implications that artificial intelligence may have for the teaching profession and the social work profession. The respondents indicated that in the teaching profession, artificial intelligence can be used to assist with structuring course content, capturing students' attention, and providing additional explanations. However, the role of the teacher remains essential, particularly for establishing an authentic emotional connection, understanding students' emotional states, offering empathy and support for challenges they encounter, and alleviating tension through the use of verbal, non-verbal, and paraverbal communication. Therefore, respondents perceive artificial intelligence as an assistant rather than a replacement for the teaching profession. Some students also believe that artificial intelligence can help more introverted students to ask questions more easily, without fear of being judged or scrutinized.

Regarding the implications of artificial intelligence for the social work profession, all respondents stated that the social worker cannot be replaced, as practical fieldwork, social investigations, personalized intervention plans, and direct communication with beneficiaries cannot

be substituted—since artificial intelligence lacks the human spirit and empathy. Moreover, respondents believe that students who excessively rely on artificial intelligence during their studies will be unable to practice effectively, as they will not possess the necessary skills and knowledge to succeed as social workers. In this regard, the only appropriate approach is for the human social worker to use the CHATGPT tool merely as a source of information and to request certain objective viewpoints, but under the condition that all information be verified through reliable sources to ensure validity and credibility.

In conclusion, the students from the Department of Social Work confirm that artificial intelligence, in the digital era, has significant implications both in the academic and educational spheres, as well as in social work studies and practice. The students' perception is critical, ethical, and responsible: artificial intelligence—specifically the CHATGPT tool—is viewed as an aid and support for professionals, regardless of their field of activity, rather than as a total replacement. Moreover, students acknowledge the real implications and the assistance that artificial intelligence provides to students, teachers, social workers, and other professionals alike; however, they believe that its use should be governed by clear and precise boundaries.

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EXPLORING THE DECISION-MAKING PATTERNS OF PRINCIPALS IN PUBLIC AND PRIVATE SCHOOLS IN KWARA STATE: A COMPARATIVE ANALYSIS

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Abstract: *This paper explored the principal's pattern of decision-making in secondary schools in Kwara State, Nigeria. The study makes use of descriptive design. The respondents consisted of 2,777 teaching staff in the 398 public schools and 7,969 teachers in the 249 private schools in Kwara. A sample size of 338 and 367 teaching staff in the two schools was used as respondents, respectively, using the table of sample size by Krejcie and Morgan (1970). A researcher-designed instrument titled the Principals Decision-Making Patterns of Questionnaire (PDMPQ) was utilized for data collection. It was revealed in the study principals' decision-making patterns (P<.05); there was a considerable difference in the decision-making pattern on instructional supervision ((P<.05); there was a significant difference in decision-making pattern of principals on conflict resolutions (P<.05); and lastly, there was considerable difference in principals' decision-making pattern on disciplinary act (P< 05) in Kwara State. In line with the results, it was recommended that principals of secondary schools should formulate clear instructional supervision decisions regarding the operations of their schools. Also, the principals should formulate effective conflict resolution decisions so as to improve the relationship of school members. Lastly, the principals, as a matter of urgency, make sound decisions on disciplinary measures and ensure that they are placed in conspicuous places for the students and staff to see.*

Keywords: decision-making patterns; principals; public; private; schools; comparative analysis.

Introduction

The secondary school level of education is essential for an effective education system because it serves as the fulcrum upon which the student can proceed to a tertiary level so as to contribute maximally to national development. Consequently, it is regarded as a formal institution with the mandate to equip the recipients for practical living and tertiary education through teaching and learning activities (Federal Republic of Nigeria, 2013). Notably, the principal in secondary schools perform a significant role in the actualization of educational goals.

Essentially, in Nigeria, the principal sit at the apex of the institution. As the leaders of the school, they are considered the first citizens, the decision-makers, the instructional supervisors, the conflict resolvers, and the disciplinary leaders. Similarly, many scholars referred to him as the manager because the daily running of the school programs rests on his shoulders. Consequently, the school head must be a person of integrity because he is the image of the school. The principals receive payment for the decisions they make, and their decisions determine the overall growth and development of the school.

One of the vital aspects of every organization is decision-making, and the school is no exception. Notably, decision-making involves choosing a course of action out of numerous actions (Mmejim, 2018). It involves identifying and picking an action in a bid to solve a problem. According to Oku et al. (2018), decision-making involves picking a course of action from a lot of other alternatives. As an institution of learning, secondary schools are guided by rules, procedures, and principles which provide the basis upon which decisions are made.

School principals' decision-making patterns directly influence the success of the institutions of learning. Principals are leaders of secondary schools and are expected to manage the administrative tasks going on in their schools. The decision-making pattern of principals covers many areas, including instructional supervision, conflict management, disciplinary actions, teachers' evaluation, funding, and resource management, among others. For principals to be effective in their roles as school heads, they have to be hard-working. The roles of principals are time-consuming, and as such, principals are to create time to supervise the activities of the school.

Decision-making, as regards supervision of instruction, according to Nwabueze (2016), is one of the principal's areas of operations. The principal, as an educational leader, plays a crucial role in the achievement of the educational system. Such roles include teaching, administration, planning, organizing, directing, coordinating, and budgeting. For a principal to be successful in his or her position as an administrator, he or she needs to really examine himself or herself and

be aware of what he or she must believe. Importantly, decision-making is crucial at the personal and professional level because it is a cognitive process that results in picking the best action from numerous alternatives.

According to Obadimeji and Oredein (2022), decision-making is a management function that determines the overall success of an organization. Thus, it is perceived as a function of management that involves the choosing of a course of action based on possible outcomes. Decision-making is considered a vital management function that determines the goals and objectives of every organization. The principal's role is to make decisions on every operation of the school. Most importantly, the challenging and complex aspect of the job of a principal is decision-making because a bad decision is inimical to the overall effectiveness. Hence, the achievement of the school system is a function of the sound decision-making ability of the principal.

Principals' decision-making on instructional supervision is crucial for the practical realization of school objectives through adequate supervision, monitoring, and inspection. Decisions on instructional supervision, when undertaken by the school, are essential to improve every facet of the school so as to realize the school's goals (Chen, 2018). One of the significant roles played by the principal is instructional supervision. Principals are to monitor what goes on in the school system to ensure compliance with the rules and regulations.

Principals' decision-making on conflict management can also be described as an essential component of the school system. Consequently, conflicts have become part of human organizations the world over. Importantly, schools are made up of people with different attitudes, beliefs, abilities, and personalities. Therefore, conflict is inevitable. Conflict in school settings is a daily occurrence simply because a consensus concerning rules governing the school exists among the participants, for instance, administrators, students, teachers/ lecturers, parents, and other participants in education. The principals are paid to enforce discipline in the school system. A fundamental variable necessary for students' success is the enforcement of discipline. Arguably, many scholars have noted that the poor performance of students is linked with a high rate of indiscipline.

Problem Statement
Teachers and students' performance is an issue of great importance to various education stakeholders. The pattern of principals' decision-making in schools can either make or mar the overall success of the school. Poor decision-making patterns of principals regarding instructional supervision, conflict management, and disciplinary

actions can lead to adverse outcomes in the school system. Furthermore, the complexity of decision-making patterns in schools has been linked to large enrolment, poor funding, and lack of instructional supervision, high rate of indiscipline, inadequate learning materials, low staff strength, and congested classrooms.

Consequently, all these challenges put pressure on school principals in the areas of making decisions. Therefore, the paper explored principals' decision-making patterns in public and private schools in Kwara State.

Purpose of the Study

This paper explored the patterns of principals' decision-making in Kwara State. Other objectives are to:

i. examined decision-making patterns of principals on instructional supervision in Kwara State.

ii. investigate the patterns of principals' decision-making regarding conflict resolutions.

iii. assess the principals' decision-making pattern on disciplinary acts.

Research Hypotheses

Ho1: There exists no difference between the decision-making patterns of principals on instructional supervision.

Ho2: No difference exists between principals' decision-making patterns on conflict resolutions in Kwara State.

Ho3: No difference exists between principals' decision-making patterns on disciplinary action in Kwara State.

Literature reviewed

Several studies have been done in and outside Nigeria on principals' decision-making, but the results have been inconclusive. For example, Yambo and Tuitoek (2014) determined the effectiveness of principals in decision-making in Kisumu District, Kenya. The study found that the sponsors of the school make most of the school decisions. A study that focused on principals' decision-making strategies and teachers' involvement in instructional task performance in Ondo, Nigeria, was undertaken by Ayeni (2018). The study found that principals' decision-making strategies are significantly related to teachers' instructional tasks and students' performance.

Mulwa et al. (2019) investigated principals' alternative ways of making decisions regarding the discipline of students in schools. Results indicated that no significant difference exists between students' discipline and collaborative decision-making. Essentially, the disciplinary act has to do with self-respect, control, dignity, and worth

against unethical behavior (Amaewhule & Nukan-Adebayo, 2019). Wordah and Ekwesianya (2020) investigated the decision-making of principalship and the performance of teachers'. It was found that a moderate relationship exist between decision-making and teachers' performance.

A study that examined the decision-making strategies of principals and discipline was undertaken by Okereke et al. (2021). The findings revealed that decisions implemented by the principal influence students' discipline. Yambo (2022) assessed the skills of principals in decision-making on students' academic outcomes in Kenya. It was found that the decision-making skills of principals accounted for 63% of the students' performance in Nyanza Region, Kenya.

In the year 2022, Akomolafe and Akinyemi investigated a study on principals' participatory decision-making, motivation, and teachers' effectiveness in southwest Nigeria. The result showed that secondary school teacher effectiveness was high. Furthermore, principals' participatory decision-making had a relationship with the effectiveness of teachers and also between motivation and teacher effectiveness. A study on job commitment and the process of principals making decisions was conducted by Akinjide (2022) at Oyo State. Results revealed a fair decision-making ability of the school principals but a low job commitment of teachers.

Owuor et al. (2022), in their study, investigated student participation in decision-making with regard to discipline in Kenya and found that students have an average level of discipline. However, students' participation in decision-making had a significant influence on discipline. The approaches employed by school principals when making decisions vary according to the exigencies of the situation at hand (Jonathan & Olukayode, 2022).

In 2023, Oredein and Opatunde investigated skills of decision-making by principals and effectiveness in Oyo State, Nigeria, with the result revealing a high level of effectiveness. Furthermore, decision-making skills and effectiveness had a significant relationship. The finding of William, Takon, Temilayo and Okafor (2023) indicated that directive decision-making approaches had a significant relationship with employees' job performance. Ekeh et al. (2023) found that consultative and consensus styles of decision-making influence the effectiveness of principals in schools. Offor and Obiekwe (2024) in their study on principals' decision-making enhances job performance in Anambra State's public secondary schools, while directive styles has a lower, but significant impact. Ojo et al. (2025) in their study on decision-making styles and polytechnic effectiveness in Kwara State, Nigeria found an average level of school effectiveness and that directive style was the

most prevalent style of decision by polytechnic administrators in Kwara State.

Materials and methods

The descriptive design was adopted for this research. The design describes the attributes of a group of people and areas of interest. The entire population consists of 2,777 teachers in the 398 public and 7,969 teachers in the 249 private schools in Kwara State (source: Nigeria Digest of Education Statistics, 2022). A sample size of 338 and 367 public and private school teachers were used as respondents, respectively, using Krejcie and Morgan's (1970) sample size table. The 705 respondents were selected via a random sampling technique. An instrument titled Principals' Decision-Making Pattern Questionnaire (PDMPQ) is structured along a four-point scale. Importantly, specialists in the test and measurement field validated the instrument, and the reliability coefficient yielded 0.84.

Results and discussion

This aspect focused on data analysis on the patterns of decision-making by principals in Kwara State, Nigeria.

Hypothesis Testing
Main Hypothesis

Ho: There is no significant difference between public and private school principals' decision-making patterns in Kwara State.

Table 1: T-test comparing Public and Private Schools of principals' Decision- Making Patterns

Variable	N	x̄	SD	Df	t-cal	t-crit	Sig(2-tail)	Decision
Public	338	5.76	1.11	198	4.763	1.96	.000	Rejected
Private	367	3.60	2.24					

*Significant P< .05

Table 1 revealed that the calculated value of 4.76 is greater than the t-value of 1.96; hence, the hypothesis was rejected. This revealed that a difference exists between public and private school principals' decision-making patterns in Kwara State.

Operational Hypotheses

Ho$_1$: There is no significant difference between unity and private school principals' decision making pattern on instructional supervision in Kwara State.

Table 2:

T-test comparing Public and Private Schools of Principals' Decision-Making Pattern on Instructional Supervision

Variable	N	Mean	SD	Df	t-cal	t-crit	Sig(2-tail)	Decision
Public	338	4.88	1.24					Ho$_1$
				198	6.647	1.96	.000	Rejected
Private	367	2.83	.94					

*Significant P< .05

Table 2 showed that the t-value of 6.647 is greater than the critical t-value of 1.96. Therefore, the null hypothesis between principals' decision-making patterns on instructional supervision is rejected. This shows that a difference exist between public and private school principals' decision-making patterns on instructional supervision in Kwara State.

Ho$_2$: There is no significant difference between public and private school principals' decision making pattern on conflict resolutions in Kwara State.

Table 3:

T-test comparing Public and Private Schools of Principals' Decision Making Pattern on Conflict Resolutions

Variable	N	Mean	SD	Df	t-cal	t-crit	Sig(2-tail)	Decision
Public	338	5.94	1.88					Ho$_2$
				198	5.163	1.96	.000	Rejected
Private	367	3.44	1.74					

*Significant P< .05

Table 3 revealed that the t-cal of 5.163 is greater than the critical t-value of 1.96. Hence, the hypothesis on school principals' decision-making patterns on conflict resolutions is rejected. Therefore, a significant difference between public and private school principals' decision-making patterns on conflict resolutions in Kwara State.

Ho$_3$: There is no significant difference between public and private school principals' decision making pattern on disciplinary act in Kwara State.

Table 4:

T-test comparing Public and Private School of Principals' Decision Making Pattern on Disciplinary Act

Variable	N	Mean	SD	Df	t-cal	t-crit	Sig(2-tail)	Decision
Public	338	4.76	.32					Ho$_5$
				198	3.981	1.96	.000	Rejected
Private	367	2.68	.87					

*Significant P< .05

From table 4, the result revealed that the calculated value was 3.981 and a critical t-value of 1.96. Since the calculated t-value is greater than the critical t-value, the hypothesis, which states that there is no significant difference between unity and private school principals' decision-making patterns on disciplinary acts, is rejected. Therefore, a difference exists between unity and private school principals' decision-making patterns on disciplinary acts in Kwara State.

The finding from the central hypothesis in Table 1 revealed that differences exist between public and private principals' decision-making patterns in Kwara State. The finding disagreed with that of Menka (2016), who found no difference between the decision-making skills of government and private schools. Findings of the first null operational hypothesis, as contained in Table 2, revealed a difference between principals' decision-making patterns on instructional supervision in Kwara State. From the statistical result, the mean score of the public school principal decision-making pattern on instructional supervision was 4.88, and it is higher when compared with the private secondary school, which was 2.83. Hence, the public school principal performs better than the private school principal in the area of instructional supervision. The result of the study agreed with Nwabueze (2016) and Chen (2018) whose study found that decisions on instructional supervision, when undertaken by the school, are essential to improve every facet of the school so as to realize the school's goals.

The null operational hypothesis two in Table 3 shows a significant difference between principals' decision-making patterns on conflict resolutions. From the statistical result, the public school principal decision-making pattern on conflict resolutions was 5.94, which is very high compared to that of their private counterparts, which was 3.44. Hence, the public school principal performs better than the private school principal in the area of conflict resolution. The finding disagreed with the finding of Owulor (2023) that teachers were not involved in decision-making in spite of their eagerness.

The findings of null operational hypothesis three, revealed that there is a significant difference between public and private school principals' decision-making patterns on disciplinary acts. The findings further

revealed that the mean score of public school principals' decision-making pattern on disciplinary acts was 4.76, while that of private schools was 2.68. This shows that the public school principals were better at disciplining their staff than their counterparts. This low level of discipline can be said to account for the different defiant behaviors among secondary schoolgoers nowadays.

Conclusion and recommendations
In line with the findings, a significant difference exists between principal decision-making patterns in the two categories of schools in Kwara State. From the analysis done, public school principals perform better than private school principals in all the areas of decision-making studied (instructional supervision, conflict resolution, and disciplinary acts). In line with the findings, the study recommends that:
      i. The principals of public and private secondary schools should formulate clear instructional supervision decisions regarding the operations of their schools.
      ii. The principals should formulate effective conflict resolution decisions so as to improve the relationship of school members.
      iii. The principals, as a matter of urgency, make sound decisions on disciplinary measures and ensure that they are placed in conspicuous places for the students and staff to see.

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DIMENSIONS OF SOCIAL INCLUSION IN THE CONTEXT OF VISUAL IMPAIRMENT: A CASE STUDY ON LEBER'S HEREDITARY OPTIC NEUROPATHY

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Abstract: *The paper explores the social inclusion of people with visual impairment, namely, Leber's hereditary optic neuropathy, which is a rare condition, the prevalence being one in 50,000 people. The paper is developed around the case study and highlights the challenges and difficulties experienced by a healthy person who is suddenly diagnosed at the age of 20 with Leber's hereditary optic neuropathy. The research uses the qualitative method, and the practical implications are aimed at reducing the psycho-emotional difficulties of people with visual impairments, early recognition of symptoms and promoting social equity and inclusion.*

Keywords: *Leber's hereditary optic neuropathy; psychological challenges; inclusion; stigmatization; case study.*

Introduction
Article „Dimensions of social inclusion in the context of visual impairment: A case study on Leber's Hereditary Optic Neuropathy" focuses on promoting equity and social inclusion among individuals with visual impairments, specifically those diagnosed with Leber's hereditary optic neuropathy (LHON).

Interdisciplinary and intersectoral approaches in social work emphasize social inclusion, and Leber's optic neuropathy presents a rare case study, as the estimated prevalence of this condition is 1 in 50,000 people. The article discusses the challenges and difficulties encountered by an individual who, up until the age of 20, was healthy but was suddenly diagnosed with Leber's hereditary optic neuropathy, leading to a dramatic change in their life.

The case study highlights psycho-emotional difficulties, stigmatization, discrimination, and the specific responses from friends, family, and

both public and private institutions. The study is relevant for a better understanding of the issues faced by individuals with visual impairments and aims to foster respect, empathy, and the role of social work in improving the quality of life for vulnerable groups.

Additionally, the article explores the positive aspects of the diagnosis as a bridge between disability and ability. In this regard, Leber's hereditary optic neuropathy is analyzed from multiple perspectives to enhance its application in the education and professional training of social workers.

The World Health Organization's 2019 World Report on Vision states that 2.2 billion people face vision impairments. The loss of autonomy represents a significant issue, as spatial orientation, environmental perception, clear understanding of location, and the ability to navigate are all hindered due to the presence of visual impairment.

Mustață (2019) highlights the connection between hereditary conditions, such as optic neuropathy, and the manifestation of anxiety in an individual's life. The author notes that affected patients may also experience heart problems associated with anxiety and hereditary optic neuropathy. Social support is identified as the main factor in managing anxiety, as interaction with close individuals or medical professionals helps reduce anxiety by allowing fears related to the difficult situation to be expressed. Social support is a factor that decreases the level of depression and indicates higher treatment adherence; thus, we can deduce the role and necessity of an extended support group.

Roșca (2015) emphasizes that devices such as computers and emerging technologies are among the most frequently utilized tools by individuals with visual impairments. Although assistive technologies significantly facilitate socio-professional integration, their high cost remains a major barrier. The financial burden associated with such tools is substantial, with prices ranging from approximately $100 for a basic scanner to $7,000 for a Braille printer. Consequently, many individuals with disabilities are unable to access these technologies, which exacerbates existing social and economic inequalities.

Phillips & Proulx (2018) state that social interaction involves observing gestures, attitudes, and non-verbal language—elements that are inaccessible to individuals with visual impairments. This inaccessibility often leads to frustration and social isolation. Sîrbu and Măligă (2015) studied the psychological aspects of individuals with visual impairments. Visual impairment can lead to feelings of inferiority, negative emotional states, depression, and anxiety, all of which negatively impact the emotional domain. The total or partial loss of visual capacity often results in financial instability due to the loss of work ability, as well as a decline in social status caused by

discrimination, the loss of support groups, and a decrease in personal independence.

Racu and Maximciuc (2018) state that social inclusion of individuals with visual impairments gradually declines when society instills the belief that such individuals are helpless, pitiable, limited in abilities, and incapable. Social prejudice causes stress as well as psychological and emotional suffering. The authors view disability more as a social construct than a purely medical condition. Therefore, recovery requires a change in society's attitudes and perceptions rather than a change in the individual's medical state itself.

Popovici (2015) states that psychological and emotional issues arise due to the stress caused by visual impairment. Stress influences the reactions of individuals with visual impairments, and decreased motivation for activity is one of its consequences. Stress is a characteristic of contemporary life, stemming from rapid change. Individuals are unable to quickly adapt to new survival conditions. Harmful environmental influences, combined with those specifically related to visual impairment, contribute to the emergence of what is known as stress. The more affected a person is by their diagnosis, the more deeply they become aware of their own adaptation challenges.

Cebotaru & Cebotaru (2018) argue that there are prejudices based solely on disability. Employers may hold preconceptions and stereotypes regarding the efficiency of employees with disabilities, the lack of positions compatible with the individual's qualifications, fear of being unable to dismiss an employee with a disability due to legal regulations, fear of creating conflicts among employees, and prejudices suggesting that individuals with visual impairments are not as well-prepared or qualified to be integrated into the labor market.

Jackson et al., (2019) investigated the emotional state of individuals with visual impairments and concluded that they are at a higher risk of experiencing discrimination, depression, anxiety, psychiatric distress, and reduced mental well-being. The researchers showed that people with visual impairments tend to have poorer mental health compared to the general population. Reduced social contact and feelings of loneliness are factors that contribute to increased anxiety and depression. The association between visual impairment and lower life satisfaction is scientifically supported, with some evidence suggesting that vision loss is linked to the onset of depression.

La Morgia et al., (2024) state that Leber Hereditary Optic Neuropathy (LHON) typically manifests in adulthood and only rarely at birth or during childhood. Patients are often misdiagnosed, which leads to delays in initiating appropriate treatment. According to Carelli et al. (2023), the most critical aspect of the disease is timely diagnosis, as

treatment must begin promptly due to the condition affecting the optic nerve. LHON is maternally inherited, and its main clinical feature is the sudden, painless loss of vision over a short period of time.

Mackey et al., (2025) state that Leber Hereditary Optic Neuropathy (LHON) affects vision and ultimately leads to vision loss. When considering any condition that results in vision loss, it becomes evident that such an outcome has a devastating impact on the life of the diagnosed individual, with social and professional adaptation requiring time and patience. Individuals facing LHON need counseling and emotional support to cope with the trauma associated with the condition.

According to Watson et al., (2023), from a medical standpoint, vision loss following an LHON diagnosis is to be expected; however, affected individuals require comprehensive support across all domains. Those left with low vision need assistive technologies tailored to their needs in order to overcome daily challenges and continue living independently. Moreover, state support is essential in helping them develop the skills and competencies necessary to function autonomously.

Von Graefe (1858) noted that the diagnosis of Leber Hereditary Optic Neuropathy (LHON) is most frequently observed in young males. Wallace et al., (1998) discovered that the mutation associated with LHON is linked to the maternal gene. In many cases, individuals may carry the pathogenic variant without developing symptoms, or symptom onset may be delayed or absent altogether.

According to Pandya et al., (2024), the clinical hallmark of the disease is a painless, sudden loss of vision in one eye, followed shortly by the second eye, typically within a few weeks to one year. Stramkauskaitė, et al. (2022) report that most cases of disease onset occur between the ages of 15 and 35, with a higher prevalence among males. Specifically, the average age of symptom onset is 25 years for males and 30 years for females.

Kearns et al., (2025) discussed Leber Hereditary Optic Neuropathy (LHON) and highlighted the main challenges and difficulties experienced by individuals diagnosed with the condition. Vision loss significantly hinders personal and professional development; reading, interacting, socializing, recognizing people, and driving become major obstacles. Chen et al., (2022) note that treatment options remain limited, with no conclusive evidence of symptom resolution. Thus, the authors emphasize that the primary needs of individuals diagnosed with LHON involve identifying suitable professions that support autonomy and independence, as well as focusing on personal development in their current situation. According to the authors, this is

the only intervention with long-term effects for individuals with LHON.

Hage et al., (2021) argue that advancements in technology contribute to a more independent life for LHON patients. In cases of vision loss, newly developed self-driving cars, various reading-assistive software, smartphones, and applications can support individuals in their daily tasks and responsibilities, leading to greater autonomy. However, it is also noted that such smart technologies often involve high costs.

Bušányová et al., (2024) state that the sudden loss of vision represents a life-altering event that profoundly impacts both future experiences and present emotional states. For individuals who possess a driver's license, vision loss renders them unable to drive, often resulting in a perceived loss of independence and autonomy.

From a psychological perspective, affected individuals may experience loneliness and social isolation, as they are no longer able to read signs or move around independently. Emotional well-being, psychological health, interpersonal relationships, and leisure activities—all these aspects of life are significantly affected following the onset of vision loss.

An imprecise language in the field of social work can create confusion, and people with disabilities are much more vulnerable to misunderstandings and discrimination. In this sense, individuals with disabilities interpret words in a dual way, as these can either act as facilitators of social inclusion or become terms that generate stigmatization. (Goian, 2010)

Moreover, in the educational context, Goian (2020) points out that bullying can even stem from a disability, which should instead generate empathy and involvement, not barriers. Consequently, bullying situations experienced by children with disabilities can lower their self-esteem, and the social worker's role is to act as a mediator.

In 2013, Goian conducted research focused on the social work system in the Banat region and highlighted existing shortcomings that can affect vulnerable groups, including persons with disabilities. This emphasizes the importance of the professional integration of specialized staff in the field, as well as the urgent need for adequate funding. Moreover, in this context, it becomes clear that services dedicated to persons with disabilities must be strengthened, thereby supporting equal access to rights and facilitating their social and professional integration.

Leber Hereditary Optic Neuropathy (LHON) is a rare maternally inherited disease, with symptoms appearing unpredictably; some individuals carrying the mutation may remain asymptomatic throughout their lives. As emphasized in the specialized literature,

accurate, efficient, and early diagnosis represents the primary chance of preserving vision.

The later the diagnosis is made, the lower the chances of effective therapeutic intervention and psychological and social adaptability. Beyond the visual impairment itself, LHON has significant consequences on quality of life. A holistic approach is essential—one that is centered on the patient's specific needs and focuses on managing the symptomatology in collaboration with the affected individual.

Methodology

The purpose of this research is to identify the social and professional challenges and difficulties experienced by individuals diagnosed with Leber Hereditary Optic Neuropathy (LHON).

Objectives

O1: Identification of the barriers and difficulties related to the socio-professional integration of individuals diagnosed with Leber Hereditary Optic Neuropathy (LHON).

O2: Exploration of strategies aimed at improving the socio-professional integration of individuals diagnosed with Leber Hereditary Optic Neuropathy (LHON).

Research questions

Q1: What are the barriers and difficulties in the socio-professional integration faced by individuals diagnosed with Leber Hereditary Optic Neuropathy (LHON)?

Q2: What are the strategies aimed at improving the socio-professional integration of individuals diagnosed with Leber Hereditary Optic Neuropathy (LHON)?

Sample and instrument

The research group consisted of 10 males from Romania diagnosed with Leber's hereditary optic neuropathy (LHON) in the last 10 years. They provided their own case studies, recounting their life stories from the onset of the first symptoms and all subsequent stages. There was no interview guide; instead, each respondent shared their case study during a 1-hour phone call, voluntarily.

Russell (2022) discusses the qualitative method based on the interview guide and life story. The life story represents a highly effective tool, especially in investigating the resilience of respondents. Both the researcher and the respondent co-create a narrative through the life story, which aids in identifying the resilience techniques used during

the research process. González-Macías (2019) states that the life story as a qualitative tool is primarily used to highlight individual and personal experiences, offering an authentic perspective in the social field.

Data collection and processing
All respondents voluntarily participated in the research, and confidentiality and research ethics were fully respected. Relevant information for the research was extracted from the case studies, without any personal data. The case studies were collected via phone, starting from the life story related to the onset of the first symptoms. Each respondent presented their life story in approximately one hour. The respondents were aware of the purpose and objectives of the research.

Results and Discussion
Popovici and Diaconescu (2018) argue that individuals with visual impairments may face discrimination even within educational institutions, as these are often not adapted to meet their specific needs. The authors highlight several forms of pedagogical inadequacy, including the lack of curriculum modifications, insufficient teacher training to adequately respond to the needs of students with visual impairments, and unproductive attitudes. These attitudes may manifest either as lowered academic expectations—leading to social exclusion—or, conversely, as excessively high demands that contribute to the development of an inferiority complex. All these are forms of discrimination experienced by persons with disabilities.

Belibova (2018) considers that socio-professional integration depends both on the educational training of the young person with a disability and on the way society responds to this need. Often, individuals with visual impairments do not benefit from equal opportunities in accessing employment due to social segregation and prevailing prejudices.

Visual impairment affects individuals on multiple levels. In the educational sphere, institutions are expected to ensure equality among individuals, and to respect personal dignity and integrity. However, educational opportunities are often compromised due to various barriers, such as public negative attitudes and, most notably, inadequate equipment that fails to facilitate access to education for persons with visual impairments. Another significant barrier is the high cost of education, as institutions often struggle to procure specially designed educational materials for students with visual impairments. The lack of teacher training, inappropriate approaches toward

individuals with disabilities, insufficient funding, and the rigidity of legislation are additional factors that hinder the educational process. (Omede, 2015)

The main themes that emerged from the data collection and analysis are: the onset of visual impairment and its impact on individual development, the importance of the family environment in personal development, forms of discrimination and social stigmatization of individuals with visual impairments, the interaction of persons with visual impairments with public and private institutions, the social climate and its role in the inclusion of individuals with visual impairments, psycho-emotional difficulties associated with visual impairment, and strategies for improving the quality of life of individuals with visual impairments.

Regarding the onset of visual impairment and its impact on individual development, the collected data indicate that the first visual problems appeared at the age of 20. The condition had a sudden onset, as the person began experiencing initial symptoms such as no longer being able to distinguish people around them, read, or follow university courses. The respondent initially thought they simply needed glasses or that the symptoms were caused by an irregular schedule and fatigue. They had been dealing with poor-quality sleep and a demanding work schedule for a long period of time. The respondent also mentioned facing financial difficulties, which delayed the decision to consult a specialist for a diagnosis. The first diagnosis received was incorrect, as the right eye was already severely affected, and the specialist assumed that the respondent had never had functional vision in that eye.

„Until 2017, at the age of 20, I had no health problems, and in May 2017 I began to notice the first signs—I started not seeing very well and thought it was due to a busy period. Then I realized I could no longer see well enough to write, read, or recognize people. At that moment, I believed it was just a matter of needing glasses, so I waited until I could afford a consultation. On June 1st, I finally went to an eye exam, and the woman there asked me if I had ever been able to see with my right eye.”

After the first consultation and incorrect diagnosis, the respondent underwent frequent visits to both private ophthalmology clinics and public healthcare facilities in search of answers. The main issue was that each ophthalmologist provided a different diagnosis—ranging from optic nerve problems, neurological issues, multiple sclerosis, brain tumor, and optic neuritis, to the final diagnosis: Leber's hereditary optic neuropathy. The doctor who made the correct diagnosis informed the respondent that in the future, they would only be able to distinguish between light and darkness, as Leber's hereditary

optic neuropathy is an incurable condition. The way the specialist communicated the diagnosis was direct and harsh.

„I was hospitalized for further investigations, and the initial diagnosis was optic neuritis. I then scheduled an appointment at a private clinic for July 10th, where I was given the correct diagnosis: Leber's hereditary optic neuropathy."

In terms of the influence of the family environment during the period of adjustment and understanding of visual impairment, data analysis reveals that the family provided support, particularly in how they responded to the new diagnosis. The paternal side of the family visited the Ministry of Health daily to present the case of their son and initiated a fundraising campaign due to the high cost of the medication, approximately 4,000 €. Financially, the family was highly involved; however, in the psycho-emotional sphere, they did not offer the moral and psychological support necessary for the patient to fully process and understand the impairment. The patient reported feeling, for a long time, like a "pet," as he was unable to perform any tasks independently and was treated by others as a helpless patient.

Following the diagnosis, genetic tests were conducted, revealing that the condition had been inherited from the maternal side. This was followed by a period of denial, frustration, and blaming the mother, grandmother, and maternal relatives, leading to negative and rejecting behavior. A bureaucratic issue arose concerning the initiation of the necessary procedures for disability classification and receiving the allowance. Upon encountering the term "disability grade," the respondent exhibited a sense of helplessness. Furthermore, the denial of the impairment resulted in a lack of recognition of the condition, which delayed the process of disability classification. Based on the provided information, the respondent's difficult relationship with their family is evident. The family was involved in all of the subject's decisions, even in choosing a psychologist to start therapy. However, the therapy was brief and did not help the respondent get closer to their family.

„I didn't feel well anymore, so I chose to stay in another city, even during the vacation when I didn't have university courses. I didn't want to stay with my family, I didn't accept their help, and I felt like they didn't know how to behave around me. I experienced a sense of rejection not only towards my mother but especially towards my grandmother; I behaved badly, thinking that she was actually the one to blame. The family environment wasn't one that could help me; I wasn't communicating with either the doctor or my family."

Following the diagnosis and the worsening of symptoms, the respondent began to experience situations of social exclusion. After the

onset of initial symptoms and prior to receiving a definitive diagnosis, the respondent was hospitalized for a series of medical investigations. It was during the first days of hospitalization that he first experienced social exclusion: while resting and having left his phone beside the bed, he awoke to find it stolen—an act likely motivated by his visual impairment, which prevented him from distinguishing his surroundings.

In addition to this incident, the respondent noted a progressive breakdown in his social environment. Friends began to distance themselves as the illness progressed, and the respondent's perception of others became increasingly impaired. Another example of social exclusion occurred in the way his friends reacted upon learning of his diagnosis. Although physically present, they no longer greeted him; he could only hear their voices. The respondent reported that, apart from his dormitory roommates, no one communicated with him.

Further experiences of exclusion were reported during the 2017–2018 academic year, when the respondent was required to take his university exams. While most academic staff agreed to accommodate him by allowing oral examinations, one professor initially showed understanding but later applied pressure during the exam session, repeatedly questioning when the respondent would be able to see again and suggesting that it was inappropriate for him to be examined differently from his peers. Ultimately, the respondent received the lowest possible grade, which did not reflect his actual knowledge. Another discriminatory incident occurred during a team-based seminar assignment. One of his colleagues expressed disdain toward the respondent, criticizing him for his inability to see and contribute effectively to the group's work.

„ We were required to divide into teams for a group project, and one of my colleagues questioned why I had ended up in her team. She told me that I was of no help, that I was a burden, and that I was useless. She added that she should have chosen a classmate who could at least see, even if that person contributed nothing. Additionally, I had a professor who initially stated that the exam would be in multiple-choice format and that I would be accommodated—someone would read the items aloud to me. However, toward the end of the academic year, she began to exert pressure, repeatedly asking when my vision would return and asserting that I would not be able to pass the exam.People I used to spend time with would walk past me without greeting me or speaking to me. I would sit in front of the dormitory, unable to see, but I could hear them passing by."

Regarding the interaction that visually impaired individuals have with public and private institutions, the collected data indicate that the

respondent lacks trust in the police authorities. After his phone was stolen, it took approximately one year for it to be recovered. In contrast to the disappointment experienced in this context, the respondent was positively surprised by the physician who confirmed his diagnosis. This doctor provided him with a voucher for free genetic testing and also connected him with a pharmaceutical company that could procure the required medication on the Romanian market.

The respondent expressed dissatisfaction with several physicians who offered him incomplete or inaccurate diagnoses, which did not reflect his actual condition. The Ministry of Health was another source of frustration, as frequent changes in leadership prevented continuity, and the medication he urgently needed was unavailable in Romania. This led to a profound sense of disappointment: for five months, the respondent lacked the necessary treatment, during which time his condition deteriorated significantly, ultimately resulting in complete vision loss.

In the educational sphere, some university professors excluded the respondent from student groups and failed to show empathy toward his diagnosis. However, the respondent continued his academic path and pursued master's studies after completing his undergraduate degree, thanks to the guidance and support of one faculty member who encouraged him to maintain social engagement. Another faculty member referred the respondent to an acupuncturist, which led to some improvement in his vision. Following several sessions, he was able to perceive writing on paper and distinguish people visually.

As a result of these experiences, the respondent underwent a significant shift in life perspective and decided to change his academic focus. For his master's program, he chose to study social work, driven by a desire to assist vulnerable groups.

„One university professor encouraged the respondent to pursue further studies in order to maintain social engagement and avoid isolation. Another faculty member recommended a physician specialized in acupuncture. After approximately one year of regular treatment sessions, the respondent reported a partial improvement in visual capacity. The medication required by the respondent was highly specific and unavailable due to the absence of a formal agreement (protocol) between the pharmaceutical company distributing the treatment and the Ministry of Health. Consequently, the respondent was deprived of necessary medication for a period of five months. During this time, his visual condition significantly deteriorated, leading to a complete loss of vision. The respondent described experiencing spatial disorientation in public spaces, including

accidental collisions with pedestrians due to the inability to distinguish environmental stimuli."

The respondent maintained stable social relationships only with his dormitory roommates at the university residence. These colleagues played a crucial role in supporting him through the challenges posed by his disability, which he perceived primarily as a handicap induced by the illness. The dormitory peers assisted him by reading course materials aloud, enabling him to retain information and complete his academic assessments successfully.

In contrast, the respondent reported a lack of support from other undergraduate colleagues, who tended to view him with pity and treated him as though he were fundamentally flawed. Their discomfort in being seen with him further reinforced his sense of social exclusion. Only a few close friends provided genuine emotional and psychological support, which contributed positively to his well-being.

Regarding romantic relationships, the respondent described an experience that brought both positive and negative effects. His partner offered a sense of emotional safety but also induced feelings of abandonment during periods of separation, especially when expressing romantic interest in others. This dynamic led the respondent to develop an insecure attachment style and emotional distress following the breakup.

In an effort to remain socially integrated and avoid feelings of marginalization, the respondent participated in cultural events and student conferences. However, rather than fostering inclusion, these experiences exacerbated his anxiety and frustration, primarily due to the persistent sense of stigmatization he encountered.

„The respondent stated that his dormitory roommates would read the study materials to him once, which was sufficient for him to retain the information and perform successfully in exams. His friends provided consistent psychological and emotional support, contributing significantly to his coping mechanisms and general well-being. The respondent also described entering a romantic relationship, which became a major source of emotional stability and confidence during that period. However, following the breakup—when his partner became involved with someone else—the respondent experienced significant emotional distress. He acknowledged developing a strong emotional attachment, and the abrupt end of the relationship, coupled with his partner's rapid shift of affection, left him struggling to accept the separation."

With the onset of visual impairments came psycho-emotional difficulties, both at an individual level and in interactions with public and private institutions. Consequently, adaptability led to the

development of patterns and coping mechanisms aimed at overcoming vulnerabilities and defending against discriminatory situations.

In the early stages of the illness, the respondent avoided expressing emotions and personal experiences within their circle of friends and family, using laughter as a defense mechanism in response to the diagnosis, in an attempt to avoid appearing different or emotionally vulnerable. Another coping mechanism was based on physical appearance. The respondent began attending therapy sessions with a psychologist, but the situation eventually worsened, requiring consultation with a neuropsychiatrist and the initiation of medical treatment.

Dissatisfaction with the eye area led the respondent to grow and neglect facial hair in an attempt to divert first impressions—particularly from men—away from the eyes and toward the beard. From the onset of the illness through to diagnosis, the respondent experienced numerous panic attacks. This was followed by a difficult emotional period characterized by social withdrawal and refusal to contact family members.

Although the psychologist referred the respondent to a neuropsychiatrist, the referral was initially rejected due to a reluctance to take medication. The respondent attempted to recover independently, aiming to prove the psychologist wrong. However, the situation deteriorated due to sleep deprivation, recurring nightmares, and panic attacks, eventually leading to acceptance of medication.

The respondent also reported undergoing acupuncture sessions that resulted in significant pain. The emotional distress was further compounded by a lack of independence. Emotional well-being worsened when institutions failed to acknowledge the legitimacy of the partial visual impairment diagnosis and did not provide appropriate support. At the onset of the illness, the respondent refused to learn Braille, feeling that assistive technology would further emphasize their difference.

„I began attending sessions with a psychologist, who only asked me about my daily activities and not much else. I found myself sinking deeper and deeper emotionally. Eventually, the psychologist recommended that I see a psychiatrist and begin pharmacological treatment. I wanted to overcome the situation on my own and then return to that psychologist to prove that I had managed without medication. However, things deteriorated further—I experienced sleepless nights, recurring nightmares, and panic attacks during sleep."

Alongside the development of defense mechanisms, strategies for improving quality of life also began to emerge. However, the positive

aspects were the most difficult to acknowledge. The respondent initially focused on gaining independence, striving to manage daily tasks alone for as long as possible in order to avoid feelings of helplessness and dependency.

One significant positive change was a shift in attitude toward the diagnosis. The respondent learned to extend greater compassion and empathy toward individuals with disabilities, expressing a desire to socialize and to understand the stories behind their impairments. Recognizing the self-imposed limitations became a strategy through which the respondent was able to appreciate personal successes and the overcoming of social barriers. Eventually, the disability came to be understood as something normal.

The respondent structured a supportive social circle made up of friends on whom they could always rely. They became aware of the pressure they had placed on themselves prior to the diagnosis, driven by dissatisfaction with their job, a desire to leave the country, and neglect of personal health. Although initially perceived as a burden, the disability was later understood as a turning point that helped slow down and recalibrate life.

At present, family relationships have improved, with communication becoming more effective among family members. The visual impairment has even become a catalyst for strengthening the bond with the respondent's father. Additionally, the disability fostered a deeper connection with spirituality, with the respondent acknowledging the importance of incorporating spiritual needs into their life.

„I became aware of the experiences faced by people with disabilities and developed greater empathy; I no longer avoid interactions with them. I was also able to recognize which friends remained by my side throughout the challenges. I sought to overcome the situation through spiritual means as well. Negative situations are often perceived as burdens, but they can also arise to ease our lives. Before the onset of my condition, I experienced high levels of stress, endured sleepless nights, and constantly thought about changing my job, leaving the country, and focusing solely on financial matters—neglecting my health in the process."

The illness has now reached a stable stage and is no longer progressing. In addition to the primary diagnosis, the respondent is also dealing with cardiac issues, which were identified following the onset of panic attacks.

Regarding the visual impairment, the respondent currently has no perception of distant objects, can distinguish people only when they are nearby, and is able to read large print but must be in very close

proximity to do so. However, reading more than one page per day results in severe eye and head pain.

Professionally, the respondent aspires to work with children, to engage directly with individual cases, and to offer support—particularly in the field of disability. They express a strong desire to volunteer in various projects and activities, as well as a wish to relocate to another city in order to move beyond the negative experiences of the past.

Following this narrative, both the researcher and the individuals involved in the study may formulate specific arguments regarding strategies aimed at improving the quality of life for persons with disabilities. It becomes evident that the involvement of social workers and medical professionals is essential in the lives of individuals with disabilities. Healthcare specialists must also address the psycho-emotional dimension of the patient and intervene when psychological or behavioral changes are observed.

Social workers within disability assessment institutions should extend their role to include counseling services, while society as a whole must learn to distinguish between disability and impairment. Institutional collaboration requires restructuring, as each professional currently focuses solely on their specific domain, despite the fact that the patient represents a complex individual with multifaceted needs requiring integrated services.

Moreover, the inefficient management of time within hospital institutions constitutes a persistent issue that must be addressed through systemic reform and improved coordination among service providers.

„Society needs to learn the difference between the negative term 'handicap' and the phrase 'person with a disability.' The involvement of social workers or family doctors is crucial, as they should observe whether there is a need for psychological counseling. While each professional works within their own area of specialization, the issues faced by individuals are multifaceted, and it would be ideal to go to a hospital where all necessary investigations are done at once, rather than being sent from one specialist to another, with each providing a different treatment.”

Specialized literature connects studies in the field with the results of current research. Guttman (2009) presents the term 'handicap' as an inability to exercise the capacity to participate in social life. In the current research, it is observed that the term 'person with a handicap' denotes helplessness and pity from others. Handicap becomes evident when the person in question faces social inaccessibility.

Turchina and Popov (2011) discuss the concept of visual impairment, which refers to both partial and total loss of vision. In the present

study, participants consider it important for society to understand that a person with a visual impairment does not have to have total vision loss; partial impairment can also exist.

The similarities between Mustață's (2019) work and the current research are significant. Both show a connection between the onset of a condition and the presentation of depressive symptoms in patients. Another similarity is related to the manifestation of heart problems that arise alongside the presence of anxiety and depression in the person's life.

Phillips and Proulx (2018) highlight the importance of observing non-verbal language in a person's life, as its absence can convey frustrations and anxieties, leading to social isolation, which the results of the current study confirm. Visual impairment exists, but hearing functioned, and individuals recognized others by the tone of their voice, yet there was disappointment as they were not included in the previous friend group due to their disability.

Swain et al., (2003) emphasize the importance of organizational involvement in improving the quality of life for people with disabilities. As indicated by the current research, there is a desire to improve the medical and social system through institutional collaboration

Conclusions

The first research question is associated with the barriers and difficulties in the socio-professional integration experienced by individuals diagnosed with Leber Hereditary Optic Neuropathy (LHON). The research findings indicate that upon receiving the diagnosis, the family environment faced communication challenges, particularly on the maternal side, as the disease is maternally inherited. Consequently, familial integration was altered, with individuals expressing blame toward their maternal relatives for their suffering. Social relationships became strained and shadowed. Discrimination and social stigmatization were reported from the onset of symptoms, with participants facing painful remarks from university peers and professors, and experiencing pity and humiliation. Close acquaintances withdrew from social interactions due to the shame of being seen in public with a visually impaired person. From the social to the educational environment, the pressure of visual impairment was strongly felt.

Interactions with both public and private institutions were described as disappointing, particularly due to one respondent's inability to access necessary treatment for five months, a delay caused by the lack of a signed protocol between the Ministry of Health and the pharmaceutical

company responsible for supplying the medication in Romania. As a result, their vision deteriorated further.

Social relationships fluctuated between periods of difficulty and moments of support. On a psycho-emotional level, participants reported episodes of depression and anxiety, having developed defense mechanisms in response to a society marked by social exclusion. Emotional difficulties included panic attacks, which led some individuals from therapy sessions to consultations with neuropsychiatrists and the need for medication.

The second research question focuses on strategies aimed at improving the socio-professional integration of individuals diagnosed with Leber's Hereditary Optic Neuropathy (LHON).

The findings reveal that, alongside the diagnosis and resulting visual impairment, participants reported several positive transformations. These included a shift in attitudes toward individuals with disabilities, increased involvement in volunteer programs and disability advocacy, and the development of compassion and empathy toward others facing hardship—motivated by the desire to understand the personal stories behind disabilities.

The disability was often perceived as a spiritual and positive turning point. Participants also reported improvements in their social relationships. For some, the onset of the disability marked a period of personal reflection and relief from the material and financial pressures of daily life.

Over time, the initial challenges were gradually overcome, and participants began to focus on future opportunities. These include socio-professional advancement, continued volunteer engagement, and pursuing careers aligned with supporting vulnerable populations.

Furthermore, in the future, it is essential for social workers and medical professionals to work collaboratively in identifying and addressing both the medical and emotional needs of individuals diagnosed with LHON.

The role of the social worker within the disability assessment services must also extend beyond administrative evaluation to include counseling and emotional support. Moreover, society should learn to distinguish between the legal notion of disability and the actual lived experiences and challenges faced by individuals with disabilities.

Institutional collaboration requires restructuring, as professionals often operate within isolated domains. Yet, the individual—viewed holistically—requires an integrated, interdisciplinary approach that combines medical, psychological, and social services.

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FROM HUMAN CAPITAL TO HUMAN DEVELOPMENT: THE TRANSFORMATIVE POTENTIAL OF MONTESSORI EDUCATION

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Abstract: *This paper explores the potential of Montessori education to contribute to a transition from the dominant human capital paradigm to a human development perspective, as conceptualised by Amartya Sen. Drawing on the work of Maria Montessori, it argues that true social defence does not rely on weaponry or economic productivity, but rather on forming individuals capable of living freely and harmoniously with others. Montessori's vision, which prioritises autonomy, empathy, and social cohesion, resonates with contemporary calls for education that fosters not only cognitive skills but also human dignity and interdependence.*

While empirical studies confirm that Montessori students perform equally or better in academic assessments, this alone is insufficient. The true promise of Montessori education lies in its potential to cultivate reflective, socially responsible individuals. However, such potential is contingent upon faithful implementation of Montessori principles. Based on recent research from different countries, the article highlights structural and cultural obstacles to high-fidelity implementation, especially in public education systems.

The paper concludes that quantitative growth of Montessori schools must be accompanied by qualitative improvement to truly impact social cohesion and peace-building. Educational reform is thus essential—not only to safeguard the Montessori legacy, but to make education a tool for human flourishing.

Keywords: *educational effectiveness; human development; Montessori method; peace education; social development;*

Defence and human development

Since March 2025, there has been increasing discussion among European states about rearming as a means of ensuring their defence through deterrence. On this matter, Maria Montessori wrote very clearly back in 1949:

> The issue of peace and war does not centre on the need to materially arm the people and strongly defend national borders. The "true frontier of defence against war" is man himself, and where man is socially disorganised and devalued, the universal enemy gains ground. (Montessori, 1949a, p. XV)

But what did Montessori mean by "socially disorganised"? In the same text, she explained:

> Today, there exists only an "organisation of things", not of people; only the environment is organised. Technical progress has set in motion a formidable mechanism that drags individuals along, drawn like dust to a magnet. This applies as much to workers as to intellectuals. All live in isolation from one another, focused on securing their material survival, drawn into the gears of a mechanised and bureaucratised world. […] Humanity must be organised, because the frontier vulnerable to breach—through which war enters—is not the material border of nations, but the unpreparedness of man and the isolation of the individual. (Montessori, 1949a, pp. XXII–XXIII)

Montessori contrasted an "organisation of things" with an "organisation of humanity". Today, in similar terms, we may oppose two socio-economic paradigms: the human capital model and the human development model (Mehrotra, 2005). The former treats education and health as investments aimed at increasing individual economic productivity and, by extension, GDP growth. In this view, a person's value lies in their market contribution.

The human development paradigm, on the other hand—promoted by the UN and Amartya Sen (1999)—regards education and health as fundamental rights and ends in themselves. Its goal is to expand people's freedoms and opportunities, improving collective well-being beyond mere economic gain (Baldacci, 2014).

Montessori education aims—albeit slowly—for a shift from the organisation of things to the organisation of human beings, from the paradigm of human capital to that of human development.

> The issue of peace cannot be seen merely in negative terms […] as the absence of war or the non-violent resolution of conflicts between nations. Peace inherently contains the positive notion of constructive social reform. (Montessori, 1949a, pp. XI)
>
> […] This immense social task is the true "valorisation" of the human being— the realisation of the fullest development of their energies and the preparation for a different form of human coexistence. (Montessori, 1949a, pp. XIV)

We might then ask: how, and to what extent, does the implementation of Montessori education today contribute to this transformation?

The Potential Contribution of Montessori Education

The answer to how Montessori education contributes to peace and human development can be found in many of Dr Montessori's writings. From her earliest publications, she argued that education must transcend the mere transmission of knowledge, becoming instead an "aid to life" and to the realisation of human potential (Montessori, 1948, 1949b). In contrast to the human capital paradigm—which assesses a person's worth by their economic productivity—Montessori's approach places the child at the centre, as the "builder of humanity" and of civilisation, not as an empty vessel to be filled (Montessori, 1949b).

Montessori education aims to shift from an "organisation of things" to an "organisation of human beings", valuing children's freedom and independence (Montessori, 1947a, 1948, 1949b). It seeks to liberate them from constraints and misunderstanding, allowing for self-directed activity and trusting in their "inner teacher". This nurtures strong character and social competence, enabling constructive conflict resolution (Montessori, 1947a, 1949b).

Unlike traditional schooling, which may foster dependence and passivity, the Montessori environment promotes psychological wellbeing and intrinsic motivation through focused, autonomous work (Montessori, 1947a, 1947b, 1949a). The ultimate aim is the full development of personality, culminating in "spontaneous discipline" and social cohesion based on will, unity, and collaboration (Montessori, 1947b, 1949b, 2007).

Such cohesion arises because Montessori education cultivates innate energies present from birth. If placed in the right environment, children naturally build a "society of cohesion", prioritising the group's honour over individual gain—a natural gift that emerges only when obstacles to development are removed. Unlike traditional schooling, which may discourage cooperation, the Montessori method fosters mutual help as the root of human goodness and social harmony (Montessori, 1949b).

Finally, we must acknowledge the role of cosmic education. As Montessori (1947a/1991) wrote:

> By cosmic education we mean a true preparation of the new generations to understand that humanity as a whole tends toward unity as a single organism. This idea should not be presented merely as a guiding ideal, but as a reality already in existence—though still in the process of becoming. The goal is not to incite cooperation among humans as if unity were something to be achieved, but to awaken an awareness of an existing condition that demands the conscious adaptation of human beings to the real state of affairs in which they already live (Montessori, 1991, p. 66).

Montessori education, therefore, seeks to make individuals aware—starting from childhood—of the deep reality of human interdependence

and solidarity that already exists at the material level. The task is not to create unity, but to reveal it.

Cosmic education in particular helps children realise how people keep each other alive through their work, demonstrating an intrinsic altruism that transcends the pursuit of economic gain. This becomes especially evident through the study of history, one of the disciplines of cosmic education. According to Montessori (1950), learning about the history of civilisation—highlighting the heroic deeds and sacrifices of those who contributed to progress—leads children to admire the nobility of altruism and the beauty of work done for the benefit of humanity, present and future.

This approach aims to form generations who are more aware of the intrinsic value of human beings, more open to dialogue, and better equipped to overcome isolation—thus contributing to authentic peace.

What Research Says About the Effectiveness of Montessori Education

To answer the second question—namely, to what extent the implementation of Montessori education supports the natural development of children, fosters a "cohesive society," and contributes to the shift from an organisation of things (the human capital paradigm) to an organisation of people (the human development paradigm)—we can turn to the available research on the effectiveness of this educational approach.

Montessori education is currently implemented in around 16,000 schools across more than 150 countries (Debs et al., 2022). Two recent independent reviews (Demangeon et al., 2023; Randolph et al., 2023) summarised findings from over 30 studies conducted in various countries. They concluded that Montessori education leads to better academic outcomes than traditional schooling and, according to some studies, also improves cognitive, social, and motor skills, as well as creativity.

These reviews do not include a recent Italian study (Scippo, 2023c), significant because Montessori education originated in Italy and is primarily delivered in state-funded preschools and primary schools—unlike most other countries, where only 9% of Montessori schools are publicly funded (Debs et al., 2022). The Italian research shows that Montessori students perform equally or better in standardised tests at ages 13 and 15, even years after completing Montessori schooling, compared to peers from similar socio-economic backgrounds. They also scored higher on empathy tests (Scippo, 2023b).

Implementation fidelity varies across schools and classrooms. In cases where Montessori education closely adhered to the original model,

children in primary school performed slightly worse and with more varied results in mathematics—likely due to the freedom to follow personal interests rather than curriculum targets. However, by the end of lower secondary school, these students not only caught up but outperformed others, with more even score distributions. These students also demonstrated stronger problem-solving skills, self-esteem, and empathy, potentially explaining their later academic recovery.

What Research Does Not Tell Us About the Effectiveness of Montessori Education

As shown, research appears to demonstrate—fairly robustly—that Montessori schools are capable of producing young citizens with equal or even superior academic knowledge compared to traditional schools.

However, evaluating the effectiveness of an educational approach primarily on the basis of students' performance in standardised academic tests means doing so within the framework of the human capital paradigm. The underlying reasoning is: they are better prepared, therefore they will be more productive. But is it enough to have more capable and productive individuals to transition from an organisation of things to an organisation of human beings? Certainly not. What is needed are people who are more aware that developing their unique selves—alongside others—is more important than economic growth or increases in GDP.

On this front, empirical research offers limited insight from an accountability perspective. When it comes to socio-emotional traits—such as social skills, empathy, and collaboration—the findings are more uncertain. International studies are not consistent. One review finds significant effects on social skills only in Asian contexts, with outcomes varying depending on study quality (Demangeon et al., 2023); the other reports small to moderate effects on creativity and social skills, but highlights the low quality of available evidence, particularly at the secondary level (Randolph et al., 2023).

Italian research, while promising, involved a limited sample of 13-year-olds from the Rome area and cannot be considered representative of the wider Montessori population, nor does it offer long-term findings.

Perhaps, as the English biologist and geneticist J.B.S. Haldane (1985) once noted in the 1930s, to prove the superiority of any new educational method, one would need to follow thousands of children over time to see which group produces, on average, better citizens (Haldane, 1985).

Demonstrating whether Montessori students become "better citizens" may well be an impossible task for empirical research.

The Question of Implementation
Empirical research provides not only outcome data but also insights into educational processes. To assess the extent to which Montessori education contributes to a shift from the human capital paradigm to that of human development, we can adopt a forward-looking perspective based on evidence concerning implementation processes. The idea is that the more closely the educational process in Montessori schools aligns with the founding principles of the approach, the more likely it is that such implementation is fostering the desired paradigm shift.

In recent years, several international studies have examined the fidelity of Montessori implementation, including work by Lillard (2012), Murray (2019), Murray et al. (2019), and Fleming et al. (2023) in the US; Chen (2021) in China; Van Niekerk et al. (2024) in South Africa; De Brouwer et al. (2024) in the Netherlands; and Scippo (2023a, 2023b, 2023c) in Italy.

These studies agree that implementation fidelity is a critical factor in understanding the outcomes of Montessori education and helps explain inconsistencies in effectiveness research. Fidelity refers to how closely a programme adheres to its original or ideal model (Lillard, 2012). High-fidelity implementations have been linked to improved outcomes in areas such as executive functions, reading, maths, vocabulary, and social problem-solving.

Key features of high-fidelity Montessori education include: mixed-age classrooms (typically in three-year groupings, e.g., ages 3–6), which support peer learning and social harmony; long, uninterrupted work periods (around three hours in the morning and two in the afternoon for older pupils), allowing for deep concentration; exclusive use of Montessori materials designed for hands-on learning and self-correction; and teachers trained in the Montessori method who act as facilitators and observers rather than direct instructors, often with a single lead teacher per class.

Nevertheless, the practical implementation of Montessori education varies considerably between schools—and sometimes even between classrooms. In the United States, a study conducted in South Carolina (Fleming et al., 2023) found that only 51% of public Montessori programmes operated with high fidelity. Adherence to the model is most consistent in terms of uninterrupted work periods and access to Montessori materials. However, the presence of mixed-age classrooms is less common. The study also revealed that schools attended

predominantly by Black, Hispanic, and low-income students tend to have lower levels of fidelity. A key challenge in the U.S. lies in the tension between the Montessori model and the broader educational accountability movement, which emphasises standardised testing—an approach often at odds with high-fidelity Montessori practice (Fleming et al., 2023).

In China, Chen's (2021) study noted significant growth in Montessori education, with high fidelity mainly observed in the use of mixed-age classrooms (present in 96.7% of cases). However, other aspects varied widely: most classrooms employed co-teaching (87.1%) rather than a single lead teacher, and in 74.8% of classrooms, afternoon work cycles were shortened or absent. These adjustments were often attributed to "localisation," aimed at adapting to Chinese cultural norms—such as collectivism—and national curricular requirements. Yet, such adaptations risk undermining the promotion of individual independence and social cohesion fostered by higher-fidelity practice (Chen, 2021).

In the Netherlands, Montessori education has historically taken a flexible and experimental form. Maria Montessori herself criticised the blending of her method with other pedagogies. Currently, high-fidelity implementation is not widespread. There is a strong commitment to allowing children to choose their activities, but the range of available activities does not always align with the original Montessori model (De Brouwer et al., 2024).

In South Africa, the study by Van Niekerk et al. (2024) revealed a marked gap between theory and practice. Teachers reported struggles with school leadership that did not understand Montessori principles, pressure from parents to introduce non-Montessori activities such as worksheets, and regulatory demands that led to the introduction of non-Montessori materials—all of which compromised the fidelity of implementation.

Research carried out in Italy (Scippo, 2023b, 2023c) is based on a questionnaire (Scippo, 2023a) administered to 329 primary school teachers—about one-third of the estimated total in the country. This tool collected valuable data on educational processes, specifically on how Montessori education is implemented in primary schools. The findings revealed significant variability.

Many teachers struggle to implement Montessori education in line with the original model, due to obstacles imposed by public school practices that "contaminate" Montessori settings or by structural limitations within the education system itself.

One major issue is the limited autonomy granted to children: only half of Montessori teachers reported that their pupils are free to choose their activities or go to the toilet without asking for permission. Another barrier is the fragmentation of the school day, often disrupted by mandatory subjects (e.g., English, religion, physical education), making it difficult to guarantee the three uninterrupted hours of self-directed or small-group work central to authentic Montessori practice.

Further challenges include the pressure to assign differentiated marks—despite the original model rejecting numerical grading—and the difficulty in organising mixed-age classes. Only 5.8% of teachers reported having children of at least three different ages (e.g., 9, 10, and 11) in the same classroom (Scippo, 2023c).

In summary, while the adaptability of the Montessori method may contribute to its global longevity and expansion (Debs et al., 2022), these studies highlight the risk that excessive divergence from its core principles could undermine its educational effectiveness.

Conclusions

As shown through the analysis of Maria Montessori's writings, the education she envisioned could, at least in principle, contribute to a gradual shift from the human capital paradigm to the human development paradigm. It aims to foster the spontaneous emergence of a "society of cohesion" in which children practise social skills for the good of the group and develop an awareness of human interdependence.

However, empirical research on the effectiveness of Montessori implementation largely reports positive results only in academic achievement—not in social-emotional abilities such as empathy or collaboration. This is likely due to the fact that, despite its global reach and its status as the world's largest educational reform movement, with an estimated 16,000 schools as of 2022 (Debs et al., 2022), Montessori education is rarely implemented in full fidelity to its original model.

In the United States, accountability demands—including standardised testing and rigid curricula—conflict with the Montessori emphasis on child-centred, intrinsically motivated learning. Under-resourced schools, often attended by disadvantaged students, are more likely to have low-fidelity implementation (Fleming et al., 2023).

In China, "localisation" efforts have led to practices such as co-teaching, lower teacher-student ratios, and shortened work cycles, aimed at aligning with state directives and collectivist cultural norms, but at the cost of individual independence and social cohesion (Chen, 2021).

In the Netherlands, Montessori education balances between strict adherence and flexible adaptation. Schools often use single-age classes and incorporate non-Montessori activities, influenced in part by parental pressure for academic results (de Brouwer et al., 2024).

In Italy, only half of primary Montessori teachers apply practices aligned with the original model—particularly in personalised learning and freedom of activity choice. Multi-age classrooms are rare, and rigid public school timetables hinder the extended, uninterrupted work cycles that are fundamental to Montessori education (Scippo, 2023c).

It is perhaps unsurprising that in societies dominated by the human capital paradigm, an educational model aiming to promote a different vision—one that centres human development in harmony with others—struggles to find space.

Nevertheless, the existence of high-fidelity Montessori schools in every country studied shows that these barriers can be overcome. Achieving this requires strong collaboration among the entire school community: teachers, leadership, families, and support staff (Ceccacci et al., 2016). For such collaboration to become widespread, structural reforms are needed—reforms that would benefit not only Montessori schools, but education as a whole.

It is therefore clear that, if we wish for Montessori education to contribute to a slow and progressive shift from the human capital paradigm to that of human development, the question of implementation must be addressed. At the very least, it must be acknowledged and efforts made to promote authentically Montessori education—rather than simply being satisfied with the numerical growth of Montessori schools, as highlighted in several studies.

In the United States, for example, Fleming et al. (2023a) report that the number of public Montessori programmes rose from 550 to 570 between 2016 and 2023, marking a rapid shift from private to public provision. Fleming and Culclasure (2023) also note the expansion of Montessori schools in South Carolina.

In China, estimates of the number of schools vary widely, but Debs et al. (2022) estimate around 1,100 Montessori schools in 2022—a figure requiring ongoing monitoring, given the rapid evolution of China's educational landscape.

In Italy, the number of Montessori primary school sections grew from around 50 in 2016 to approximately 130 by 2025 (Scippo, 2022).

In short, the quantitative expansion of Montessori schools cannot, on its own, bring about meaningful change in the societies where it occurs unless it is accompanied by a qualitative improvement in the education

they offer—specifically, a concerted effort to ensure faithful implementation of the model envisioned by the Italian educator herself. In conclusion, Montessori education could help build a more peaceful world—if we have the courage to follow the path indicated by Montessori, paying close attention to implementing her original model. Then, Montessori schools could nurture generations of individuals who are not only better prepared, but above all, more deeply aware that the human being is a value in themselves, one that must develop freely and in harmony with others.

Such generations would surely be better equipped than ours to move from an organisation of things to an organisation of human beings, from a paradigm of human capital to one of human development. They would be more capable of dialogue across borders, of speaking to one another, and of reducing both the unpreparedness and the isolation of human beings when confronted with the enemy—that is, war.

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IMPLICATIONS OF FOOD DESERTS AND FOOD SWAMPS AT SCHOOL ENVIRONMENT

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Abstract: *This study explores the implications of food deserts and food swamps in school environments, particularly in relation to health outcomes and academic performance. Food deserts refer to areas with limited access to healthy food options, while food swamps are areas with an abundance of unhealthy food choices. The study highlights the negative effects of food deserts and swamps on students' health, including obesity, diabetes, and other diet-related diseases, as well as poor academic performance. The research emphasizes the need for healthy food options in schools and the importance of nutrition education to promote healthy eating habits among students. By understanding the impact of food deserts and swamps on students' health and academic performance, policymakers and educators can work together to create healthier school environments that support students' overall well-being.*

Keywords: *food deserts; food swamps; schools; obesity; cancer; death; poor academic performance; health education.*

Introduction

The nutritional problems in youngsters at any life stage are significant. However, nowadays there is rise in prevalence of nutritional problems such as overweight in children and youngsters from infancy to 19 years, everywhere in the world. In 2020, about 39 million children (below the age of 5 years) are affected by obesity or overweight, and over 340 million children (5-19 years old) are affected by obesity or overweight (as being obese) (UNICEF, 2021). Youngsters are at high risk of developing nutritional problems, such as obesity, if they are close to ultra-processed foods (empty calories), and in turn afflicted by chronic diseases such as heart diseases, cancer, diabetes; therewith, increased morbidities, and mortalities is great concern (Sheena, 2020; UNICEF, 2021; Collado-soler et al., 2023). Food environments, such as food deserts or food swamps make it very hard for the young ones to obtain, afford, and consume healthy foods for growth, learning, and

development (Saraca & Butnariu, 2020). This is fueled by the consistent persistence of the food industries in making wide range of food marketing through several modes, and making empty calories available, cheaper, convenient, and highly promoted while risking the health of children (UNICEF, 2019). Vaida (2013) in a study of fast foods in urban (adolescents) students in Kashmir, revealed that, flavor, fast service, and availability, are major drivers to empty calories. Vidya et al. (2015) assessed school going children for junk food consumption pattern, using a sample size of 200, taste, marketing using television, and advertisements, spur junk food intake among children. Rezae (2017) determined the frequency and attitudes to fats food consumption in southeastern part of Iran (Yasuj), out of 540 respondents (18-45 years old), there was high consumption of fast foods among youths and students. Lalnunthara & Kumar (2020) in a study of Mizoram College students indicated that, out of 150 respondents, only 23% are conscious about health effects of fast foods. The college was not doing any tangible efforts to curb the spread of fast foods around premises. Mageswari et al. (2021) determined knowledge of pregnant women concerning health effects of junk foods in Tirunelveli, India. The results revealed that, 80% of the women revealed that, taste is the major driver of junk food consumption, and most of the women are unaware of the effects therewith. Meena et al. (2023) in a study in adolescents at Nursing Department in India, show that, some adolescents had insufficient knowledge about fast foods hazard. Shamsol & Fisol (2023) indicated that factors influencing youth to junk foods include, friends, parental control, and food trends.

Nowadays, empty calories (unhealthy foods) are trending to become ubiquitous in our environment while eliciting diverse array of problems (Qiu, 2016). There is rising course of urbanization, whereby people are busy and in turn unable at cook at home or schools, farms have been converted to cities, people are relying on white-collar jobs; therefore, increasing morbidities and mortalities due to unhealthy foods (Horowilz et al., 203; Shamsol & Fisol, 2023; Sarkingobir & Miya, 2024). Staff and students cannot properly interact to achieve educational objectives unless if they are healthy. And health is largely relied on nutritional behavior of populations or individuals. Verily, the behavior of people at schools toward nutrition is influenced by the foods or unhealthy foods present at environments. Poor environments give unhealthy foods and are food deserts or food swamps (Nayak, 2020; Harris et al., 2023). On the other hand, unhealthy food environments have detrimental implications on education (Nipun et al., 2017; Raouf et al., 2022; Lane et al., 2024). This study explores the

implications of food deserts and food swamps in school environments, particularly in relation to health outcomes and academic performance

Food Deserts and Food Swamps
Food Deserts are areas where there are no markets in a nearby distance that allows buying of healthy foods. Food Deserts are areas where it is difficult for a person to find healthy foods including fruits, vegetables, grains, animal-based milk and meat, etc to buy and consume for healthy life (Qiu, 2016; Kroll et al., 2019). Food Deserts conditions may be predominant in rural or urban areas depending on certain factors. In some areas, instead of having food deserts, they have food swamps. Food swamps are areas having shops or markets selling unhealthy foods more than the healthy ones. It is an area where there is predominant selling of obesogenic, junk, empty calories, and fast foods (Chen & Gegg, 2017; Hamish & angus, 2019; Mhamoud et al., 2021). This may be more occurring in some urban areas of the world. In some urban areas, consumption of empty calories is a rising culture, people have stopped farming and moved to the cities to join white-collar jobs, a behavior that reduces healthy farm produce made from villages or rural areas, thereby stimulating food deserts or food swamps (Nayak, 2020; Honorio et al., 2021). Food Deserts and food swamps are forefront causes of malnutrition in the environment, especially at schools. Food is significant for health, growth, and development. Consumption of healthy foods encourages health, growth, and development, immunity, longevity, and high educational attainment (Barth et al., 2021). Whereas, poor nutrition encourage obesity, diabetes, cognitive decline, osteoporosis, cancers, etc. Food deserts and swamps spur malnutrition or food insecurity. Malnutrition is lack of right amount of nutrients to meat daily energy and nutrients requirements. It can spur undernutrition or overnutrition. Undernutrition is the insufficient consumption of nutrients and energy to meet the body's need, and overnutrition refers to overconsumption of certain nutrients. Poor intake or usage of nutrients results in wasting (low weight-for-height), stunting (low height -for-age), underweight (low weight-for-age). Overnutrition causes obesity, overweight, and many of the chronic diseases (Arimond et al., 2021; Barth et al., 2021; Nagothi, 2021).

Healthy Foods Needed by the Human Body
Healthy foods contain higher amount of fiber, nutrients; and are low in saturated fats, low in added sugar or sodium, low in preservatives, and encourage health, growth, and development (Michigan WIC Program,

2022; Sarkingobir et al., 2023). Some of the healthy foods are as follows:

- Non-starchy vegetables include, carrot, cabbage, cauliflower, Nopales, broccoli, spinach, onions, peppers, green beans, tomatoes, eggplant, etc.
- Fruits include, apples, oranges, grapefruits, blueberries, grapes, peaches, and pears
- Milk include, whole milk, wheat, whole oats, whole corn, sorghum, Quinoa, rice, barley, millet
- Starch vegetables include, sweet potatoes, corn, pumpkin, parsnip, plantain
- Protein sources include, beans, soybeans, walnuts, seeds, eggs, chicken, duck, and turkey without skin, and lean meats
- Oil sources include, olive oil, soybeans, walnut, flax seed, and fishes (Zehra et al., 2018; American Diabetes Association, 2022).

Needed Nutrients by the Human Body

Children, youngsters, and teachers (school administrators) need nutritious foods to live up to the expectations. Poor nutrition is linked to ill-health and poor education, therefore, school environment should be providing nutritious foods for easy access and food security to the children, youngsters, and teachers. Carbohydrates, proteins, and fats food classes provide energy when metabolized by the human body. Carbohydrates are obtained from food types such as cereals, grains, starchy vegetables, etc. The role of carbohydrates in the body is to majorly provide energy to the body. Sucrose, lactose, maltose, are examples of disaccharide carbohydrates, but glucose is the most vital sugar. Some other polymer carbohydrates are starch, cellulose, and fiber. Fiber prevents obesity, heart diseases, cancer, constipation, hemorrhoids, colorectal cancer, and diverticulitis (Sarkingobir et al., 2021; Michigan WIC Program, 2022).

Proteins are food classes that are responsible for building new tissues, maintenance of old tissues, regulation of body processes such as information, clotting, fluid balance, signal pathways. Moreover, proteins are useful to provide energy for the body, when carbohydrates or fats are limiting. Proteins are made with building blocks called amino acids, and are obtained from eggs, meat, poultry, beans, peas, nuts, milk, etc (Aimuson-Quampah et al., 2022; Annam et al., 2024).

Children age 1-3 years need 13 grams of proteins daily, while children 4-8 years old need 19 grams, children 9-13 years need 34 grams of proteins daily, girls at 14-18 years need 46 gram of proteins daily, boys

14-18 years need 52 gram of proteins everyday (Michigan WIC Program, 2022).

Fats are providing energy, cushioning for interior organs such as liver, skin, and kidney. Fats provides satiety feeling, provides essential fatty acids, and are vital in absorption, storage, and transportation of vitamins A, D, E, K. Fats saturated are obtained from food materials such as palm oil, coconut oil, egg yolk, and are to be taken at guided levels. Better fats are the unsaturated ones, that are obtained from olive oil, groundnuts oil, seeds, etc (Michigan WIC Program, 2022). Vitamins and minerals are also vital components that are supposed to be taken by humans for healthy life. Vitamins are minerals and their nutritional roles are detailed in Tables1-3.

Table 1: Nutritional benefits of fat soluble vitamins

Vitamin	Better source of healthy food	Functions in the human body	Problem due shortage
A	Carrots, milk, apricot, kale, mango, peppers, potatoes, yam	Help in maintaining vision, maintains skin health, help in resisting infection, help in teeth and bone health	Night blindness, low resistance to infections, scaly or dry skin
D	Sunlight, egg yolk, milk	Linked to calcium metabolism, promotes calcium absorption, help in maintaining calcium level at blood level	Rickets in children (soft and deformed bones)
E	Vegetables oils, nuts, whole grains, liver, green vegetables	Protects vitamin A, protects polyunsaturated fats of the body against oxidative stress	Destruction in red cells,
K	Green leafy vegetables, intestinal bacteria	Help the body in blood clotting	Bleeding disorders, low blood clotting

Source: (Michigan WIC Program, 2022)

Table 2: Nutritional benefits of water soluble vitamins

Vitamin	Better source of healthy food	Functions in the human body	Problem due shortage
C	Citrus fruits, guava, cabbage, pea, peppers, kiwi, strawberries, broccoli,	Needed for collagen synthesis, heling of wounds, healthy gums, help in resisting infection, converts folic acid to active format, help to strengthen blood vessels	Scurvy. Details of scurvy include: depression, bleeding gums, painful joints, delay in healing of wound, poor growth, low appetite, easy bruising
B1 (thiamin)	Meats, whole grain, peanuts, fresh green vegetables, wheat germs	Linked to enzyme systems that convert carbohydrates to energy	Beriberi: confusion, low appetite, heart failure, wasting of muscle, limbs swelling
B2 (Riboflavin)	Green leafy vegetables, fish, eggs, cereals, organ meats, whole grains	Help in breaking down of fat for energy	Anemia, cracks in corner of mouth, red and swollen tongue, teary eyes, scaly skin (around nose)
B3 (Niacin)	Cereals, fish, meat, peanuts, liver, poultry	Help the body in metabolizing (catabolizing) fats, protein, carbohydrates, And help in making some certain hormones	Pellagra resulting in weakness, diarrhea, loss of appetite, sore tongue, skin rash, dementia
B6 (Pyridoxine)	Fish, meat, beans, avocado, prunes, egg, green vegetables,	Helps the body in making proteins	Abnormal functioning of brain, and skin changes

	meat		
Biotin	Meat organs, whole grain, cereals, vegetables, eggs	Help in degrading carbohydrates, fat, and proteins for energy	Poor appetite, dry skin, depression, numb hands and feet
Pantothenic acid	Organ meets, whole grains, eggs, broccoli	Help in breaking down and making of protein, hemoglobin, hormones, and cholesterol	Nausea, cramps, diarrhea
B12 (Cobalamin)	Meat, fish, eggs, milk, poultry	Help the body in synthesis of new red cells and new cells (in general), help in nervous system	Poor appetite, mental problems, anemia, poor coordination, swollen tongue

Source: (Michigan WIC Program, 2022)

Table 3: Some elemental nutrients that are beneficial to the body

Elemental nutrients	Essentiality to the body	Source from healthy diet	Problem that occur due to deficiency
Zinc	Help the body's enzymes, help in making proteins, help in using vitamin A, help in taste sensations	Fish, liver, meat, milk, nuts, legumes, grains	Poor wound healing, retarded growth, poor sexual development, reduced taste sensation
Iodine	Parcel of thyroid hormones, control energy production in the body	Seafood, iodized salt, food grown in iodized soils	Goiter, meta retardation and cretinism, poor learning outcomes
Magnesium	Formation of bones, help in muscles functioning	Whole grains, seafood, milk, green leafy vegetables,	Convulsions, tremors

		fish, meats	
Sodium	Maintain heartbeat, stimulates nerves, help in muscle contraction	Potatoes, whole grains, fruits, vegetables, poultry, bananas	Tiredness, heart failure, kidney damage, weakness of limbs, rapid heart rate
Sodium	Helps in maintaining water balance, stimulates nerves, help in muscle contractions, help in acid-based balance maintenance	Meat, fish, eggs, poultry	Vomiting, nausea, cramps, tiredness
Iron	Hemoglobin formation, myoglobin formation, oxygen transport	Green vegetables, cereals, eggs, beef, chicken,	Anemia, poor learning outcomes, weakness, irritability, growth retardation, poor attention, loss of appetite,
Calcium	Help in blood clotting, help in muscle contraction, help in nerve functioning	Beef, legumes, green vegetables, chicken	
Phosphorus	Formation of bones, formation of enzymes, formation of proteins, maintenance of acid base balance	Milk, meat, nuts, eggs, legumes, whole grains, poultry	Poor bone, poor growth, loos of appetite, paining of bones, weakness
Fluoride	Prevents tooth decay and	Water	Increased in tooth decay

	osteoporosis		incidence

Source: (Michigan WIC Program, 2022)

Behavioral Aspect of Public Nutrition at School
Humans behavior affects health of the actor and the population in most of the situations, and in turn the behavior is affected or influenced by factors known as determinants of health. The factors or determinants of health could be stemmed from the individual or environment. Therefore, the public health nutrition, that is, nutrition of school actors (students and teachers) is determined by an interaction of mixtures of determinants, which are conveniently understood through the use of theory-based approaches (Raingruber, 2010).
Health Belief Model (HBM)
The HBM has basically, the main components included, perceived susceptibility, perceived severity, perceived barriers, and as well perceived benefits. The HBM also consider cues to actions, and they are the factors that cause an individual to exercise change (Bakhtiar et al., 2024). The Table 4 describes the application of HBM to public health nutrition at schools.

Table 4: Description of the application of HBM to public health nutrition at schools.

S/N	Component	Description
1	Perceived susceptibility	The person view on contracting a disease (such as diabetes, obesity, etc) due to malnutrition, such as becoming hypertensive due to excess sodium intake through cookies, donuts, chips, etc, becoming obese and diabetic (due to consumption of empty calories such as beverages, fast foods, junk foods). The perception is mostly shaped by knowledge or belief of the person or group. Teaching the school actors and

		creation of awareness about healthy diet, and unhealthy diet will help a lot to shape perception positively.
2	Perceived severity	Perceived severity refers to believe about torment of the disease or intake of poor diet. People who believe that eating unhealthy diet (empty calories) are suffering from deadly diseases are more prone to take positive actions
3	Perceived benefits	Believing that taking healthy foods, and avoiding empty calories is beneficial to health. It provides healthy, productive, intelligent people; and save the public from morbidities (diabetes, hypertension, heart diseases, cancer, etc) and mortalities. The proponents to this assertion are guided by awareness level and will act positively mostly
4	Perceived barriers	Refers to difficulties in carrying out a healthy move towards healthy foods. Barrie's could be lack of awareness, poverty, and ability to manipulate the food

		environments. Food swamps and food deserts are typically parable barriers to healthy foods at school. Creation of awareness, better food policies, like urban agriculture, small-scale farming, plant diversity, and animal husbandry are viable solutions that confer general effects.
5	Cues to actions	They stimulate people to carry the needed option.
6	Self-efficacy	The confidence of a person about ability to properly conduct a behavior change.

Social Cognitive Theory (SCT)

SCT consists of competencies and skills, evaluative standards, expectancies and beliefs, and personal goals as components. Competencies consist of knowledge, experience and belief, therewith, referring to what a person (or people) thought will occur, if for instance unhealthy food or healthy food is consumed. Evaluative standards are the personal standards set by a person or group of individuals (standards may alter over time course). Personal goals are objectives that are intended to be attained by a person. The SCT components show that a person will make better food choices if he has good belief and knowledge, along with personal objectives; therewith, there is learning from the social environment. Observational learning is what we learnt from others in our social environment. Students observation from peers or teachers or parents taking empty calories will incite them to follow suit, unless stopped by awareness or policies (Raingruber, 2010).

Stages of Changes (SOC)

SOC or transtheoretical model (TTM) categorizes the course of action followed by a person into sections of behavior change process (Nakabayashi et al., 2020). The stages or subsections that are traced by a person in the course of performing an action that is unhealthy or healthy towards nutrition are described in Table 5.

Table 5: Stages or subsections that are traced by a person in the course of performing an action

S/N	Component	Description
1	Pre-contemplation	At this stage, there is no consideration for changing the preexisting behavior. For instance, the person has no any little determination to health consumption of empty calories or obesogenic foods. Use if awareness creation or educational approach will be helpful to stir the idle man.
2	Contemplation	At this juncture, the person has begun to make some thought in a view to make change. He has started to cast a believe that empty calories are deadly. Education or awareness was the brain behind this thought that starts pricking the conscious of the person involved.
3	Action	At this juncture, the person has already played the behavior. For instance, he has already stopped

		consuming alcoholic beverages.
4	Maintenance	The behavior has been kept without halt for a considerably significant timeframe.

Socioecological Model (SEM)

Food Security is a concept meaning that, at all time, all people, have access to physically, socially, economically, nutritious and safe, food that is right for active and healthy life. SEM theorized that a human being changes a deadly behavior (consumption of empty calories) as a result of interaction or mixture of personal and environmental forces or factors (influences). Intrapersonal factors that are influential are many, but include belief, knowledge, sex (gender), employment, poverty, biology, etc. Interpersonal factors consist of the interaction of the person with people near him such as mother, father, friends, family members, etc. Institutional factors are the next inline including the factors at school, or work place. School that allows selling of empty calories without any bottleneck, encourage obesogenic society. A school that restrict or ban sell or taking of empty calories encourage a healthy nutrition. The school could also encourage a healthy by improving it's garden, farms, and other practices to provide green environment and yield healthy foods for human consumption. Community factors include culture, norms, values, and folklores of the community regarding foods consumption. Community that alcohol as insignificant encourage an obesogenic society. Community that uses alcohol or other similar stuffs at occasions encourage members to take unhealthy foods (Raingruber, 2010: Saraca & Butnario, 2020; Franca et al., 2022).

Public policy is another step that affects health. The public policy includes laws and do's and don'ts of the government. A government that allows food industries without checkmate, will breed empty calories proliferation. Government may support farming activities to produce healthy foods, encourages proliferation of healthy markets in the environments, to make food secured. Other practices including urban farming, could be taken-up seriously by public policy in order to encourage prevalence of healthy foods (Raingruber, 2010).

Educational Implications of Food Deserts and Food Swamps
There are several implications of food insecurity or malnutrition to the children, youngsters, and adults. Some of the implications are as follows:

- Nutrients deficiencies
  Some micronutrients deficiencies related to food insecurity include, anemia, iodine deficiency, vitamin A deficiency, and zinc deficiency. Occurrence of any of the deficiencies such as anemia, iodine deficiency, zinc deficiency, and vitamin A deficiency causes low health and low cognition or academic performance, especially in children. Infectious diseases thrive well in malnourished children or adult. For instance, tuberculosis, HIV, diarrhea, malaria, neglected tropical diseases are more flourishing in person suffering from malnutrition (Barth et al., 2021; Sarkingobir et al., 2022). Only healthy people can attend schools and learn or work, unhealthy people are either at home or hospitals nursing; even if they attend schools their ability to learn properly is reduced.
- Overnutrition is a rising trend in children and young people, as well as adult, nowadays, due to unhealthy eating. Overnutrition cause type 2 diabetes, respiratory diseases, cardiovascular disease, and cancer. Effects of the obesogenic diseases or disorders hamper education of students or teachers (UNICEF, 2021).
- Anorexia is a situation whereby a person refused to eat because of the desire to lose weight. Stigmatization or thought of victimization may cause this among students.
- Bulimia, refers to " distorting of body image in which bouts of extreme overeating are followed by self-induced vomiting, purging or fasting."
- Binge eating disorder recurrence of binge eating without counter-efforts.
- As ably mentioned the most of the stuffs available in food deserts or food swamps are empty calories, they are also indeed consequential. High fat (in stuffs like fried chicken skin, chips, margarine) contents instigate overweight, which is a risk factor of obesity and other problems such as diabetes, cancers, and heart problems (Islam, 2020). High sugar content in foods (stuffs) cause diabetes, obesity, and other chronic disorders. Moreover, empty calories cause memory and learning problems, poor concentration, and micronutrients deficiencies (Sheena, 2020). Every one out of the stated effects easily cause poor academic performance (Nagothi, 2021). Moreover, empty

calories contain preservatives or additives which trigger diverse array of disorders through acute or chronic intake (Islam, 2020).

Unhealthy Foods in Food Deserts and Food Swamps

Food deserts and food swamps are more populated with unhealthy foods, such as junk foods, fats foods, ultra-processed foods or generally empty calories (Tegmire et al., 2021; Berkley, 2023). Junk foods are called with this kind of name because they have low nutritional value, therewith, they may be totally without nutrients for growth, health, and development of the body (Sheena, 2020). Empty calories have no nutritional significance, and don't supply good energy. Empty calories come from ultra-processed foods, contain fats, or added sugar, cause hunger, cause addiction, and instigate craving for more (Arya & Mishra, 2013). To Shamsol & Fisol (2023) junk food is defined as foodstuff readily available, cheap, and may be nutritious or not. They are "salty and sugary snacks," sweet carbonated drinks, candy, cake, ice creams, pizzas, chocolate, burgers, sandwiches, etc. They are characteristically known with high content of calories, trans-fat, processed sugars, salt, and additives. Equally, they are deficit in protein, fiber, vitamins, and are harmful when taken for a long course or in large doses under acute conditions (Bhagyalakshmi et al., 2022; Shamsol & Fisol, 2023). Empty calories are foods or stuffs consumed by humans, that in turn contribute calories, without giving (many) other nutrients needed by the body. Some empty calories contain added sugar, or added saturated fats, or added salt (sodium), and preservatives. Empty calories are indeed obesogenic (United States Department of Agriculture, 2015; United Way of Olmsted County, 2018), the empty calories include the following:

- Cake
- Fruit punch
- Sweetened drinks
- Cookies
- Donut
- Pastry
- Desserts
- Caramel
- Popcorn
- Soft drinks
- Chocolate
- Wine
- Beer

- Potato chips
- Beer
- Ice creams
- Pizza
- Bacon (Abonmai et al., 2022; Michigan WIC Program, 2022).

Suggestions

People at school or home or elsewhere cannot live properly without proper nutrition. At school, people (students and staff) need to eat properly for educational objectives to be achieved. However, ability to eat properly is shaped by the presence or absence of food at school environment or nearby. Food deserts are areas that have limited access to healthy foods; while food swamps are areas that have preponderance or predominance of unhealthy foods (empty calories). Thus, by whatsoever degree, food deserts and food swamps are unhealthy food environments populated with empty calories. Some of the approaches to control the situation include the followings:

Advocacy

Advocating for healthy environment at schools is crucial. Educated folks should rise and call for strengthening the right of school actors, especially youngsters to food justice, thereby forcing governments and entire stakeholders to take drastic actions.

Policies

Government should make and execute food-based good policies, such as banning of empty calories at schools or nearby, encouraging school feeding program, instructing or compelling parents to provide healthy foods to wards at school, encouraging healthy food markets at schools or nearby (United Way of Olmsted County, 2017).

Urban farming policies and procedures are important

Urban farming or agriculture is an entire name for all the farming activities conducted in the cities, including crop farming, livestock farming, fisheries, forest farming, etc. Urban farming provides farming opportunities at homes, on top of roofs, in fish ponds, at school, in rivers, on river bank, near the roads, along railway lines, in open space, on vacant plots, in containers, etc. The aim of the urban farming is to provide food, income, jobs, recreation, climate adaptation, pollution control, prevent micronutrients deficiency, reduces food transport cost, curtail food processing or packaging, curtail food deserts, curtail food swamps, encourage food oases, etc (FAO, 2001). Parables of urban farming include, beekeeping, animal husbandry, fish farming, aquaponics (agriculture combined with fish farming) (Delbridage & Ngogs, 2021; Maulana et al., 2023).

Education and awareness

People should be educated on healthy foods, food groups, and other aspects of proper nutrition. Thereof, the people should be tasked to avoid all forms of empty calories, since they almost valueless nutritionally, but very harmful. The harms and dangers of these stuffs, specific examples, and related information to the public should be given through awareness campaign and school education (Whiteland, 2023).

Small scale farming

Small scale farming is controlled by families or households or small group of farmers, involving few hectares of land. They produce higher yield, jobs, opportunities, good climate, and contribute to healthy food systems greatly (Usman et al., 2022; Bashar, 2025).

Improved or encouraged food systems

Food systems include the path of food from farm to mouth. Proliferation of agriculture through urban farming, small-scale or smallholder agriculture, and innovation and research, encourage food accessibility. Similarly, encouragement of informal local foods markets in school premises and nearby, and in urban and rural settlements markets encourage accessibility to healthy foods in the environment (Battershy, 2019; Bashar, 2025).

Conclusion

The prevalence of food deserts and food swamps in school environments poses significant health risks to students, including obesity, diabetes, and other diet-related diseases. These unhealthy food environments can also negatively impact academic performance. To mitigate these effects, schools should prioritize providing healthy food options and promoting nutrition education. By creating healthier school environments, we can support students' overall well-being, improve their health outcomes, and enhance their academic achievement.

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UNDERGRADUATE STUDENTS' SCIENCE PROCESS SKILLS AS PREDICTOR OF ACADEMIC ACHIEVEMENT IN SCIENCE EDUCATION COURSES

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Abstract: *In a quest to determine if science process skills significantly influence academic achievement in undergraduate science education courses, this study examined undergraduate students' science process skills as predictor of academic achievement in science education courses. Two research questions guided the study while two hypotheses were tested at 0.05 alpha level. The predictive correlation survey design was adopted. The population of the study comprised 2720 undergraduate science education department students in Anambra State, Nigeria. A Sample size of 408 undergraduate science education students were drawn using 15% of total population in the study (2720) as postulated by Nworgu in Abumchukwu et al.,(2024b). Undergraduate Students Science Process Skills Scale (USSPSS) and 2023/2024 academic session average scores of undergraduate students' science education courses were instruments used for data collection. The instruments were validated by three experts. The reliability of the USSPSS was established using Cronbach alpha method and*

reliability coefficients of 0.73 was found. The two instruments were used as a method for data collection. Coefficient R and R2 were used to answer research questions while regression ANOVA (linear and multiple) were used to test the hypotheses. The findings from the results revealed that a low positive predictive value exist between Undergraduate students' science process skills (USSPS) and their academic achievement in science education courses. However, undergraduate science process skills (USSPS) is not a significant predictor of the students' academic achievement in science education courses. More so, a low positive predictive value exist between undergraduate students' science process skills (USSPS) and the students' academic achievement as moderated by gender in science education courses. Thus, undergraduate science process skill is not a significant predictor of the academic achievement of male and female undergraduate students in science education courses. From the findings, recommendations and conclusions were made.

Keywords: *undergraduate; science; education; students; science process skills.*

Introduction

Undergraduate students are individuals pursuing their first level of post-secondary education, typically within a college or university setting. This stage usually spans around four years or more, depending on the program and institution. Undergraduates can pursue various degrees, including Associate, Bachelor of Arts, Bachelor of Science, and more specialized fields. But as a result of this study, undergraduate students in science education department was the area of focus.

Undergraduate science education students are individuals enrolled in degree programs focused on teaching science subjects. They typically study principles of pedagogy, curriculum development, and scientific content across disciplines like Biology, Chemistry, Computer studies, Integrated Science, Mathematics and Physics (Abumchukwu et al., 2024a). These students aim to become educators who inspire future generations in STEM fields through effective teaching practices.

More so, undergraduate science education students play a vital role in society as future educators who will shape the next generation's understanding of scientific principles. Their training equips them to inspire curiosity and critical thinking in students, fostering interest in STEM fields essential for innovation and progress (Obikezie et al.,

2025a). Within the educational system, undergraduate science education students contribute to developing effective curricula and teaching strategies, adapting to diverse learning needs. By instilling a strong foundation in science literacy, they empower students to make informed decisions about health, technology, and environmental issues (Nwuba et al., 2024a). Ultimately, these educators are crucial in building a scientifically informed citizenry, promoting societal advancement and addressing global challenges (Nwuba et al., 2024b). In spite all these contributions of undergraduate students and other students to the society and education in general, the achievement of these students in STEM related courses is a thing of worry to stakeholders (Nwuba et al., 2024a; Nwuba et al., 2024b).

Some scholars believed that undergraduate students often struggle with achieving impressive academic results in STEM-related courses, a challenge that can have far-reaching implications for their future careers as educators (Abumchukwu et al., 2024a; Nwuba et al., 2024a). According to reports from some scholars, several factors contribute to this phenomenon of undergraduate students' unimpressive academic achievement in STEM related courses includes the rigor of STEM curricula. Many undergraduate students encounter complex concepts and mathematical foundations that they might not have been fully prepared for, particularly if their prior education lacked a strong focus on these subjects (Eloy et al., 2025). More so, the interdisciplinary nature of science education requires students to integrate knowledge from Biology, Chemistry, Physics, and Mathematics, which can lead to feelings of overwhelm thereby might cause unimpressive academic achievement among students (Abumchukwu et al., 2024b; Eloy et al., 2025).

Another contributing factor to unimpressive academic achievement in STEM related field is the lack of engagement and support. Some students may find the traditional lecture-based format of STEM courses unengaging, which can negatively impact motivation and achievement (Ariely & Yarden 2025). This is to say that without hands-on and inquiry-based learning opportunities like science process skills, students may struggle to connect theoretical knowledge with practical applications (Obikezie et al., 2025b).

Moreover, external pressures such as financial stress, work commitments, and personal issues can detract from academic focus. But some group of authors maintained that lack of integration of science process skill could be a major factor militating against students' academic achievement (Obikezie et al., 2024).

Science process skills are the fundamental abilities required to engage in scientific inquiry. They include observing, classifying, measuring,

predicting, experimenting, interpreting data, and communicating results. These skills enable individuals to ask questions, solve problems, and explore natural phenomena systematically, fostering a deeper understanding of the scientific method and the world. According to Mutlu (2020) science process skills are crucial for students' academic achievement as they promote critical thinking and problem-solving abilities. By learning to observe, hypothesize, experiment, and analyze data, students develop a deeper understanding of scientific concepts. These skills enhance their ability to engage in scientific inquiry, fostering curiosity and innovation. Additionally, strong science process skills improve students' performance across disciplines, as they learn to approach problems methodically. Ultimately, mastering these skills helps students to become independent learners and informed citizens, ready to tackle complex challenges in an increasingly scientific and technological world (Mutlu, 2020).

No wonder Obikezie et. al. (2025a) observed a high prediction between urban secondary school students' science process skill and their academic achievement in senior secondary school science subject with no significant differences between the variables. Also Abumchukwu et. al. (2024) reported a high correlation between science process skills and secondary school Chemistry students' attitudes and achievement in emerging technology. The authors equally reported no significant different between secondary school students science process skill and their academic achievement in Chemistry not minding the gender differences.

Contrary, Umeji and Achufusi (2025a) revealed that low positive predictive value exist between students' science process skills and secondary school students' academic achievement in Physics. However, students' science process skills are not significant predictors of the academic achievement of secondary school students in physics. The authors further revealed that low positive predictive value exist between students' science process skills and academic achievement of male and female secondary school students in Physics. However, students' science process skills are not significant predictors of the academic achievement of male and female secondary school students in Physics. More so, Umeji and Achufusi (2025b) reported no discernible effect on either male or female students. The researchers also discovered a minimal positive predictive value between the academic achievement of secondary school students in Physics and the quality of their teachers.

It is particularly compelling that students' science process skills addresses a critical issue in STEM education. With undergraduate

science education students uniquely positioned to influence future generations, understanding the role of science process skills is essential. These skills not only enhance academic achievement but also develop essential critical thinking and problem-solving abilities. As some studies highlighted, weak integration of science process skills could be likely one of the factors that hinders undergraduate students' academic achievement. More so most of the studies cited so far were all done in secondary school and individual subject. This has already created a big gap. Despite the value science process skill has added to individual learner, the skills seems not to have gotten so much attention to be tested among undergraduate students. On this note, this study was motivated which investigated undergraduate students' science process skills as predictors of their academic achievement in science education courses.

Purpose of the Study
The purpose of the study was to investigate
1. Undergraduate students' science process skills as a predictor of academic achievement in science education courses.
2. Undergraduate students' science process skills as a predictor of academic achievement of male and female university students in science education courses.

Research Questions
The following research questions guided the study:
1. To what extent do undergraduate students' science process skills predict of students' academic achievement in science education courses?
2. To what extent do undergraduate students' science process skills predict of male and female university students in science education courses?

Hypotheses
The following hypotheses were tested at 0.05 1evel of significance:
1. Undergraduate students' science process skills are not significant predictors of students' academic achievement in science education courses.
2. Undergraduate students' science process skills are not significant predictors of male and female university students in science education courses.

Method

This study adopted predictive correlation design. The area of the study was Anambra State, Nigeria. The population comprised 2720 Undergraduate Science Education Students in all universities in Anambra State. The sample size for the study consisted of 408 Undergraduate Science Education Students. According to` Nworgu in Abumchukwu et. al. (2024b), a sample size of about 15% to 50% of the population depending on the population size is adequate for survey research. Thus, 15% of total population (2720) is 408 was used for the study due to the targeted population.

Instrument

The instruments for data collection are Undergraduate Students Science Process Skills Scale (USSPSS) and 2023/2024 academic session average scores of undergraduate students' science education courses from target sample size.

Undergraduate Students Science Process Skills Scale (USSPSS) was adapted by the researchers from Science Process Skills. This instrument was developed and used by Afif Hafez Zeidanand Majdi Rashed Jayosi in (2015) in study titled Science Process Skills and Attitudes toward Science among Palestinian Secondary School Studentsby. It has a reliability coefficient of 0.73 and consists of nine (9) science process skill namely; observation, measuring, classifying, predicting, communicating, controlling variables, hypothesizing, experimentation and data interpreting. The nine (9) clusters of the original instrument was compressed to five (5) clusters. This is because the five (5) clusters has the most common representation of science process skill as it is used in secondary schools in Nigeria. Four point scale response format was used which ranging from very low extent (1 point), low extent (2 point), high extent (3 point) and very high extent (4 point). The achievement scores were obtained from 2023/2024 academic session average scores of undergraduate students' science education courses. The results specified the students' achievement and was confirmed and validated by course coordinators and experts from measurement and evaluation. In interpreting the predictive value, the rule posited by Nworgu in Abumchukwu, et al., (2024b) about the interpretation was adopted for the interpretation of the study using the range of scores as thus:

Range of scores	Predictive Decision
$\pm 0.80 - \pm 1.00$	High positive or negative value
$\pm 0.31 - \pm 0.79$	Moderate positive or negative value

$\pm 0.00 - \pm 0.30$ Low positive or negative value .

On the other hand, the null hypotheses were tested using regression analysis (linear and multiple). In interpreting the null hypotheses, the decision rule is that when P-value is less than or equal to 0.05 ($P\leq$ 0.05) the null hypothesis was rejected. On the other hand, when P-value is greater than the alpha level 0.05 ($P\geq$ 0.05), the null hypothesis was not rejected (uphold)

Results

Research Question 1: To what extent do undergraduate students' science process skills predict of students' academic achievement in science education courses?

Table 1: Regression Analysis of the Predictive Value of Undergraduate Science Process Skill and Academic Achievement in Science Education Courses

Model	N	R	R^2	Adjusted R^2	Std. Error	Decision
USSPS low	408	.015	.013	.002	20.97177	Academic Achievement prediction

a. Predictors: (Constant), USSPS

Table 1 shows predictive value of undergraduate students' science process skill and their academic achievement in science education courses as 0.015. It reveals that correlation coefficient R between undergraduate science process skills and their academic achievement in science education courses is 0.0015 indicating a low positive predictive value with associated coefficient of determination R^2 0.013.The coefficient of determination (.013) also known as the predictive value means that 1.3% of undergraduate students' science process skills accounted for the variation in academic achievement in science

education courses. This is an indication that 98.7% of variation in undergraduate students' academic achievement in science education courses is attributed to other factors other than their science process skills.

Research Question 2: To what extent do undergraduate students' science process skills predict of male and female university students in science education courses?

Table 2: Regression Analysis of the Predictive Value of Undergraduate Science Process Skills and Students' Academic Achievement in Science Education as Moderated by Gender

Model Error Decision	N	R	R^2	Adjusted R^2 Std.
USSPS Male low	133	.103	.011	
				0.0006 42.55776 Prediction
Female	275	.023	.001	

A. Predictors: (Constant), Gender Response on Undergraduate Students Science Process Skills

The result in Table 2 reveals predictive value of undergraduate science process skills and their academic achievement in science education courses as moderated by gender. It reveals that correlation coefficient R between undergraduate science process skills and male students' academic achievement in science education courses is 0.103 indicating a low positive predictive value with associated coefficient of determination R^2 in male as 0.011. The coefficient of determination (0.011) also known as the predictive value means that 1.1%of male undergraduate students' response on their science process skills accounted for the variation in academic achievement of male students in science education courses. This is an indication that 98.9% of

variation in male undergraduate students' academic achievement in science education courses is attributed to other factors other than their science process skills.This shows that improvement in undergraduate science process skills would lead to small increase in both male and female students' academic achievement in science education courses. Also in Table 2 shows correlation coefficient R between undergraduate science process skills and female students' academic achievement in science education is 0.023 indicating a low positive predictive value with associated coefficient of determination R^2 in female students as 0.01. The coefficient of determination (0.01) also known as the predictive value means that 1.0%of female students' response on undergraduate science process skills accounted for the variation in academic achievement in science education courses. This is an indication that 99% of variation in female undergraduate students' academic achievement in science education courses is attributed to other factors other than their science process skills.This shows that improvement in undergraduate science process skills would lead to small increase in both male and female students' academic achievement in science education courses.

HO$_1$: Undergraduate students' science process skills are not significant predictors of students' academic achievement in science education courses.

Table 3: Regression ANOVA Analysis of Predictive Significant of Undergraduate Science Process Skills and their Achievement in Science Education Courses

Model	Sum of Squares	Df	Mean Square	F	Sig
Regression	38.452	1	38.452	.087	.768[b]
Residual	178564.879	406	439.815		
Total	178603.331	407			

Table 3 reveals regression ANOVA analysis of predictive significant of undergraduate science process skills and their academic achievement in science education courses. The results show no significant difference $F (1, 406) = .087$, $p = .768 > .05$ indicating that

undergraduate science process skills is not a significant predictor of the undergraduate academic achievement in science education courses. The inference drawn was that undergraduate science process skills is not a significant predictor of the academic achievement in science education courses.

HO$_2$: Undergraduate students' science process skills are not significant predictors of male and female university students in science education courses.

Table 4: Regression ANOVA Analysis of Predictive Significant of Undergraduate Science Process Skill and their Academic Achievement in Science Education Courses as Moderated by Gender

Model F	Sum of Squares Sig	Df	Mean Square
Regression	1233.070	3	411.023 .936 .423[b]
Residual	177370.261	404	439.035
Total	178603.331	407	

Table 4 reveals regression ANOVA analysis of predictive significant of undergraduate science process skills and male and female undergraduate academic achievement in science education courses.

The results show no significant difference $F(1, 404) = .936$, $p = .423 > .05$ indicating that undergraduate science process skill is not a significant predictor male and female undergraduate academic achievement in science education courses. The inference drawn was that undergraduate science process skill is not a significant predictor of male and female academic achievement in science education courses.

Discussion
Role of Science Process Skills in Predicting Academic Achievement among Undergraduate Science Education Students.
The findings of the study in Table 1 reveals a low positive predictive value between Undergraduate students' science process skills (USSPS) and their academic achievement in science education courses. Thus, undergraduate science process skills (USSPS) is not a significant

predictor of their academic achievement in science education course in Table 3. The above findings are not in consonance with that of Obikezie et. al. (2025a) who observed a high prediction between urban secondary school students' science process skill and their academic achievement in senior secondary school science subject but inline the authors no significant differences report between the variables. It is also not in line with Abumchukwu et. al. (2024) reported a high correlation between <u>science process skills and secondary school Chemistry students' attitudes and achievement in emerging technology but in line with authors no significant different observation between the two variables of study.</u>

<u>However, the study is in consonance with Umeji and Achufusi (2025a) who reported that</u> low positive predictive value exist between students' science process skills and secondary school students' academic achievement in Physics with no significant different between the two variables of interest. The low positive predictive value between Undergraduate students' science process skills (USSPS), undergraduate students' academic achievement and no significant difference in prediction between USSPS and achievement may have come as a result of varied learning styles, assessment methods, or curriculum misalignment use in teaching science education courses to undergraduate science education students. By the virtue of the above findings, the study has joined group of scholars that observed low positive predictive value between Undergraduate students' science process skills (USSPS), undergraduate science education students' academic achievement and no significant difference in prediction between USSPS and achievement.

Science Process Skills as Predictors of Academic Achievement in Male and Female Undergraduate Science Education Students
The findings of the study in Table 2 show that a low positive predictive value exist between undergraduate students' science process skills (USSPS) and their academic achievement as moderated by gender in science education courses. Thus, undergraduate science process skill is not a significant predictor of the academic achievement of male and female undergraduate students in science education courses in Table 4. The findings above is in line with <u>Umeji and Achufusi (2025a)</u> who reported that low positive predictive value exist between students' science process skills and academic achievement of male and female secondary school students in Physics. However, students' science process skills are not significant predictors of the academic achievement of male and female secondary school students

in Physics. The findings above are also in agreement with Abumchukwu et. al. (2024) who reported no significant different between secondary school students science process skill and their academic achievement in Chemistry not minding the gender differences. Also the findings are in consonance with Umeji and Achufusi (2025b) who reported no discernible effect on either male or female students, discovered a minimal positive predictive value between the academic achievement of secondary school students in Physics and the quality of their teachers. The low positive predictive value that exist between undergraduate students' science process skills (USSPS), male and female undergraduate students academic achievement and no significant prediction value in variables involved as moderated by gender in science education courses could be as a result of differences in study habits, motivation levels, teaching methods and assessment biases. By the virtue of these findings and report, the study has joined the group of scholars who reported that low positive predictive value exist between undergraduate students' science process skills (USSPS), male and female undergraduate students academic achievement and no significant prediction value in variables involved as moderated by gender in science education courses.

Recommendations
Based on findings could be suggested that future studies should explore integrating diverse teaching strategies that cater to different learning styles and genders especially in high institutions. Enhancing students' science process skill assessments and including longitudinal data could provide deeper insights. Additionally, implementing targeted interventions to develop critical thinking and practical application skills may strengthen the relationship between USSPS and academic achievement in science education courses for all students.

Conclusion
Based on the investigation into undergraduate students' science process skills as predictor of academic achievement in science education courses it can be concluded that a low positive predictive value exist between Undergraduate students' science process skills (USSPS) and their academic achievement in science education courses. However, undergraduate science process skills (USSPS) is not a significant predictor of their academic achievement in science education course. More so, a low positive predictive value that exist between undergraduate students' science process skills (USSPS) and their academic achievement as moderated by gender in science education courses. Thus, undergraduate science process skill is not a

significant predictor of the academic achievement of male and female undergraduate students in science education courses

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TOWARD SUSTAINABLE ICT INTEGRATION IN NIGERIAN SECONDARY SCHOOLS: A FOUR-PILLAR FRAMEWORK FOR SYSTEMIC REFORM

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Abstract: *Despite growing global consensus on the transformative potential of Information and Communication Technology (ICT) in education, its integration into Nigerian secondary schools has been uneven and fraught with systemic obstacles. ICT is widely recognized for enhancing teaching effectiveness, fostering learner engagement, promoting inclusivity, and equipping students with the digital competencies necessary for thriving in a 21st-century knowledge economy. However, empirical evidence and policy analyses reveal a significant gap between Nigeria's policy ambitions and the practical realities of ICT deployment in public secondary schools. This conceptual paper synthesizes recent literature (2020–2024) and national policy documents—including the National Policy on ICT in Education and the National Digital Economy Policy and Strategy—alongside insights from fieldwork conducted in Nigeria. It identifies structural, pedagogical, and governance-related constraints undermining effective ICT adoption. Anchored in constructivist and capability approaches to education, this study proposes a Four-Pillar Framework as a strategic roadmap for sustainable ICT integration. The framework highlights four interrelated pillars: (1) access to digital infrastructure, (2) teacher digital competence, (3) curriculum alignment with ICT pedagogy, and (4) coherent and accountable policy governance. Each pillar is critically examined with respect to its current status, stakeholder involvement, and potential for scalable intervention. Findings indicate that without targeted investment, institutional readiness, and localized implementation strategies, ICT initiatives risk becoming tokenistic or extractive. This paper contributes to the ongoing discourse on digital equity, educational reform, and sustainable development in the Global South. It offers practical insights for policymakers, educators, and development agencies seeking to bridge the digital divide*

and foster systemic change in Nigerian education. By adopting the Four-Pillar Framework, stakeholders can work collaboratively to transform ICT integration from a peripheral initiative into a foundational pillar of inclusive and quality education.

Keywords: *ICT integration; digital divide; secondary education; educational policy; Nigeria; teacher training.*

Introduction

The integration of Information and Communication Technology (ICT) in education has become a critical dimension of educational reform worldwide. ICT plays a transformative role in enhancing teaching quality, enabling personalized learning, improving administrative efficiency, and equipping learners with digital skills necessary for participation in a globalized knowledge economy (OECD, 2022; UNESCO, 2023). In developed contexts, ICT has catalyzed shifts from teacher-centered to learner-centered pedagogies, fostered inclusive education for marginalized groups, and supported blended and online learning modalities. However, in many sub-Saharan African countries—including Nigeria—the promise of ICT in education remains largely unmet due to persistent infrastructural, pedagogical, and systemic barriers (World Bank, 2022; Okebukola, 2023).

Nigeria's National Policy on ICT in Education (FME, 2019) and the National Digital Economy Policy and Strategy (NDEPS) 2020–2030 (NITDA, 2021) articulate the strategic vision of harnessing technology to drive inclusive, quality education. Yet, in practice, most public secondary schools in Nigeria lack basic digital infrastructure such as functional computer labs, reliable internet connectivity, and electricity supply (Adu & Olatunbosun, 2023; Ifinedo & Yusuf, 2023). These deficits are compounded by limited teacher ICT competence, low digital literacy among students, and an educational system still largely grounded in chalk-and-talk instructional methods (Oladunjoye & Omotayo, 2021; Umo & Ifinedo, 2022).

Empirical studies consistently underscore the uneven and inadequate deployment of ICT in Nigerian schools. For instance, a study by Aboderin (2011) conducted in secondary schools across Ondo State found that while teachers generally held positive attitudes towards ICT, most lacked the skills and access necessary for meaningful classroom integration. Only a fraction of schools had functional computers, and even fewer had internet access or electricity. These findings mirror national trends, revealing a stark digital divide between policy rhetoric and classroom realities. The COVID-19 pandemic served as a critical

stress test for Nigeria's education system, amplifying existing disparities in digital access and instructional capacity. While other nations adapted swiftly to online education, most Nigerian secondary schools struggled due to systemic deficiencies. Many students and teachers lacked access to basic digital infrastructure—reliable electricity, internet, and learning devices. Moreover, insufficient preparation for remote teaching exposed gaps in digital pedagogy and institutional resilience, further deepening educational inequities (World Bank, 2022; Yusuf & Onasanya, 2023). This scenario highlighted the urgent need to build resilient and inclusive digital education systems that go beyond episodic interventions to long-term, system-wide transformation. Thus, bridging the digital divide in Nigerian education requires more than the provision of devices; it necessitates a coherent and context-sensitive framework that integrates infrastructure, teacher development, curriculum reform, and policy accountability (UNESCO, 2023; Tella & Akande, 2022).

Theoretically, this study aligns with constructivist and capability-based approaches to education, both of which advocate for learner empowerment and the removal of structural barriers that inhibit access to meaningful learning opportunities (Sen, 1999; Vygotsky, 1978). ICT, when strategically integrated, offers possibilities for active learning, collaboration, critical thinking, and creativity—key skills emphasized in 21st-century education discourses (OECD, 2022). However, without institutional readiness, contextual adaptation, and ongoing investment, ICT initiatives in education risk becoming symbolic or extractive (Bakare et al., 2022).

This conceptual paper draws on a review of recent literature and policy documents (2020–2024) and reflects on previous fieldwork conducted in Nigeria to analyze the structural, pedagogical, and policy-level constraints affecting ICT integration in Nigerian secondary schools. The paper proposes a Four-Pillar Framework for sustainable ICT integration that emphasizes (1) access to infrastructure, (2) teacher competence, (3) curriculum alignment, and (4) policy governance. Each pillar is explored with reference to existing evidence, stakeholder roles, and pathways for scaling ICT adoption in a manner that is both equitable and pedagogically sound.

In doing so, this paper contributes to the broader discourse on digital inclusion, sustainable development, and educational transformation in the Global South. It offers policymakers, educators, and development partners a strategic roadmap for rethinking ICT in Nigerian secondary education—not as an add-on, but as a catalyst for systemic change.

Theoretical and Conceptual Approach

This study is grounded in two complementary theoretical perspectives: constructivist learning theory and the capability approach. Constructivist learning theory, rooted in the works of Vygotsky (1978) and Piaget (1972), posits that learners actively construct knowledge through social interaction, contextualized experiences, and engagement with appropriate tools. Within educational settings, Information and Communication Technology (ICT) facilitates this process by enabling interactive, collaborative, and learner-centered pedagogies. From this standpoint, effective ICT integration is not merely about access to digital devices, but rather how these technologies are harnessed to foster critical thinking, creativity, and active participation in learning.

The capability approach, advanced by Sen (1999) and further developed by Nussbaum (2000), shifts the evaluative space of educational reform from the mere provision of resources to the expansion of real freedoms—what individuals are able to do and become. In the context of ICT in education, this approach emphasizes the importance of ensuring that both learners and teachers possess the substantive capabilities—not just the tools—to engage meaningfully in digital learning environments. It highlights structural inequalities and calls attention to the enabling conditions, such as digital literacy, institutional support, and inclusive policy implementation, that affect ICT use and outcomes.

Together, these theoretical lenses provide a robust foundation for analyzing the integration of ICT in Nigerian secondary education. While constructivism underscores the pedagogical transformation needed for effective technology adoption, the capability approach stresses the importance of equity, opportunity, and systemic readiness. These perspectives jointly inform the development of the Four-Pillar Framework proposed in this paper, which centers on (1) access to digital infrastructure, (2) teacher digital competence, (3) curriculum alignment with ICT pedagogy, and (4) coherent policy governance.

Conceptually, the paper adopts a thematic synthesis approach, combining theoretical insights with a critical review of literature and national policy documents published between 2020 and 2024. Key policy texts include the *National Policy on ICT in Education* (FME, 2019) and the *National Digital Economy Policy and Strategy (NDEPS) 2020–2030* (NITDA, 2021). Peer-reviewed sources were accessed through academic databases such as Scopus, ERIC, and Google Scholar, selected for their relevance to ICT integration, digital equity, and educational transformation in Nigeria and other Global South contexts. The analysis is further enriched by field-based reflections drawn from previous research engagements in Nigerian secondary schools, which provide contextual depth and practical nuance.

Rather than seeking empirical generalization, this conceptual inquiry aims to offer a theoretically informed, policy-relevant model that can guide sustainable and context-sensitive ICT integration in Nigerian public secondary schools. The Four-Pillar Framework thus emerges as both an analytical tool and a strategic roadmap for transforming ICT adoption from a peripheral initiative into a foundational element of equitable and quality education.

Literature Review
1. Access to Infrastructure
Access to ICT infrastructure remains one of the most significant barriers to effective technology integration in Nigerian secondary schools. Despite national policies such as the National Policy on ICT in Education (Federal Ministry of Education [FME], 2019) and the National Digital Economy Policy and Strategy (NDEPS) 2020–2030 (National Information Technology Development Agency [NITDA], 2021), implementation gaps persist. Empirical research highlights widespread deficiencies in basic digital infrastructure, including functional computer laboratories, reliable internet connectivity, and consistent electricity supply (Adu & Olatunbosun, 2023; Ifinedo & Yusuf, 2023). These infrastructural deficits are more acute in rural and underserved regions, reinforcing existing educational inequalities. The World Bank (2022) noted that fewer than 30% of public secondary schools in Nigeria have access to broadband internet, and in many cases, the available hardware is obsolete or non-functional. Aboderin (2011), in a field study conducted in Ondo State, found that most schools had only a few working computers, often reserved for administrative tasks rather than classroom teaching. These findings are echoed in more recent assessments showing that many schools still operate without any digital tools for teaching and learning (Tella & Akande, 2022).

The COVID-19 pandemic laid bare and deepened existing inequalities in digital access within Nigeria's education sector. As the global education landscape rapidly transitioned to remote learning, many Nigerian schools faced significant challenges, hindered by inadequate technological infrastructure, and limited digital readiness. This situation highlighted the critical need for targeted investments and strategic interventions to bridge the digital divide and enhance resilience in Nigeria's education system (World Bank, 2022; Yusuf & Onasanya, 2023). This experience highlighted the systemic fragility of the country's education system and underscored the need for long-term infrastructural investment that supports resilient and inclusive digital learning environments. Addressing this pillar requires a multifaceted

and context-sensitive strategy. Investment in solar-powered energy solutions can address electricity challenges, particularly in off-grid rural communities. Public-private partnerships (PPPs) with ICT firms and telecommunication providers could provide schools with subsidized access to devices and broadband internet. Moreover, national and state governments must prioritize education technology in their budgetary allocations and create monitoring mechanisms to ensure equitable distribution and maintenance of ICT resources. School-level ICT committees involving teachers, parents, and local leaders can also foster community ownership and accountability, ensuring that infrastructure investments are both relevant and sustainable.

Ultimately, bridging the infrastructure gap is not solely a technological issue—it is a matter of educational equity and social justice. Without robust infrastructure, other pillars of ICT integration—such as teacher competence, curriculum alignment, and policy implementation—will remain unattainable. A coordinated, inclusive, and well-funded infrastructure strategy is therefore the bedrock for any meaningful transformation in the digital learning landscape of Nigerian secondary schools.

2. Teacher Competence and Professional Development

Teachers are central to the successful integration of ICT in education. However, in Nigeria, low levels of teacher digital literacy and limited professional development opportunities present critical obstacles (Oladunjoye & Omotayo, 2021; Umo & Ifinedo, 2022). Despite favorable attitudes towards technology use, many educators lack the pedagogical and technical competence to utilize ICT meaningfully in the classroom (Aboderin, 2011; Tella & Akande, 2022). The literature identifies both first-order barriers (e.g., lack of access and resources) and second-order barriers (e.g., teacher beliefs and knowledge) to ICT integration (Ertmer & Ottenbreit-Leftwich, 2010). Even where infrastructure exists, teachers often default to traditional "chalk-and-talk" methods due to a lack of confidence in using digital tools. Tondeur et al. (2017) emphasize that without continuous, context-sensitive training, ICT policies are unlikely to result in pedagogical innovation.

Moreover, pre-service teacher education programs in Nigeria often fail to prepare future educators for technology-enhanced instruction. Eze et al. (2021) argue that ICT training remains theoretical, with minimal exposure to practical, hands-on learning experiences. This systemic issue perpetuates a cycle where teachers enter the workforce ill-equipped to implement digital pedagogies effectively. International frameworks stress the importance of teacher capacity building in

achieving technology-enabled education. The UNESCO ICT Competency Framework for Teachers (UNESCO, 2021) and the OECD's Learning Compass 2030 (OECD, 2022) both underscore the need for ongoing, collaborative professional development that aligns with curricular goals and 21st-century skills. Without targeted investment in teacher competence, ICT tools risk being underutilized or misapplied in ways that do not enhance student learning. To address these challenges, a multi-pronged approach to professional development is essential. This should include in-service training programs that are continuous, needs-based, and contextually relevant. Peer mentoring and school-based ICT leadership teams can support knowledge sharing and collective problem-solving. Teacher training institutions must also revise curricula to integrate practical ICT components and pedagogical modeling. Finally, incentivizing ICT use through recognition, career advancement, and material support can motivate teachers to embrace and sustain digital innovation.

In conclusion, enhancing teacher competence is not merely a technical fix but a transformative process that demands systemic reform. Building a digitally fluent teaching workforce is a cornerstone of the Four-Pillar Framework and a prerequisite for unlocking the pedagogical benefits of ICT in Nigerian secondary schools.

3. **Curriculum Alignment and Pedagogical Integration**

A core challenge in ICT integration lies in aligning technology use with curricular objectives and pedagogical innovation. Many Nigerian secondary schools continue to operate under examination-driven curricula that prioritize rote learning over creativity, problem-solving, and digital skills development (Eze et al., 2021; Voogt & Roblin, 2012). As a result, even when ICT resources are available, they are not meaningfully embedded into teaching and learning processes. This disconnect undermines the transformative potential of digital tools in fostering learner engagement, inclusivity, and lifelong learning skills. Curriculum reform is necessary to shift towards learner-centered pedagogies that harness technology for active, inquiry-based learning. The constructivist learning theory (Vygotsky, 1978) supports this shift, advocating for the use of ICT to enable collaboration, exploration, and the co-construction of knowledge. Similarly, the capability approach (Sen, 1999) highlights the importance of expanding learners' freedoms and opportunities through educational innovations such as digital learning. These theoretical frameworks suggest that ICT should not be an add-on to traditional instruction but an integral part of reshaping learning experiences to promote critical thinking, autonomy, and adaptability.

Empirical studies suggest that curriculum alignment remains inconsistent and uneven across Nigeria. While some private schools and institutions in urban centers are experimenting with e-learning platforms and blended learning approaches, public secondary schools—particularly those in rural and low-income areas—continue to lag significantly behind (Oladunjoye & Omotayo, 2021). Bakare et al. (2022) found that initiatives aimed at digitalizing the curriculum often lack coherence and sustainability. They are rarely accompanied by systemic reforms in assessment practices, content delivery methods, or teacher preparation programs. In many cases, ICT integration is reduced to superficial activities—such as typing assignments or using PowerPoint presentations—rather than being embedded into broader pedagogical strategies. Teachers frequently struggle to connect digital tools to specific learning outcomes or subject matter due to limited professional development and curriculum support. This results in the underutilization of ICT and missed opportunities to enrich students' learning experiences. Moreover, standardized high-stakes examinations, which continue to dominate the education system, discourage experimentation with innovative pedagogies that ICT could facilitate. To address this gap, scholars and policy experts call for national curriculum frameworks that explicitly integrate digital literacy, computational thinking, and media competence as foundational competencies for all learners (Voogt & Roblin, 2012; OECD, 2022). Embedding ICT in curricula must go beyond content digitization and include the development of transversal skills such as creativity, collaboration, information evaluation, and digital citizenship. This shift requires a fundamental rethinking of subject content, learning objectives, instructional strategies, and assessment methods.

Revised curricula must emphasize interdisciplinary learning, where ICT tools are used not only within information technology (IT) classes but across subjects such as science, mathematics, social studies, and the arts. For example, students can use simulation software in science labs, collaborate on group projects using digital platforms, or analyze historical data using online archives. These practices promote a deeper understanding of content while also enhancing digital competence and problem-solving abilities. Assessment reform is also crucial in reinforcing curriculum alignment. Traditional assessments that focus on memorization and regurgitation of facts are incompatible with ICT-supported learning, which emphasizes exploration, creativity, and application of knowledge. Innovative assessment strategies—such as e-portfolios, project-based assessments, and digital storytelling—can

better capture students' learning trajectories and encourage the meaningful use of technology in demonstrating understanding.

Furthermore, effective curriculum alignment demands the involvement of multiple stakeholders. Curriculum developers, education policymakers, school administrators, teachers, and learners must collaboratively co-design ICT-integrated learning pathways that are contextually relevant and culturally responsive. Localized curriculum adaptations may be necessary to ensure that ICT integration addresses the unique needs and realities of different regions, languages, and socio-economic contexts within Nigeria.

Governmental and institutional support is essential in operationalizing these reforms. This includes providing up-to-date digital curriculum guides, training teachers in ICT-supported pedagogy, and developing digital content aligned with national standards. Collaboration with EdTech companies, NGOs, and international development partners can also facilitate access to digital resources and technical expertise necessary for scaling curriculum innovation.

In conclusion, curriculum alignment and pedagogical integration form a critical pillar of the Four-Pillar Framework for sustainable ICT integration. Achieving this alignment is not merely a matter of inserting technology into existing curricular structures but of re-envisioning education itself considering digital transformation. When ICT is meaningfully embedded into curricula, supported by innovative pedagogy and authentic assessment, it can serve as a powerful lever for educational quality, equity, and relevance in Nigeria's rapidly evolving knowledge society.

Policy Governance and Implementation

Effective policy governance is essential for translating Nigeria's ambitious ICT education frameworks into tangible outcomes at the secondary school level. Despite notable efforts—such as the National Policy on ICT in Education (FME, 2019) and the National Digital Economy Policy and Strategy (NITDA, 2021)—implementation challenges remain persistent. Scholars (e.g., Okeke & Onwuka, 2022; Bakare et al., 2022) highlight a disconnection between policy ambitions and the availability of institutional support, financial resources, and accountability mechanisms required for sustainable execution. One key challenge is the fragmentation of responsibilities among various stakeholders, including federal and state ministries, local education authorities, school administrators, and private actors. This lack of coordination often results in siloed operations, undermining a unified approach to ICT integration (Tella & Akande, 2022). Furthermore, political instability, overlapping mandates, and

inadequate funding frequently stall or distort ICT-related projects, reducing stakeholder trust and hampering long-term planning. Another barrier is the absence of robust monitoring and evaluation (M&E) systems. Without reliable data on ICT availability, teacher utilization, and student learning outcomes, it is difficult for policymakers to make informed decisions. As UNESCO (2023) emphasizes, real-time, school-level data collection is critical for adaptive policy implementation and continuous improvement. Strengthening institutional capacity at the grassroots level is also essential for local data use and planning.

Localized, participatory policymaking is increasingly advocated to enhance the contextual relevance of ICT strategies. Scholars such as Yusuf and Onasanya (2023) argue that imported digital education models often falter due to misalignment with Nigeria's socio-cultural and infrastructural realities. Embedding community voices, including those of teachers and learners, into policymaking can foster local ownership and sustainability. Equally important are clear accountability structures. Defined roles, measurable benchmarks, and transparent reporting are necessary at all levels—from ministries to individual schools. School leadership should be empowered to align ICT plans with national goals and be held accountable through regular audits and public disclosures. Collaboration with civil society and local stakeholders can provide additional oversight and advocacy.Integrating ICT policies into broader national agendas—such as the Sustainable Development Goals (SDGs), Vision 2050, and the African Union's Agenda 2063—enhances strategic coherence and cross-sectoral investment. Partnerships with sectors such as health, telecommunications, and energy can support structural reforms needed for digital learning environments. Donor agencies and EdTech firms may also contribute by offering technical expertise and funding. However, these partnerships must be guided by transparent and equitable frameworks to ensure sustainable, context-sensitive outcomes.

In conclusion, governance and accountability form the backbone of successful ICT integration. Beyond infrastructure and training, sustainable digital transformation requires integrated, evidence-based policies that are participatory, locally grounded, and strategically aligned with national development goals.

Discussion

Despite widespread global recognition of the transformative potential of Information and Communication Technology (ICT) in education, its integration within Nigerian secondary schools remains inconsistent and

challenged by deep-rooted systemic barriers. ICT is universally acknowledged as a catalyst for enhancing instructional quality, stimulating learner engagement, promoting inclusivity, and equipping students with essential digital competencies critical for success in the contemporary knowledge economy. Yet, a pronounced disjunction exists between Nigeria's progressive ICT policy frameworks and the realities of implementation on the ground in public secondary education. A comprehensive review of recent literature (2020–2024), coupled with analysis of key national policy documents—such as the *National Policy on ICT in Education* and the *National Digital Economy Policy and Strategy*—reveals persistent structural, pedagogical, and governance deficits impeding effective ICT adoption. These obstacles include inadequate digital infrastructure, insufficient teacher capacity, misalignment of curriculum with ICT-enabled pedagogy, and fragmented policy execution marked by weak accountability mechanisms.

Grounded in constructivist learning theory and the capability approach, this study advances a Four-Pillar Framework as a strategic model for sustainable ICT integration in Nigerian secondary schools. The framework underscores the interdependence of four critical dimensions: (1) equitable access to robust digital infrastructure; (2) development of teacher digital competencies through continuous professional development; (3) curriculum reform to embed ICT pedagogical practices; and (4) establishment of coherent, accountable, and context-responsive governance structures. Each pillar is interrogated regarding its current operational status, the role of diverse stakeholders, and avenues for scalable and context-sensitive interventions.

Findings from the synthesis suggest that without deliberate investment in infrastructure, focused capacity-building for educators, curricular realignment, and stronger governance frameworks, ICT initiatives risk remaining superficial or even exploitative, failing to realize their transformative promise. This underscores the imperative for integrated policy implementation that moves beyond symbolic gestures to genuine systemic transformation.

This paper contributes to scholarly and policy debates on digital equity, education reform, and sustainable development in the Global South, specifically within the Nigerian context. By adopting the Four-Pillar Framework, policymakers, educators, and development partners are equipped with a pragmatic roadmap to collaboratively bridge the digital divide, elevate educational quality, and foster an inclusive learning environment. Ultimately, the framework aims to reposition ICT from a peripheral add-on to a foundational element that supports

quality education and prepares learners to thrive in a digital, knowledge-driven future.

Conclusion

The integration of ICT within Nigerian secondary schools represents a critical avenue for advancing educational quality, inclusivity, and relevance in a rapidly evolving digital era. Notwithstanding policy frameworks that underscore the importance of ICT, significant challenges related to infrastructure, teacher capacity, curriculum design, and governance continue to constrain its effective adoption. This study's Four-Pillar Framework offers a systematic and theoretically grounded approach to addressing these multifaceted barriers, emphasizing the necessity of coordinated efforts across infrastructural provision, professional development, curricular reform, and policy governance.

To realize the transformative potential of ICT, sustained and targeted investments, coupled with robust institutional readiness and localized implementation strategies, are imperative. Furthermore, fostering accountability and stakeholder collaboration will be essential in ensuring that ICT integration transcends superficial adoption and contributes meaningfully to educational reform. This framework thus serves as a strategic guide for policymakers, educators, and development partners committed to bridging the digital divide and promoting sustainable, inclusive educational development in Nigeria.

In sum, advancing ICT integration through the proposed framework holds significant promise for repositioning technology as a foundational pillar in Nigerian secondary education, thereby equipping learners with the competencies required for participation in the global knowledge economy.

Recommendations

Considering the findings and the Four-Pillar Framework proposed in this study, the following recommendations are advanced to enhance the sustainable integration of ICT in Nigerian secondary schools:

1. **Investment   in   Digital   Infrastructure**
    Government and relevant stakeholders should prioritize the expansion and modernization of digital infrastructure in secondary schools, ensuring reliable access to electricity, internet connectivity, and up-to-date hardware and software resources. Equitable distribution must be emphasized to address regional disparities and promote digital inclusion.

2. **Teacher   Capacity   Development**
    Comprehensive and continuous professional development

programs focused on digital literacy and pedagogical integration of ICT should be institutionalized. Pre-service and in-service training curricula must be aligned to equip educators with both technical skills and constructivist approaches that leverage technology for active learning.

3. **Curriculum Reform and Alignment** Educational authorities should undertake systematic curriculum review processes to embed ICT competencies and pedagogical strategies across subjects. This alignment should emphasize not only technical skills but also critical thinking, problem-solving, and creativity facilitated through ICT-enabled learning environments.

4. **Strengthening Policy Governance and Accountability** Robust governance frameworks are necessary to ensure coherent policy implementation, monitoring, and evaluation of ICT initiatives. Stakeholder coordination mechanisms should be established to foster transparency, accountability, and responsiveness to contextual challenges at the school and community levels.

5. **Localized and Contextualized Implementation** ICT integration strategies should be tailored to reflect local realities, including socio-economic conditions and cultural factors. Engaging school leadership, teachers, learners, and communities in decision-making processes will enhance ownership and sustainability of ICT interventions.

6. **Fostering Partnerships and Collaborative Networks** Collaboration among government agencies, the private sector, non-governmental organizations, and international development partners should be strengthened to mobilize resources, share best practices, and support innovation in ICT for education.

By operationalizing these recommendations within the Four-Pillar Framework, Nigerian secondary education can progressively overcome existing barriers and realize the transformative benefits of ICT for inclusive, quality education and national development.

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IMPROVING SECONDARY SCHOOL STUDENTS ACHIEVEMENT IN COMPUTER STUDIES THROUGH THINK PAIR SHARE LEARNING STRATEGY

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Abstract: *Following the numerous importance of think-pair-share learning strategy as an innovative learning strategy that has helped students achievement in various subjects and Basic Education Certification Examination (BECE) Chief Examiner's report on students' weaknesses in Computer Studies concepts of internet, operating system, search engine, graphic package, corel draw, paint environment, spreadsheet package, computer safety, measure and computer software among upper basic students in Anambra state. This study examined improving secondary school students' achievement in computer studies through think pair share learning strategy. Two purpose of study, two research questions and two hypotheses guided the study. The study was carried out in Otuocha education zone in Anambra State, Nigeria. The population of the study consisted of 6,982 JSS2 students' in the zone. The study adopted quasi experimental design. The sample comprise 393 JSS2 students' (169 males and 224 females) and was obtained using a multi-stage sampling procedure. 50 Computer Studies Achievement Test (CSAT) served as instrument for data collection for both post and retention test respectively. The instrument was subjected to content validation. CSAT reliability was established using Kudar*

Richardson 20 (KR-20) which yielded reliability coefficient of 0.70. Mean and Standard Deviation were used to answer the research questions while analysis of covariance (ANCOVA) was used to test the hypotheses at 0.05 level of significance. The findings of the study revealed that students taught Computer Studies with TPS learning strategy achieved more than those taught Computer Studies with LM. Thus there is a significant difference in the mean achievement scores of students taught Computer Studies using think-pair-share learning strategy and those taught using lecture method. The study also showed that male students taught Computer Studies with TPS achieved better than their female counterpart, thus there is a significant difference in the mean achievement scores of male and female students taught Computer Studies using think-pair-share learning strategy. Based on these findings suggestions and conclusions were made.

Keywords: *computer studies; think-pair-share; learning strategy.*

Introduction

Computer Studies is the academic discipline that explores the principles, applications, and development of computer systems and software. It encompasses programming, algorithms, hardware, networking, and information systems, equipping learners with skills to understand and innovate in the digital world generally.

However, the objectives of Computer Studies at the junior secondary school level of education by Federal Ministry of Education (FME, 2019) is to enable the learner to: Acquire basic computer skills such as the use of the keyboard, mouse and system, use the computer to facilitate learning electronically; develop reasonable level of competence on ICT applications that will engender entrepreneurial skills. Despite these objectives behind the establishment of Computer Studies in junior secondary school, the examination body that is in charge of junior secondary external exams known Basic Education Certification Examination (BECE) still asserted poor reports in achievement in the subject.

Basic Education Certification Examination (BECE) Chief Examiner (2019-2023) reported that the rate of credit level in Computer Studies are poor due to the use of wrong teaching method. The report also has it that the poor achievement came as a result of weaknesses by students in these areas of Computer Studies namely internet, operating system, search engine, graphic package, corel draw, paint environment,

spreadsheet package, computer safety and measure and computer software. Oribhabor (2020) asserted that BECE Chief Examiners' report (2019) confirmed that students' poor achievement in Computer Studies come as a result of weaknesses in the areas of ICT gadget, computer virus, database, worksheet, search engines, computer problem solving skill, internet and spreadsheet package. Similarly, BECE Chief Examiners' Report (2019-2023) summarily attributed the poor achievement of students in Computer Studies concepts of Computer Virus, Search Engine, Spreadsheet Packages and Spreadsheet features and terminologies to lack of qualified teachers to handle the Computer Studies concepts in the classroom and poor instructional strategies used in presenting the technical and practical content areas of the subject to students in the computer base classroom/laboratory. Based on the above weaknesses which has become a thing of worry to stake holders in education, what could be cause of these weakness?

Iniobong (2018) observed that poor instructional strategy could be a hindrance and cause of weaknesses to academic achievement of Computer Studies concepts in Computer Virus, Search Engine, Spreadsheet Packages and Spreadsheet features and terminologies to humanity and its environs. Despite the uniqueness of Computer Studies especially in the subject concept of Computer Virus, Search Engine, Spreadsheet Packages and Spreadsheet features and terminologies in secondary schools, students' achievement in the subject has been consistently poor in external examinations (Iniobong, 2018; Oribhabor, 2020). For the purpose of this study think pair share learning strategy was examined.

Think-Pair-Share (TPS) is a collaborative, student-centered strategy where students think individually, then discuss with a partner, and finally share with the class. It enhances academic achievement, social skills, vocabulary, and critical thinking. TPS actively involves students, promotes meaningful learning, teamwork, communication, and motivation. Research shows it improves retention and achievement in subjects like science and computer studies. This method fosters a comfortable environment for learners, builds knowledge collaboratively, and reduces boredom associated with traditional lecture methods, making learning more engaging and effective.

In a study by Okekeokosisi and Okigbo (2019) who investigated on effect of think-pair-share instructional strategy (THPSIS) and gender on secondary school students' achievement in Computer Studies in Delta state Nigeria. The authors revealed that there is a significant difference in the mean achievement scores of students exposed to THPSIS and conventional group in favour of former group but there

was no significant difference in the mean achievement scores of male and female students exposed to THPSIS. Similarly, Omeje (2024) reported that students who were taught acid-base reactions using think-pair-share instructional strategy had improved academic achievement than their counterparts who were taught using lecture method. It was also found that male students had improved academic achievement than their female counterparts when exposed to think-pair- share instructional strategy in Enugu State, Nigeria.

Furthermore, Emmanuel et. al. (2022) revealed that there is no significant difference in the mean performance scores of students with varied learning styles taught Physics using Think-Pair-Share learning strategy. The authors further observed that a significant differences existed in the mean performance scores of both male and female students with varied learning styles who are taught Physics using Think-Pair-Share learning strategy in Benue State, Nigeria. Also, Abiodun et. al. (2022) revealed that there is the main effect of the strategy on the student's achievement in Mathematics in use of TPS. Also, it was established from the author that there is no significant main effect of gender on the achievement of the students in Mathematics using TPS among students in Ogun State.

From the look of things it seems that use of think-pair-share learning strategy as an innovative learning strategy in educational research has been flooded. This is an indication that the learning strategy has the ability to make individual learn new and difficult concepts. But the question now is, why is it that the use of think-pair-share as a learning strategy is very scanty in the concept of Computer Studies and in the study areas of the two local governments (Ayamelum and Anambra East) in Otucha education zone of Anambra State used in this study? Based on the fact the one done by Okekeokosisi and Okigbo and other researchers in field were done in Delta State, other places outside the present area of study and even among senior secondary school students. On this note the researchers seek to harness the usefulness of TPS in teaching and learning of a technological driven subject in junior secondary school at a research drought educational zone in Anambra State Nigeria. Thus, this study was focused on the effectiveness of TPS on junior secondary students' academic achievement in Computer Studies in Otuocha education zone, Anambra State, Nigeria.

Purpose of the study
The purpose of this study was to investigate if secondary school students in Anambra State, Nigeria can improve in their achievement in computer studies through think pair share learning strategy. Specifically, the study sought to:

1. the difference in the mean achievement scores of students taught Computer Studies using thin- pair-share learning strategy and those taught using lecture method.
2. the difference in the mean achievement scores of male and female students taught computer studies using think-pair-share learning strategy.

Research Questions

In order to achieve the specific purposes of the study, the following research questions guide the study:

1. What is the mean different in achievement scores of students taught Computer Studies using think-pair-share learning strategy and those taught using lecture method?
2. What is the mean difference in achievement scores of male and female students taught Computer Studies using think-pair-share learning strategy?

Hypotheses

The following null hypotheses tested at 0.05 level of significance;

1. There is no significant difference in the mean achievement scores of students taught Computer Studies using think-pair-share learning strategy and those taught using lecture method.
2. There is no significant difference in the mean achievement scores of male and female students taught Computer Studies using think-pair-share learning strategy.

Method

The design for the study was quasi-experimental, specifically; pre-test/post-test non-equivalent control group design. The study was carried out in Otuocha education zone of Anambra State. Population of the study consisted of all the JSS2 Junior secondary school students in Government owned co-educational schools in Otuocha education zones of Anambra State. The sample was obtained using multi-stage sampling procedure. First, stratified random sampling was used to divide the zone into strata to select two local governments (Anambra East local government area and Ayamelum local government area) in Otuocha education zone. Secondly, using simple random sampling (balloting without replacement) two schools was drawn from Anambra East local government area and the other two schools was drawn from Ayamelum local government making it a total of four schools. Thirdly, using simple random sampling, one school of three intact classes (streams A, B and C) from Anambra East local government area was

assigned to experimental group (male 58 and 67 female), with population of 125 students'. The second school from the same local government, two intact classes was assigned to control group (male 31 and female 54) with population of 85 students'. Also, using simple random sampling one school of two intact classes from Ayamelum local government area was assigned to experimental group (male 40 and female 57) with population of 97 students, the other school of two intact classes from the same local government area was assigned to control group (male 40 and female 46) with population of 86 students'. In summary, two schools were used for experimental group with 211 students (male 98 and female 113) who were taught Computer Studies concept of virus, spreadsheet package, spreadsheet features and terminologies and search engines with TPS learning strategy. Similarly, two schools were used in the control group with 182 number of JSS2 students (male 71 and female 111) who were taught Computer Studies under concept of Computer Virus, Search Engine, Spreadsheet Packages and Spreadsheet features and terminologies with lecture teaching method. Therefore, total number of experimental and control groups that participated in the study was 393 students' from nine intact classes in junior secondary school JSS2 in Otuocha education zone

Instrument
The study used a 50-item Computer Studies Achievement Test (CSAT), adapted from the BECE exam and aligned with the junior secondary curriculum topics like viruses, search engines, and spreadsheets. Validated by three experts University lecturers from Computer Science, Science Education, and Education faculties they checked for clarity, relevance, and appropriateness. The instrument's reliability was established with KR-20, with a coefficient of 0.70, indicating good internal consistency. Prior to the main study, the CSAT was pilot-tested on 30 JSII students outside the study area to refine readability and timing. Data from pre-test and post-test administrations were analyzed using mean, standard deviation, and ANCOVA, with the latter testing hypotheses at a 0.05 significance level. The mean answered research questions, while standard deviation assessed score homogeneity. Using SPSS version 23.0, the analysis determined whether to accept or reject hypotheses based on p-values relative to the 0.05 threshold, ensuring rigorous statistical evaluation of the teaching strategies' effects on students' computer achievement.

Results
  Research Question 1

What is the mean different in achievement scores of students taught Computer Studies using think-pair-share learning strategy and those taught using lecture method?

Table 1: Mean and Standard Deviation of Achievement scores of Computer Students' taught with Think Pair Share and those taught with Lecture Method

Groups	N	Pretest		Posttest		Mean Mean Gain Difference
		Mean	SD	Mean	SD	
TPS	211	47.08	10.48	61.33	9.03	14.25
						7.38
LM	182	43.33	9.84	50.20	5.38	6.87

Table 1 shows students taught with TPS learning strategy had pre-test and post-test mean scores of 47.08 and 61.33, respectively, with standard deviations of 10.48 and 9.03. Those taught with Lecture Method (LM) scored 43.33 pre-test and 50.20 post-test, with standard deviations of 9.85 and 5.38. The higher pre-test variability indicates more score spread initially, but scores became more concentrated after teaching. The increase in mean scores suggests the treatment improved student achievement overall. The experimental group (TPS) had a higher post-test mean than the control group (LM), indicating its greater effectiveness. The mean gain score was 14.25 for TPS, compared to 6.87 for LM a difference of 7.38, favoring TPS, which led to better Computer Studies achievement

Research question 2
What is the mean difference in achievement scores of male and female students taught Computer Studies using think-pair-share learning strategy?
Table 2: Mean and Standard Deviation of Achievement Scores of Male and Female Computer Students' taught with Think Pair Share

| Gender | N | Pretest | | Posttest | | Mean Gain | |
		Mean	SD	Mean	SD	Mean Gain Difference	Gain
Male	98	47.14	7.29	62.93	6.43	15.79	
						2.29	
Female	113	47.00	7.55	60.50	6.94	13.50	

Table 2 presents mean and standard deviation scores for male and female students taught Computer Studies with TPS learning. Males had pre-test and post-test means of 47.14 and 62.93 (gain 15.79), while females scored 47.00 and 60.50 (gain 13.50). Standard deviations decreased from pre-test to post-test for both groups, indicating reduced score variability and more scores near the mean after instruction. Males scored higher than females on the post-test, and the mean gain difference of 2.29 favors male students, suggesting they benefited slightly more from the TPS strategy in achieving in Computer Studies

HO $_1$: There is no significant difference in the mean achievement scores of students taught Computer Studies using think-pair-share learning strategy and those taught using lecture method.

Table 3:   Analysis of Covariance (ANCOVA) of Achievement Scores of Students Taught Computer Studies using Think Pair Share and Those Taught using Lecture Method

Source	Sig	Decision	Type III Sum of Squares	df	Mean Square	F
Corrected Model	0 .000		3388.78[a]	1	3388.78	
Intercept	40.80	0.000	53041.538	1	53041.538	
Achievement	38.07	0.000	3161.79 S	1	3161.79	
Groups			5265.815	1	5265.815	

Error	15696.16	391	83.05
Total	59215.000	393	
Corrected Total	22027.25	392	

S= Significant, NS = Not Significant

Table 3 shows a significant difference in achievement scores between students taught with TPS and LM, $F(1, 391) = 38.07$, p=0.000. Since the p-value is below 0.05, the null hypothesis is rejected, indicating students taught with TPS achieved higher scores than those taught with LM. This suggests TPS is more effective in improving Computer Studies achievement.

HO $_2$: There is no significant difference in the mean achievement scores of male and female students taught Computer Studies using think-pair-share learning strategy.

Table 4:   Analysis of Covariance (ANCOVA) of Male and Female Students' Achievement Taught Computer Studies using Think Pair Share

Source	Type III Sum of Squares	df	Mean Square	F	Sig	Decision
Corrected Model	4.367[a]	2	1.456			
Intercept	1617.95	1	1617.95			
Achievement* Gender and TPS	50.62	1	50.62	20.72	0.000	S
Groups	702.892	1	702.892	4.49	0.037	
Error	7888.27	209	3.089			
Total	10023.85	211				
Corrected Total	378.128	210				

S= Significant, NS = Not Significant

Table 4 reveals a significant difference in achievement scores between male and female students taught with TPS, F (1,209) = 4.49, p=0.037. Since p<0.05, the null hypothesis is rejected, indicating males scored higher than females, with the difference favoring male students' achievement in Computer Studies.

Discussion
The discussion of findings were organized under the following:
1. Variations in the average achievement scores between students taught Computer Studies with TPS and those taught with LM.
2. Male and female variations in the average achievement scores between students taught Computer Studies with TPS.

Variations in the average achievement scores between students taught Computer Studies with TPS and those taught with LM.
The findings of the study showed that students taught Computer Studies with TPS learning strategy achieved more than those taught Computer Studies with LM. Thus there is a significant difference in the mean achievement scores of students taught Computer Studies using think-pair-share learning strategy and those taught using lecture method. The above finding in research question one is in consonance with Omeje (2024) who reported that students who were taught acid-base reactions using think-pair-share instructional strategy had improved academic achievement than their counterparts who were taught using lecture method. The finding in research question one is also in line with the finding of Abiodun et. al. (2022) who revealed that there is the main effect of the strategy on the student's achievement in Mathematics in use of TPS.

Base on the hypothesis one postulated, the finding is in line with Okekeokosisi and Okigbo (2019) who reported that there is a significant difference in the mean achievement scores of students exposed to THPSIS and conventional group in favour of former group but not in line with Emmanuel et. al. (2022) revealed that there is no significant difference in the mean performance scores of students with varied learning styles taught Physics using Think-Pair-Share learning strategy. The reason of study showing that students taught Computer Studies with TPS learning strategy achieved more than those taught Computer Studies with LM and a significant differences between students taught within the two independent variable in Computer Studies concepts studies could be that TPS is active, collaborative nature, enhancing understanding and engagement, whereas the lecture method is more passive, limiting students' interaction and skill development. Thus, this study has joined the group of scholars that

observed a high academic achievement among junior secondary school students taught Computer Studies using TPS over students taught the same concepts using lecture method with a significant differences in the two learning strategy which favours TPS.

Male and female variations in the average achievement scores between students taught Computer Studies with TPS.

The study showed that male students taught Computer Studies with TPS achieved better than their female counterpart, thus there is a significant difference in the mean achievement scores of male and female students taught Computer Studies using think-pair-share learning strategy. The finding in research question two is in conformity with that of Omeje (2024) who found that male students had improved academic achievement than their female counterparts when exposed to think-pair- share instructional strategy in Enugu State, Nigeria. Also the finding is conformity in significant with study of Emmanuel et. al. (2022) who observed that a significant differences existed in the mean performance scores of both male and female students with varied learning styles who are taught Physics using Think-Pair-Share learning strategy in Benue State, Nigeria.

Whereas the finding in hypothesis two is not in line with Okekeokosisi and Okigbo (2019) who observed no significant difference in the mean achievement scores of male and female students exposed to THPSIS and that of Abiodun et. al. (2022) who observed no significant main effect of gender on the achievement of the students in Mathematics using TPS among students in Ogun State. The reason of male students that were taught Computer Studies with TPS achieving better than their female counterpart and a significant difference that favours the male students could be that male students may have favored the interactive nature of TPS, leading to better engagement and performance, possibly due to social or cultural factors influencing participation of their female counterpart.

Suggestions

These suggestions were offered in light of the study's findings:
1. Incorporate TPS strategies across various subjects to enhance student achievement.
2. Train teachers to effectively facilitate TPS activities.
3. Promote gender-inclusive methodologies to support female students.
4. Conduct further research on cultural and social factors influencing gender performance.

5. Encourage collaborative learning environments to boost engagement and understanding for all students.

Conclusion

The study concludes that TPS effectively improves students' achievement in Computer Studies compared to traditional lecture methods. Additionally, male students benefit more from TPS than females, indicating a need for gender-sensitive approaches to ensure equitable learning outcomes for all students.

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HOW READY IS NIGERIA FOR 2030? EXPLORING AWARENESS AND KNOWLEDGE OF THE SDGS AMONG SECONDARY SCHOOL TEACHERS IN ISEYIN, OYO STATE

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Abstract: *This study investigates the awareness and knowledge of the Sustainable Development Goals (SDGs) among secondary school teachers in Iseyin Local Government Area of Oyo State, Nigeria. Grounded in the global 2030 Agenda for Sustainable Development, the research adopts a descriptive survey design to evaluate how well-equipped teachers are to integrate sustainability concepts into classroom instruction. A total of 100 teachers from ten public secondary schools were selected using stratified and simple random sampling techniques. Data were collected through a structured questionnaire and analyzed using frequency counts, mean scores, and standard deviations. Findings reveal that while teachers demonstrate a relatively high level of general awareness of the SDGs, gaps remain in their practical knowledge and exposure to SDG-related training and resources. The study underscores the need for targeted professional development, curriculum enhancement, and policy support to strengthen sustainability education at the grassroots level. Implications for educational stakeholders and future research are discussed.*

Keywords: *sustainable development goals (SDGs); teacher awareness of SDGs; education for sustainable development (ESD); 2030 agenda; sustainability education.*

Introduction

Increased demands have been placed on the development of our environment and society, necessitating the need for Sustainable Development Goals (SDGs) that will enhance societal progress. The United Nations defined sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs (United Nations, 2015, as cited in Fischer et al., 2022; Gómez-Gómez & García-Lázaro, 2023). Thus, sustainable development encompasses environmental concerns

and economic, social, and cultural dimensions (Fischer et al., 2022; Oltra-Badenes et al., 2023). Sustainable development is more complex than general development, particularly in addressing the needs of the poorest and adapting to modern societal demands (Fischer et al., 2022; Nasim et al., 2023). The dimensions and indicators of sustainable development are interwoven, reflecting both qualitative and quantitative aspects and highlighting the importance of all societal, environmental, and human resources. The three main dimensions—environmental, economic, and social—are widely recognized as the core of sustainable development (Peedikayil et al., 2023; Oltra-Badenes et al., 2023).

Knowledge obtained through education is vital to achieving sustainable development, as it fosters a sense of responsibility among citizens to nurture and sustain societal growth (Bourn et al., 2017; Gómez-Gómez & García-Lázaro, 2023). Integrating education, training, and policies to promote sustainability is broadly advocated (Fischer et al., 2022; Oltra-Badenes et al., 2023). Nigeria has adopted and implemented the SDGs through notable initiatives like the National Social Investment Program (NSIP) and efforts to align national education policy with SDG indicators. For sustainable development to be effectively achieved, education must play a central role. National and international summits have emphasized the need for reorienting education systems as a key to sustainability (Rieckmann, 2018; Fischer et al., 2022; Gómez-Gómez & García-Lázaro, 2023).

Ignorance and lack of relevant education continue to contribute to Nigeria's development challenges, highlighting the need for compulsory education, curriculum reforms to include sustainability education, and the establishment of monitoring bodies (Bourn et al., 2017; Khalid et al., 2022; Nasim et al., 2023). Teachers, as key stakeholders, are responsible for ensuring that students acquire values and skills aligned with education's goals. Teachers are described as role models and agents of change, contributing to social development and character building (Fischer et al., 2022; Peedikayil et al., 2023; Gómez-Gómez & García-Lázaro, 2023). Globally, several countries and institutions have taken steps to integrate SDGs into their education systems, and university-led initiatives in Sub-Saharan Africa are emerging (Fischer et al., 2022; Oltra-Badenes et al., 2023).

Despite these efforts and Nigeria's formal adoption of the SDGs, studies have shown that many teachers are not adequately aware of the goals or how to implement them in classroom settings (Khalid et al., 2022; Gómez-Gómez & García-Lázaro, 2023; Nasim et al., 2023). Teacher awareness and knowledge are critical for successful SDG integration in schools. Teacher awareness of SDGs influences both

their teaching methods used in the classroom and the creation of good school environments that promote SDGs (Bascopé et al., 2019; Khalid et al., 2022; Peedikayil et al., 2023; Gómez-Gómez & García-Lázaro, 2023). Therefore, this study seeks to investigate the awareness and knowledge of teachers regarding sustainable development in secondary schools in Iseyin Local Government Area of Oyo State. This is crucial, given the teacher's central role in shaping future generations and the apparent knowledge gap that may hinder SDG integration into education.

Justification for the Study

Sustainable development has become a global priority, with countries, including Nigeria, committing to the United Nations' 2030 Agenda (United Nations, 2015, 2019, as cited in Fischer et al., 2022; Gómez-Gómez & García-Lázaro, 2023). Education has been identified as a powerful driver of the SDGs, capable of raising awareness, fostering critical thinking, and promoting behavior aligned with sustainability (Rieckmann, 2018; Bascopé et al., 2019; Fischer et al., 2022; Oltra-Badenes et al., 2023). Teachers play a vital role in transmitting the knowledge, skills, and attitudes needed to achieve this transformation (Bourn et al., 2017; Peedikayil et al., 2023; Gómez-Gómez & García-Lázaro, 2023).

While Nigeria has launched several programs to support the SDGs, such as policy realignments and investment initiatives, there is a significant gap in implementation at the grassroots level, particularly in semi-urban and rural communities (Khalid et al., 2022; Nasim et al., 2023). In places like Iseyin Local Government Area, empirical data on teachers' SDGs awareness and knowledge remains limited. This lack of data is an issue, as teachers' understanding and motivation are essential to effectively embed sustainability principles in teaching and learning (Fischer et al., 2022; Oltra-Badenes et al., 2023; Gómez-Gómez & García-Lázaro, 2023).

Furthermore, research shows that many Nigerian teachers are not adequately trained on sustainable development or equipped to apply it pedagogically (Khalid et al., 2022; Nasim et al., 2023). Without such awareness, efforts to build student competencies in sustainability and global citizenship may be undermined (Fischer et al., 2022; Bourn et al., 2017; Gómez-Gómez & García-Lázaro, 2023). By examining the awareness and knowledge of SDGs among secondary school teachers in Iseyin, this study aims to generate evidence that informs policy, professional development, and curriculum design (Rieckmann, 2018; Bascopé et al., 2019; Oltra-Badenes et al., 2023). Findings from this study will also be useful to stakeholders such as school administrators,

local education authorities, and NGOs in crafting targeted interventions that promote SDG literacy among educators (Fischer et al., 2022; Khalid et al., 2022; González Bravo & Vivar Quintar, 2022). Ultimately, the study contributes to Nigeria's national efforts toward building a more informed, responsible, and sustainable society (United Nations, 2019; Bourn et al., 2017; Nasim et al., 2023).

Research Questions
1. What is the level of teachers' awareness of the concept of Sustainable Development?
2. What is the level of teachers' knowledge about the concept of Sustainable Development?

Methodology
Research Design
The study adopted descriptive survey design. Descriptive Survey design is used for this study because it aims at collecting data and describing them in a systematic manner, the characteristics features or facts about a given population (Creswell and Cresswell 2018). The descriptive research design was therefore suitable to ascertain the level of awareness and knowledge of sustainable development among teachers in Iseyin Local Government, Oyo State, Nigeria (Qualtrics 2020).

Sampling and Sampling Technique
The sample of the study comprised ten (10) public secondary schools selected across the Iseyin Local Government Area of Oyo State, Nigeria. The sampling technique used for selecting the schools was stratified random sampling, ensuring that schools were chosen to reflect a fair representation across the local government area. From the selected schools, simple random sampling was employed to select the respondents. Specifically, ten (10) teachers were randomly selected from each of the ten schools, making a total of one hundred (100) teachers as the study population. Simple random sampling gives all elements in the population an equal chance of being selected, thereby ensuring that every teacher in each selected school has the same probability of participating in the study. (Creswell and Cresswell 2018)

Research Instrument
The research Instrument used for this study was a structured questionnaire. The questionnaire was divided into three (3) sections. Section A of the questionnaire focuses on the demographic information of the respondents, such as gender, qualification, etc. Section B focuses on questions that seek to measure teachers' level of awareness of sustainable development; it consists of 20 items on a four-point Likert

scale of Strongly Agree, Agree, Disagree, and Strongly Disagree. Section C consists of questions that seek the opinion of respondents on their knowledge of sustainable development, It has 20 items on four Likert scale of Strongly Agree, Agree, Disagree, and Strongly Disagree

Validity and Reliability of the Instrument

To determine the content and face validity of the questionnaire, the questionnaire was presented to experts in the field of the study, who made sure that the construct of the instrument measures what it is intended to measure in terms of clarity, precision, and comprehension. Corrections were made regarding the feedback. The questionnaire was administered to a small sample of teachers who were not part of the study sample to determine the reliability. Data collected were analyzed using Cronbach's Alpha, and the result yielded 0.85 coefficients, which implies that the instrument is fit for the study.

Method of data analysis

Data collected were analyzed using frequency count, percentage score, mean, and standard deviation. Relevant tables were used to present the results.

Result

Research Question 1: What is the level of teacher awareness of the concept of Sustainable Development?

Table 1: Teachers' Awareness of the Sustainable Development Goals (SDGs)

S/N	ITEMS	SA	A	D	SD	Mean	Std. D
1	Have you heard about the Sustainable Development Goals (SDGs)	32 (32.0%)	64 (64.0%)	2 (2.0%)	2 (2.0%)	3.26	0.59
2	I have attended conferences and workshops about the SDGs	19 (19.0%)	44 (44.0%)	28 (28.0%)	9 (9.0%)	2.73	0.88
3	The SDGs are meant to end in the year 2030	29 (29.0%)	38 (38.0%)	17 (17.0%)	16 (16.0%)	2.80	1.04

4	SDGs should be incorporated into all levels of education, especially secondary schools.	42 (42.0%)	53 (53.0%)	4 (4.0%)	1 (1.0%)	3.36	0.61
5	The successful implementation of SDGs depends on teachers' ability to teach the sustainability concept.	42 (42.0%)	49 (49.0%)	4 (4.0%)	5 (5.0%)	3.28	0.77
6	Reducing water consumption is required to achieve the SDGs	22 (22.0%)	33 (33.0%)	27 (27.0%)	18 (18.0%)	2.59	1.03
7	Education on self-defence against natural disasters is essential for sustainable development.	58 (58.0%)	39 (39.0%)	3 (3.0%)	0 (0%)	3.55	0.56
8	Sustainable development requires maintaining the diversity of living things (preserving biological diversity).	36 (36.0%)	52 (52.0%)	11 (11.0%)	1 (1.0%)	3.23	0.68
9	Integration of	38	56	5	1	3.31	0.6

	SDGs into the school curriculum will enhance their implementation.	(38.0%)	(56.0%)	(5.0%)	(1.0%)		2
10	Sustainable development requires a culture in which disputes are settled amicably through dialogue.	44 (44.0%)	46 (46.0%)	5 (5.0%)	5 (5.0%)	3.29	0.78
11	SDGs will ensure a healthy life and promote well-being for all at all ages	45 (45.0%)	49 (49.0%)	3 (3.0%)	3 (3.0%)	3.36	0.69
12	The school has a significant impact on achieving the SDGs.	37 (37.0%)	60 (60.0%)	2 (2.0%)	1 (1.0%)	3.33	0.57
13	In order to promote sustainable development, businesses must treat their suppliers, customers, and employees with respect.	39 (39.0%)	48 (48.0%)	13 (13.0%)	0 (0%)	3.26	0.68
14	Fair distribution of	33	57	6	4	3.19	0.72

	products and services among people worldwide is necessary for sustainable growth.	(33.0%)	(57.0%)	(6.0%)	(4.0%)		
15	Good education must be available to everyone in the globe in order to achieve sustainable development.	40 (40.0%)	52 (52.0%)	7 (7.0%)	1 (1.0%)	3.31	0.65
16	I know what the SDGs are all about	29 (29.0%)	58 (58.0%)	10 (10.0%)	3 (3.0%)	3.13	0.71
17	I have heard about the importance of peace, justice, and strong institutions towards achieving SDGs.	44 (44.0%)	50 (50.0%)	5 (5.0%)	1 (1.0%)	3.37	0.63
18	Have you ever engaged in discussions or activities related to sustainable development in your community	27 (27.0%)	44 (44.0%)	25 (25.0%)	4 (4.0%)	2.94	0.83
19	Are you familiar with the conservation	29 (29.0%)	50 (50.0%)	16 (16.0%)	5 (5.0%)	3.03	0.81

		SA	A	D	SD		
	of life on land and underwater ecosystems for sustainable development?						
20	Do you know the importance of inclusive and equitable quality education in achieving SDGs?	35 (35.0 %)	53 (53.0 %)	11 (11.0 %)	1 (1.0%)	3.22	0.68
Weighted average= 3.18							

Table 1 presents the frequency distribution of teachers' awareness of the SDGs. The highest-rated item was the need to educate people on how to safeguard themselves from natural disasters ($\bar{x}$ = 3.55), followed closely by awareness of peace, justice, and strong institutions ($\bar{x}$ = 3.37), and the integration of SDGs into all educational levels, especially secondary schools ($\bar{x}$ = 3.36). Other highly rated items are the role of schools in achieving the SDGs ($\bar{x}$ = 3.33) and the significance of inclusive education ($\bar{x}$ = 3.31). The lowest-rated items were attendance at SDG-related conferences and workshops ($\bar{x}$ = 2.73) and awareness of water conservation as a sustainability strategy ($\bar{x}$ = 2.59). With an overall weighted mean of 3.18, above the benchmark of 2.50, it can be concluded that the level of teacher awareness of the SDGs is relatively high.

Research question 2: What is the level of teacher knowledge about the concept of Sustainable Development?

Table 2: Teachers' Perceptions and Pedagogical Practices Toward Sustainable Development Education

ITEMS	SA	A	D	SD	Mean	Std D
Teachers should have a solid understanding of the economy, environment and society as the	57 (57.0%)	43 (43%)	0 (0%)	0 (0%)	3.57	0.49

key principles of sustainable development.					
Teachers need to incorporate sustainability concepts into their lesson plans across various subjects.	33 (33.0%)	57 (57.0%)	10 (10%)	0 (0%)	3.23	0.62
Teachers should address global issues related to sustainability through their teaching.	41 (41.0%)	57 (57.0%)	2 (2.0%)	0 (0%)	3.39	0.53
Innovative teaching strategies can help educators engage students in sustainable development topics.	39 (39.0%)	59 (59.0%)	2 (2.0%)	0 (0%)	3.37	0.53
I can effectively assess students' understanding of sustainable development concepts using the necessary assessment techniques.	28 (28.0%)	70 (70.0%)	2 (2.0%)	0 (0%)	3.26	0.49
Collaboration among teachers can lead to a more comprehensive approach to teaching sustainable	49 (49.0%)	47 (47.0%)	3 (3.0%)	1 (1.0%)	3.44	0.61

development.					
The three facets of social, economic, and environmental challenges should be covered by educators in their sustainable development classes.	41 (41.0%)	56 (56.0%)	3 (3.0%)	0 (0%)	3.38	0.55
Teachers can empower students to take action on sustainability issues within their school and community.	39 (39.0%)	52 (52.0%)	7 (7.0%)	2 (2.0%)	3.28	0.68
Differentiation of instruction can help teachers meet the diverse learning needs of students when teaching about sustainable development.	34 (34.0%)	58 (58.0%)	4 (4.0%)	4 (4.0%)	3.22	0.71
School administrators should support and promote teachers' efforts in teaching about sustainable development.	47 (47.0%)	49 (49.0%)	4 (4.0%)	0 (0%)	3.43	0.57
Teachers should be aware of common misconceptions about sustainable development.	42 (42.0%)	51 (51%)	7 (7.0%)	0 (0%)	3.35	0.61

Teachers may face challenges when integrating sustainability into their teaching practices.	34 (34.0%)	59 (59.0%)	6 (6.0%)	1 (1.0%)	3.26	0.61
Real-world examples of schools successfully implementing sustainable practices can inspire teachers	41 (41.0%)	49 (49.0%)	8 (8.0%)	2 (2.0%)	3.29	0.70
There are ample resources available for teachers to enhance their knowledge of sustainable development	15 (15.0%)	58 (58%)	15 (15%)	12 (12%)	2.76	0.85
Incorporating local or indigenous knowledge can enrich lessons on sustainable development for teachers.	29 (29.0%)	61 (61.0%)	6 (6.0%)	4 (4.0%)	3.15	0.70
I believe that sustainable development education should be a priority in teacher training programs.	39 (39.0%)	56 (56.0%)	3 (3.0%)	2 (2.0%)	3.32	0.63
Greenhouse gas emissions can be decreased by using more renewable	24 (24.0%)	55 (55.0%)	18 (18%)	3 (3%)	3.00	0.74

resources.					
Social justice, economic expansion, and environmental preservation are essential elements of sustainable development.	51 (51.0%)	41 (41.0%)	8 (8.0%)	0 (0%)	3.43	0.64
I am aware that by 2030, the SDGs are supposed to be accomplished.	33 (33.0%)	55 (55.0%)	6 (6.0%)	6 (6.0%)	3.15	0.78
I understand that sustainability means providing for current needs without sacrificing the capacity of future generations to provide for themselves.	46 (46%)	50 (50.0%)	3 (3.0%)	1 (1.0%)	3.41	0.61
Weighted Average= 3.28					

Table 2 shows the frequency distribution on the extent of teachers' knowledge of sustainable development. Teachers should have a solid understanding of the economy, environment and society as the key principles of sustainable development ($\bar{x}$ = 3.57) was ranked highest by the mean score, followed by collaboration among teachers can lead to a more comprehensive approach to teaching sustainable development ($\bar{x}$ = 3.44), and school administrators should support and promote teachers' efforts in teaching about sustainable development ($\bar{x}$ = 3.43). Other items with high mean scores include environmental protection, economic growth, and social equity as key components of sustainable development ($\bar{x}$ = 3.43), the need for teachers to address global issues related to sustainability in their lesson ($\bar{x}$ = 3.41), and the need for teachers should address the three dimensions of social, economic, and environmental issues in their lessons ($\bar{x}$ = 3.38). The least rated items were Increased use of renewable resources can reduce greenhouse gas emissions ($\bar{x}$ = 3.00) and There are ample resources available for teachers to enhance their knowledge of sustainable development ($\bar{x}$ =

2.76). The table shows a weighted mean of 3.28, which is above the benchmark mean of 2.50, indicating that teachers possess a high level of knowledge about the concept of sustainable development.

Discussion

The findings of this study revealed a relatively high level of awareness and knowledge of Sustainable Development Goals (SDGs) among secondary school teachers in Iseyin Local Government Area of Oyo State, Nigeria. With a weighted mean of 3.18 for awareness and 3.28 for knowledge, the data suggest that while a general familiarity with SDG concepts exists, some thematic areas, particularly water conservation and the availability of sustainability teaching resources, remain underrepresented. These results align with global trends recognizing sustainability education as a key component of teacher competencies and professional preparation (Fischer et al., 2022; Rieckmann, 2018; Oltra-Badenes et al., 2023).

Teachers demonstrated a strong conceptual orientation toward SDGs priorities, especially those promoting social equity, environmental protection, and economic resilience. For instance, high ratings were observed for statements emphasizing the importance of peace, justice, and institutional integrity, reflecting alignment with SDG 16 (United Nations, 2015). Similarly, respondents acknowledged the foundational role of inclusive education, reinforcing SDG 4, which seeks to equip learners with the values and competencies necessary for a sustainable future (Bourn et al., 2017; Fischer et al., 2022). This confirms earlier assertions that when teachers are effectively sensitized to sustainability frameworks, they can serve as powerful catalysts for instilling transformative learning and critical thinking in students (Peedikayil et al., 2023; Gómez-Gómez & García-Lázaro, 2023).

However, this study also revealed significant gaps. Notably, only 19% of teachers reported attending SDG-related conferences or workshops. Moreover, specific sustainability practices, such as reducing water consumption, received low familiarity ratings. These results echo concerns raised by Khalid et al. (2022) and Nasim et al. (2023), who highlighted the disparity between theoretical awareness and practical application among educators. This disconnect points to the critical need for sustained professional development, as awareness alone does not equate to instructional competence or classroom implementation (Bascopé et al., 2019; González Bravo & Vivar Quintar, 2022).

The teachers' knowledge scores further emphasized an understanding of the interdependent nature of sustainable development's three core dimensions—environmental, economic, and social (mean = 3.57). This demonstrates a positive orientation towards pedagogical integration.

Yet, similar to findings by Khalid et al. (2022), participants expressed concerns about structural barriers, including insufficient training, limited access to localized instructional materials, and inadequate institutional support, which hinder effective SDG implementation. Although collaboration, curriculum integration, and real-world application were valued by teachers in this study, actual participation in sustainability-focused activities outside the classroom was notably low. This reflects observations by Fischer et al. (2022) and Oltra-Badenes et al. (2023), who argue that teacher education for sustainable development (TESD), while gaining traction globally, remains inconsistently executed and often lacks localized relevance. There is, therefore, a strong case for establishing structured professional learning communities and mentoring programs that promote inquiry-based, participatory, and action-oriented approaches, as emphasized by Rieckmann (2018) and Peedikayil et al. (2023).

Another pressing challenge highlighted by this study was the relatively low awareness of available teaching resources. Access to relevant teaching materials, digital content, and contextualized sustainability modules remains a critical gap. As shown in similar research (Khalid et al., 2022; Nasim et al., 2023), this scarcity can inhibit teachers' ability to implement effective sustainability education. The role of institutional stakeholders—school leaders, education ministries, and non-governmental organizations, in creating enabling environments for resource access and SDG integration cannot be overstated (United Nations, 2019; Gómez-Gómez & García-Lázaro, 2023).

In summary, teachers in Iseyin demonstrate commendable awareness and foundational understanding of the SDGs. However, the findings reinforce the need for systemic interventions, including targeted in-service training, curriculum reform, increased access to localized resources, and institutional frameworks that support sustainable pedagogical practice. Aligning these initiatives with both national priorities and global sustainability targets will be essential to achieving the transformative potential of education for sustainable development.

Conclusion

In conclusion, the study revealed that secondary school teachers in Iseyin Local Government Area possess a commendable level of awareness and foundational knowledge of SDGs, particularly regarding their integration into educational practices and societal development. However, the findings also highlighted significant gaps in experiential exposure, such as limited participation in workshops and inadequate access to relevant teaching resources. These shortcomings suggest that while teachers recognize the importance of sustainability education,

their ability to implement it effectively remains constrained by systemic and institutional factors. To maximize the contribution of educators to the 2030 Agenda for Sustainable Development, these issues must be resolved by thorough teacher preparation, improved curricula, and more policy support.

Recommendations

Based on the findings of this study, the following recommendations are proposed to enhance the integration of SDGs in secondary school education. First, educational authorities at the state and national levels should prioritize continuous professional development programs focused on sustainability education to equip teachers with the necessary competencies for effective SDG integration. To improve teachers' conceptual and practical knowledge of sustainable development, frequent workshops, seminars, and in-service training should be held. Second, curriculum developers should ensure that sustainability content is explicitly embedded across subjects at the secondary school level, with clear pedagogical guidelines and resources for implementation. Third, collaboration between schools, local government, non-governmental organizations (NGOs), and community stakeholders should be encouraged to support sustainability initiatives both within and beyond the classroom. Lastly, schools should establish sustainability-focused committees or clubs that engage both teachers and students in real-world sustainability projects, thereby promoting experiential learning and community impact.

Limitations and Future Directions

While this study provides valuable insights into teacher awareness and knowledge of sustainable development in Iseyin Local Government Area, several limitations should be acknowledged. First, the study was geographically limited to one local government area within Oyo State, which may restrict the generalizability of the findings to other regions with different socio-economic and educational contexts. Second, the data collection relied on self-reported responses through questionnaires, which could contain errors or social desirability bias in self-assessment. Third, the study employed a quantitative descriptive design, which, while useful for measuring levels of awareness and knowledge, does not capture deeper qualitative insights into teachers' experiences, motivations, or challenges. Future research could adopt mixed-method approaches and expand the geographical scope to offer a more thorough comprehension of SDGs integration in Nigerian education.

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INTEGRATING THEORETICAL APPROACHES AND COLLABORATIVE LEARNING STRATEGIES TO ENHANCE CHILDREN'S RESILIENCE AND FOSTER POSITIVE PARENTING

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Abstract: *This article explores how the integration of key theoretical frameworks and collaborative learning strategies can enhance children's resilience and support the development of positive parenting practices. Drawing from ecological systems theory, social learning theory, and sociocultural theory, the paper offers a conceptual model that bridges developmental psychology and educational intervention. Results highlight that collaborative learning environments through group interaction, guided reflection, and shared parent-child activities can strengthen emotional regulation, adaptability, and interpersonal skills in children, while also empowering caregivers to adopt more effective and empathetic parenting behaviors. The study underscores the value of multi-level, theory-driven programs that foster resilience through structured collaboration. Implications for educators, psychologists, and policy makers are discussed.*

Keywords: *child resilience; positive parenting; collaborative learning; educational intervention; ecological systems theory; social learning.*

Introduction
Children's capacity to adapt in the face of adversity commonly referred to as resilience is crucial for their mental health and long-term development (Masten, 2014). Equally vital is the role of positive parenting, defined as a nurturing, responsive, and supportive approach to caregiving that facilitates emotional and behavioral development (Sanders, 2008). In recent years, there has been growing interest in interdisciplinary interventions that not only promote resilience in children but also support parents in adopting more constructive parenting practices.
This article explores the intersection between theoretical frameworks of child development, resilience, and parenting, and the

implementation of collaborative learning strategies in family and educational contexts. It proposes a multidimensional approach to strengthening children's resilience and fostering positive parenting by integrating concepts from developmental psychology, social learning theory, and ecological systems theory. The study also examines evidence-based collaborative learning models that engage both children and caregivers, enhancing their emotional regulation, problem-solving abilities, and interpersonal relationships.

Theoretical perspectives such as Bronfenbrenner's ecological systems theory (1979), Bandura's social learning theory (1977), and Vygotsky's sociocultural theory (1978) provide a robust foundation for understanding how environments, relationships, and interactions shape developmental outcomes. Collaborative learning strategies particularly those emphasizing dialogical engagement and shared experiences can serve as practical tools to operationalize these theories in family and educational settings.

This paper proposes an integrated model combining these theoretical underpinnings with collaborative learning strategies to enhance children's resilience and promote positive parenting practices. We discuss relevant literature, outline a research-informed methodology, and conclude with practical implications and directions for future research.

Theoretical Frameworks

Bronfenbrenner (1979) emphasized that child development occurs within multiple layers of influence: microsystem (family, peers), mesosystem (interactions between microsystems), exosystem (indirect environments), and macrosystem (cultural values). Strengthening a child's resilience necessitates interventions at multiple levels supportive parenting in the microsystem and collaborative educational programs in the mesosystem can act synergistically to create protective factors.

According to Bandura (1977), children learn by observing and imitating others, particularly within family and peer contexts. Parenting styles that model self-regulation, empathy, and constructive problem-solving provide templates for children's behavior. Collaborative learning environments offer additional opportunities for children to witness and practice adaptive behaviors under guided supervision.

Vygotsky (1978) highlighted the importance of social interaction and language in learning. His concept of the Zone of Proximal Development, collaborative learning, educational intervention, ecological systems theory, social learning.

Research Design

The current study employs a qualitative meta-synthesis approach, aiming to integrate, interpret, and refine findings from a broad range of empirical and theoretical studies addressing children's resilience and positive parenting.

Additionally, a cross-case matrix was developed to map theoretical alignment across studies (e.g., which studies applied Vygotsky's principles, Bandura's modeling, or Bronfenbrenner's system levels). This analytic technique ensured a structured interpretation of diverse evidence, enabling the construction of a coherent integrative framework.

Methodology

This study employs a qualitative, interpretive research design aimed at exploring the dynamic interaction between theoretical models of child development and collaborative learning strategies in the context of parenting and resilience. Rooted in constructivist epistemology, the research assumes that knowledge about family processes and child outcomes is socially constructed and contextually situated (Creswell, 2013).

Given the complex, multi-dimensional nature of resilience and parenting, a qualitative approach allows for a nuanced synthesis of perspectives across disciplines, theories, and practical interventions.

Data Collection and Source Selection

The research is based on a document analysis of academic and applied literature, including:

•   empirical studies on child development and resilience,

•   conceptual papers on parenting practices,

•   program evaluations of collaborative learning initiatives,

•   and theoretical articles from developmental psychology and education.

The strategies and models were selected based on their relevance to three core domains:

- Child resilience and socio-emotional development;
- Parenting strategies that support adaptive behavior;
- The use of collaborative or interactive methods in learning or parenting contexts.

    Data Analysis Procedure

A two-phase analytic process was followed:

- Phase 1: Deductive Mapping

Key concepts from three foundational theories ecological systems theory, social learning theory, and sociocultural theory were used as initial coding categories. These theoretical lenses allowed the researcher to trace how family systems, role modeling, and collaborative practices are reflected in the selected materials.

- Phase 2: Inductive Thematic Synthesis

Recurring patterns, strategies, and principles across the materials were coded and grouped into themes. These included emotional regulation, caregiver responsiveness, guided interaction, and child agency. Thematic saturation was achieved after repeated review and comparison of findings across different sources.

In this paper, resilience is broadly defined as the collection of abilities, traits, and learned behaviors that allow individuals to navigate and respond effectively to hardship. While some aspects of resilience may have a biological basis, the development of resilience can be enhanced through education, practice, and intentional intervention.

Resilience has been conceptualized in numerous ways within the psychological literature. One influential definition, proposed by Masten and colleagues (1990), describes it as the ability or process through which individuals successfully adapt when faced with adversity or significant stressors. Most interpretations of resilience involve two core components: the presence of identifiable risks or challenges, and observable positive adjustment or developmental outcomes.

However, ongoing debates persist regarding how resilient behavior should be characterized and the most appropriate methods for measuring adaptive success in difficult contexts. For example, Cicchetti and Rogosch (1997) argue that resilience must be demonstrated consistently across multiple domains of functioning over time. Moreover, resilience is no longer viewed as a fixed trait that a person either possesses or lacks (Reivich & Shatté, 2003). Instead, it is now seen as a dynamic, multifaceted capacity made up of various skills and strategies that support coping and adjustment.

Early Foundations of Resilience Research

The initial interest in resilience emerged from clinical observations of children who displayed remarkable strength in the face of adversity, while others exposed to similar conditions experienced negative outcomes.

These early case studies contributed to a growing fascination with children who seemed "invulnerable" to adversity (Anthony, 1987b), or what Murphy and Moriarty (1976) called "good copers." (Garmezy,

Masten, & Tellegen, 1984; Masten, 2000), provided empirical depth to this emerging field.

Several extensive longitudinal investigations have tracked individuals diagnosed with learning disabilities and attention-deficit/hyperactivity disorder (ADHD) to identify factors that foster resilience within these groups (Gerber, Ginsburg, & Reiff, 1990; Spekman, Goldberg, & Herman, 1992, as cited in Katz, 1997; Werner & Smith, 2001).

As research continues to unravel the intricate relationships among risks, protective elements, and intervention strategies, it remains essential for practitioners to identify and enhance factors that support children's adaptive capacities. In the following discussion, six key protective factors are outlined, based on extensive resilience literature and clinical experience. These categories overlap, as components within one factor often relate to others. For example, a child who demonstrates self-regulation is typically better at building friendships, and academic achievement often contributes to higher self-esteem. The presence of multiple protective factors appears to amplify positive outcomes across various aspects of a child's life.

Proactive Orientation

A proactive orientation involves actively engaging with challenges and seeking opportunities for growth. Encouraging children to engage in helping behaviors is a powerful method for nurturing a sense of responsibility, developing empathy, and strengthening self-esteem (Brooks, 1994; Werner, 1993). Acts of kindness such as volunteering in community settings like shelters, elderly care homes, or hospitals can significantly contribute to building resilience in children. When young individuals dedicate their time and energy to supporting others, they often develop a greater awareness of social responsibility and personal agency.

The concept of "required helpfulness", introduced by Rachman (1979), describes situations in which individuals facing their own difficulties are simultaneously called upon to assist others in need. This dual role not only reinforces adaptive coping mechanisms but also deepens their sense of purpose and self-worth through altruistic action.

Developing the ability to manage one's emotions, behavior, and attention commonly referred to as self-regulation is considered one of the core protective factors that support a child's resilience (Masten & Coatsworth, 1998). When children are capable of calming themselves, adapting their emotional responses, and controlling impulsive behaviors, they are more likely to receive positive feedback from others, build healthy relationships, and function independently. These

regulatory abilities not only foster social competence but also help children maintain emotional balance in challenging situations.

Traits such as an easygoing temperament and strong self-regulation skills have consistently been linked to resilient outcomes in children (Buckner, Mezzacappa, & Beardslee, 2003; Eisenberg et al., 1997, 2003; Werner, 1993). Components like impulse control and the capacity to delay gratification form essential parts of self-discipline, supporting both emotional and behavioral adaptation. Furthermore, effective self-regulation contributes significantly to positive peer interactions, rule adherence (Feldman & Klein, 2003), and the reduction of internalizing issues such as anxiety and depression (Rubin, Coplan, Fox, & Calkins, 1995).

Although it may seem intuitive that children who express more positive emotions would experience better outcomes, recent findings suggest that the crucial factor is not simply the presence of positive or negative emotion, but the capacity to manage emotional responses appropriately. A longitudinal study conducted by Rydell, Berlin, and Bohlin (2003) involving five-year-old children revealed that difficulties in regulating even positive emotional states such as high excitement or exuberance were linked to greater behavioral problems and reduced prosocial behaviors. In contrast, children who could regulate these emotions effectively displayed stronger social skills and prosocial tendencies.

The need to form close bonds with family and peers is widely regarded as a basic human drive (Baumeister & Leary, 1995). A strong sense of belonging and emotional connection has been linked to numerous positive outcomes in terms of mental health and psychological adjustment. Supportive relationships contribute directly to the development of self-worth and a belief in one's own abilities (Werner, 1993). Children who demonstrate strong social skills and maintain meaningful relationships with peers, caregivers, and other supportive adults tend to be more resilient when confronted with adversity (Masten & Coatsworth, 1998). These children also tend to attract positive responses from those around them (Werner, 1993).

For young people, being able to form and sustain friendships is a key element of healthy development.

Positive peer interactions not only provide emotional safety but also serve as a foundation for social and academic adjustment (Rubin, 2002). Research suggests that simply having one close friendship can significantly enhance a child's capacity to cope with challenges (Hartup & Stevens, 1997). Furthermore, strong peer relationships can buffer children during times of family instability. Being accepted by a peer group is associated with a lower incidence of disruptive or

aggressive behaviors (Criss, Pettit, Bates, Dodge, & Lapp, 2002). Children who are socially integrated and well-liked are less susceptible to bullying and social exclusion (Pellegrini, Bartini, & Brooks, 1999; Rubin, Bukowski, & Parker, 1998).

While strong social networks offer protection against stress, anxiety, and behavioral issues, it's important to recognize that such support systems do not automatically form. As Bandura and colleagues (1999) pointed out, social support must be actively developed and maintained. Like adults, children must take initiative in building and nurturing meaningful relationships. The quality of these social exchanges often depends on a child's own behavior: individuals who are cooperative, empathetic, and emotionally stable are more likely to receive warmth and positive engagement from others. In contrast, children who are impulsive, reactive, or struggle with emotional regulation may have more difficulty forming secure social bonds. Those who follow social norms, share, and demonstrate kindness are more likely to experience positive social feedback.

Children who grow up with a warm, involved parent or a committed care giver such as a grandparent or adoptive parent who sets consistent boundaries and clear rules are more likely to develop resilient traits (Masten & Coatsworth, 1998). These children generally exhibit greater compliance with parental guidance (Feldman & Klein, 2003) and demonstrate better social adjustment in relationships with peers and friends (Contreras, Kerns, Weimer, Gentzler, & Tomich, 2000). A landmark longitudinal study initiated in 1959 highlighted the pivotal role of the authoritative parenting style in supporting children's healthy social and emotional development.

Connections and Attachments

The human need to belong and to establish meaningful bonds with family members and peers is widely recognized as essential (Baumeister & Leary, 1995). Experiencing a sense of connection and attachment has been linked to numerous positive outcomes in health and psychological adjustment. Supportive relationships play a crucial role in fostering self-esteem and self-efficacy (Werner, 1993). Social skills and strong, positive interactions with peers, relatives, and prosocial adults have been consistently shown to contribute significantly to children's capacity to handle stressful life events (Masten & Coatsworth, 1998). Moreover, children who display resilience often attract favorable attention from those around them (Werner, 1993).

For young individuals, cultivating friendships and developing the ability to interact harmoniously with peers both one-on-one and in

group settings are critical. Friendships serve as important support networks that encourage emotional well-being, social development, and academic success (Rubin, 2002). Being part of at least one close friendship has been found to enhance children's overall adjustment (Hartup & Stevens, 1997).

Positive relationships among peers can also act as protective buffers during family crises. Acceptance within a peer group reduces the likelihood of externalizing behaviors (Criss, Pettit, Bates, Dodge, & Lapp, 2002). Additionally, children who are well-liked and socially connected are less susceptible to bullying or victimization (Pellegrini, Bartini, & Brooks, 1999; Rubin, Bukowski, & Parker, 1998).

While having a robust social support system helps shield children from stress, depression, and behavioral problems, it should not be assumed that such support naturally exists. Bandura et al. (1999) emphasized that social support requires active engagement; it is not a passive resource that simply appears to mitigate stress.

Children, like adults, must actively form and nurture supportive bonds. These connections shape reciprocal interactions how individuals treat others influences how they are treated in return. It is generally easier for others to respond positively to children who are calm, empathetic, and exercise good self-control, compared to those who display impulsivity, emotional reactivity, and poor regulation. Children who are cooperative, adhere to social norms, and maintain positive peer relations tend to sustain these valuable social connections over time.

Proactive Parenting

Children who have at least one warm and nurturing parent such as a grandparent or foster parent who provides clear and consistent boundaries tend to demonstrate higher levels of resilience (Masten & Coatsworth, 1998). These children typically show greater compliance with parental expectations (Feldman & Klein, 2003) and enjoy more positive peer relationships (Contreras, Kerns, Weimer, Gentzler, & Tomich, 2000). Notably, a landmark longitudinal study initiated in 1959 underscored the importance of authoritative parenting styles in promoting healthy social and emotional development in children…

Academic Success, Engagement, Cognitive Ability, and Special Talents

Schools provide an environment where children and adolescents can thrive both academically and socially. Research has linked positive academic goals (Tiet et al., 1998) and active participation in schoolwork (Morrison, Robertson, Laurie, & Kelly, 2002) with higher resilience levels in youth facing challenges.

Although the exact reasons for this relationship are not fully understood, several contributing factors have been proposed. For instance, support and encouragement from teachers help build resilience by fostering strong interpersonal connections. Additionally, involvement in extracurricular activities such as art, music, theater, clubs, and sports offers young people opportunities to engage with prosocial peer groups and receive recognition for their talents and efforts. Maintaining a positive attitude toward school and school-related activities has also been shown to reduce the likelihood of engaging in antisocial behaviors (Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995).

Cognitive abilities have been identified as important contributors to resilience among children (Fergusson & Lynskey, 1996). Moreover, these abilities influence other resilience factors by enabling youth to excel academically and to take advantage of educational and cultural opportunities. A strong commitment to schooling has also been found to decrease the risk of violent conduct (Department of Health and Human Services, 2001).

Building competence is a key element in fostering resilience. Brooks and Goldstein (2001) propose that every child has at least one "island of competence," which refers to a particular skill or area where the child can achieve success and feel proud. To nurture resilience, caregivers are encouraged to focus on these strengths and create opportunities for children to experience accomplishment. This might involve involving children in everyday tasks that allow them to contribute meaningfully, such as helping peers, participating in school safety patrols, or assisting elderly neighbors.

Community Influences and Protective Factors

Supportive relationships beyond the family circle, such as those found in the wider community, play a crucial role in safeguarding children's well-being (Masten, 2001; Werner, 1995). Young people who demonstrate resilience often build meaningful connections with positive role models and mentors outside their immediate family (Wolin & Wolin, 1993). These youths frequently engage in clubs, sports teams, and various community groups, where they meet adults like coaches, teachers, or scout leaders who serve as mentors and sources of guidance.

Schools that effectively recognize and address their students' needs through appropriate services, manageable class sizes, and thoughtful curricula foster environments that promote resilience. Key components of a supportive community include safe neighborhoods, prevention and early intervention programs, recreational options, accessible health

care, and economic stability for families (Thomlison, 1997). Additionally, religious and spiritual organizations often contribute social support and resources that help buffer against adversity.

Recommendations for Clinical Interventions with Individuals and Families
The following strategies focus on reinforcing strengths and protective factors:

Problem-Solving Skills
Teach children and families how to identify which challenges they can control and which they cannot. Training in cognitive problem-solving techniques has a strong evidence base (Kazdin & Weisz, 1998). Adults both therapists and parents can model this by discussing real-life scenarios and outlining practical steps. Encouraging children to think creatively about possible solutions helps develop their problem-solving abilities (Bloomquist, 1996).

Encourage Emotional Expression
Children should feel safe to express both positive and negative emotions. Experiencing emotional distress before, during, or after trauma is typical, and providing a space to discuss feelings is important for healing (Grados & Alvord, 2003).

Highlight Strengths and Positive Family Experiences
Help families recognize their strengths and foster special moments together to promote relaxation and positive interaction (Barkley & Benton, 1998). Humor can serve as a powerful coping mechanism during stressful times, so encouraging fun and laughter is beneficial (Brooks & Goldstein, 2001; Wolin & Wolin, 1993).

Support Self-Esteem Through Responsibilities
Guide parents and teachers to offer children meaningful tasks that build a sense of achievement and mastery. Supporting the development of children's talents and encouraging experimentation—even allowing mistakes as learning opportunities—can promote confidence (Brooks & Goldstein, 2001).

Promote Optimistic Thinking and Perspective
Help children realistically attribute successes to their own efforts rather than external circumstances. Cognitive restructuring techniques assist children in reframing how they perceive their achievements and challenges (Bandura, 1997). Programs like Seligman's Penn Program teach children to recognize and challenge unhelpful thoughts, encouraging resilience by viewing negative events as temporary setbacks rather than permanent failures (Seligman, 1995, 2002).

Use Cognitive Techniques Like Thought Stopping and Channel Changing

Children can learn to manage difficult emotions by "switching channels," imagining their feelings as TV stations and choosing to change from "angry" to "calm" channels, for example, using creative tools like paper-made TV sets.

Teach Relaxation and Self-Control Skills

Methods such as deep breathing, muscle relaxation, visualization, and guided imagery help children regulate emotions. Fun strategies like the "turtle technique," where a child retreats into a "shell" to calm down and think through problems, or the "rag doll" exercise, which involves relaxing muscles by letting the body go limp, are especially useful for younger children. Physical activities and sports also support relaxation and emotional balance (Thurber & Weisz, 1997).

Advise Parents on Warmth, Boundaries, and Consistency

Resilient children benefit from nurturing caregivers who set clear limits while providing warmth and predictability. Routine and structure offer a sense of security. Parents should encourage independence by offering age-appropriate choices and responsibilities, setting realistic but challenging expectations that help children believe in their own ability to influence outcomes. Parenting resources like Your Defiant Child (Barkley & Benton, 1998) and Raising Resilient Children (Brooks & Goldstein, 2001) provide further guidance on these approaches.

In recent years, group therapy has gained considerable popularity among clinicians, especially within the context of managed care, where delivering cost-efficient psychological services is a priority. Social skills groups have proven to be effective interventions, particularly for addressing peer-related challenges, and are relatively affordable options (Pfiffner & McBurnett, 1997; Tynan, 1999). Below, we outline our group approach, which incorporates well-established principles for fostering resilience in young people, leveraging protective factors that help shield them from stress.

The group structure includes several key elements as: (a) an interactive learning segment where children are encouraged to think critically, share ideas, and acquire new skills; (b) a free-play period, which requires cooperation and negotiation among peers; (c) a relaxation and self-regulation session focused on teaching stress management techniques; (d) a generalization phase where children are encouraged to apply learned skills beyond the group setting; and (e) a parental involvement component, where parents are briefed on the skills taught and are motivated to support their child's progress through weekly homework assignments.

Group rules are introduced clearly at the first meeting and are reinforced through a reward system throughout the program. Children

actively participate in establishing these rules, which commonly emphasize taking turns speaking, respecting personal space, cooperative play, and courteous communication.

A behavior chart tracks points earned by children for following rules, completing homework, sharing progress towards personal goals, and engaging in self-regulation exercises. These points can be exchanged for small rewards or accumulated for larger incentives, thus teaching delayed gratification. Additionally, each session includes awarding a "leadership" certificate to a child recognized by peers for demonstrating positive leadership qualities.

The Alvord–Baker Social Skills Group Model

This model is a resilience-focused curriculum that utilizes cognitive-behavioral techniques and a proactive approach. It acknowledges that children are embedded within family and community systems and thus promotes collaboration with schools and community resources when appropriate.

Presented to communities as "social skills groups," this framing reduces stigma for parents seeking mental health support. Being part of a group fosters children's sense of belonging and acceptance.

The program typically runs for 12 to 14 sessions per semester, aligned with the academic calendar, with two semesters recommended for optimal results. Groups include up to six children of the same gender but with varied diagnoses, such as ADHD or social anxiety symptoms. A limited number of children with mild Asperger's syndrome or learning and motor skill challenges may also participate. However, children with significantly low cognitive abilities or severe aggressive behaviors are not suited for this format, as evidence suggests grouping antisocial youth together can reduce intervention effectiveness and may increase delinquency risk (Dishion, McCord, & Poulin, 1999).

This model has been implemented for over a decade and is primarily used for children in grades two through five. While the same framework is adapted for younger and middle school children, activities are modified to suit their developmental stages.

The program includes five core components: (a) an interactive didactic segment where resilience factors and social skills are explored collaboratively; (b) free play to practice interpersonal interactions; (c) relaxation/self-regulation training; (d) generalization of skills outside the group; and (e) parental involvement.

Interactive Didactic Segment

In this segment, therapists, teachers, facilitate learning by engaging children in guided discussions rather than lectures. Children's input is actively sought to foster participation, ownership, and empowerment. For example, if problem-solving skills are a focus, the therapist

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introduces the concept, then asks children to define its elements and discuss causes, perspectives, and feelings involved in hypothetical problems.

Children reflect on their own experiences, brainstorm solutions, and role-play different responses both effective and ineffective. This practice helps children understand the impact of their behavior on themselves and others. Tools like puppet shows, interactive stories, and books may be used to model appropriate responses.

Each child, together with their parent, sets a personalized goal to work on during the semester, encouraging responsibility and building on individual strengths. For instance, one child might focus on managing anger, while another might.

Techniques for Relaxation and Self-Regulation

A key inner resource observed in resilient individuals is their capacity to manage their emotions and behaviors effectively. Many children facing challenges, including those diagnosed with ADHD, struggle with self-control and emotional regulation (Barkley, 1997). Within this group framework, various self-regulation methods such as progressive muscle relaxation and guided imagery are introduced and practiced regularly during sessions. By exposing children to multiple techniques, they are empowered to discover which approaches suit them best. As the program progresses, children take turns leading these exercises, fostering a sense of mastery and encouraging an active engagement with the strategies.

Promoting Generalization of Skills

To strengthen resilience, it is crucial that positive changes extend beyond the group environment into everyday settings like home, school, and the community. Goldstein and Martens (2000) emphasize that many interventions fail to generalize because they lack an intentional plan for generalization, noting that consistent practice of successful strategies enhances their transferability. Our model incorporates several approaches to support this, including weekly practice assignments (termed "learning enhancements"), active parent involvement, and, when relevant, collaboration with educational staff.

Each week, children receive homework tasks designed to reinforce and practice the skills introduced during sessions. These assignments encourage active coping and skill rehearsal, with progress tracked via checklists or written reflections. Recognizing that practice is essential similar to learning a musical instrument parents are asked to support their child's efforts, including initialing completed work. For children who face difficulties with writing, verbal dictation to parents is an option. This system fosters meaningful conversations about skills and progress between children and their families.

During intake, and with parental consent, teachers complete behavioral assessments, such as the Behavior Assessment System for Children. Additionally, contact with other professionals involved in the child's care (e.g., therapists, counselors, special educators) is established as needed. Parents are encouraged to share learning enhancements with school staff to ensure reinforcement of skills in the academic setting.

We also advocate for children's participation in extracurricular groups outside of school such as sports teams, martial arts classes, or scouting to build community connections. Parents are encouraged to reinforce the use of skills in these environments. Elementary school coaches, for example, often appreciate being informed about children's challenges and enjoy partnering with parents to support positive behaviors.

Engaging Parents as Active Participants

Parents play a vital role throughout the program. Each child has a communication folder shared between therapists and parents. After every session, parents receive a letter summarizing the focus skill, its significance, practical tips for support, and the current learning enhancement. This folder also serves as a channel for parents to share feedback with therapists. Once a month, parents or caregivers join the final 15 minutes of a session, providing children the chance to demonstrate their progress. Sessions consistently include activities designed to boost self-esteem, such as peer compliments and positive affirmations, which parents observe during these meetings.

While some programs recommend separate parent groups to facilitate generalization (Pfiffner & McBurnett, 1997; Tynan, 1999), we recognize the practical challenges families face regarding time, cost, and scheduling. Nevertheless, we offer a variety of optional parent groups ranging from short-term workshops to long-standing support groups focused on topics like behavior management and encourage participation. Individual parent-therapist meetings are also available, with a requirement that parents attend at least one session per semester to stay engaged in their child's progress.

Resilience is shaped by various protective influences stemming from individuals, families, and communities. It should be understood as a set of skills and qualities that are developed over time, internalized, and broadly applied to help a person successfully navigate life's challenges. Resilience involves active engagement and self-direction resilient youth take initiative when confronted with difficulties. They draw on both internal strengths and external supports to adjust to tough situations in a realistic way. Resilient children learn that while they cannot control every event, they do have the capacity to influence future outcomes.

The Alvord–Baker social skills group model integrates these protective elements identified in existing research, offering a hands-on, forward-thinking, cognitive-behavioral strategy to nurture resilience in children. When clinicians implement these methods and children and parents engage actively in the process, the result is a cohesive approach that fosters and strengthens resilience.

This model has been a core part of our clinical work for over twelve years. In the last five years, we have gathered feedback from parents and teachers, and more recently, have begun collecting empirical evidence to assess the model's effectiveness.

Looking forward, we believe there are two main goals: first, to apply established knowledge about resilience-promoting factors across diverse treatment settings and populations; and second, to advance research by conducting rigorous, evidence-based studies that evaluate the impact of resilience-focused interventions on children's outcomes.

Conclusion

Findings suggest that resilient youth with learning disabilities tend to strive for autonomy, maintain a strong commitment to achieving their goals, exhibit considerable perseverance, and actively seek and accept help when needed.

Furthermore, resilient young adults in this population often demonstrate an enhanced capacity to recognize their personal achievements and strengths, frequently citing significant life events as turning points that motivated them to overcome difficulties, alongside a heightened sense of self-determination (Miller, 2002). Hechtman's (1991; cited in Katz, 1997) long-term prospective study of individuals diagnosed with ADHD during childhood revealed that having a supportive and influential figure such as a parent, teacher, or coach who believed in the individual's potential played a crucial role in their development. Ongoing research efforts continue to explore the complex interplay of risks and resilience factors affecting these youths (Murray, 2003).

Masten (2001) challenged the idea that resilience arises from exceptional or rare traits in children. Instead, she proposed that resilience is the product of well-functioning fundamental human adaptive systems. When these systems operate effectively, children can navigate adversity and develop healthily. Conversely, if these systems are compromised either before or after encountering challenges, children are at an increased risk for developmental difficulties.

Protective factors refer to elements that influence and potentially improve an individual's response to environmental risks that could otherwise lead to negative outcomes (Rutter, 1985). These factors can

originate from within the child, their family system, or the broader community context (Werner, 1995). Internal strengths that support resilience include a child's cognitive abilities, skill in forming friendships, and capacity for self-regulation. Externally, factors such as nurturing and competent caregivers, supportive peer relationships, community networks, and quality educational settings play a crucial role in fostering resilience.

It is important to consider protective factors within the cultural backgrounds and developmental stages of children. For instance, findings from the International Resilience Project (Grotberg, 1995) highlighted that faith can serve as a more significant protective resource in some cultures compared to others. Additionally, a child's stage of cognitive and emotional development impacts how effectively they can utilize these protective mechanisms, especially when internal vulnerabilities such as ADHD or learning disabilities are present.

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PARENTAL MODELS AND THE DYNAMICS OF EDUCATIONAL PARTNERSHIPS: A RELATIONAL PERSPECTIVE

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Abstract: *This article explores the influence of parental models on the dynamics of educational partnerships, emphasizing a relational perspective. Educational partnerships—defined as the collaborative relationships between families and schools—are essential for creating a cohesive support system around the student. However, such partnerships are not merely procedural; they are relational in nature, deeply influenced by the emotional, communicational, and behavioral models that parents display both at home and in interactions with the school. Using a blend of theoretical references and qualitative insights from eight interviewed teachers, this paper identifies patterns in how parents' attitudes, consistency, and openness affect the climate of collaboration with educational institutions. Additionally, the article incorporates personal reflections drawn from practical educational contexts. Findings suggest that successful partnerships emerge when parents act as positive role models, communicate respectfully, and show trust in educators. These dynamics not only support student development but also foster a school culture built on cooperation, empathy, and shared goals.*

Keywords: *parenting styles; educational partnerships; family-school collaboration.*

Theoretical Background

In recent decades, a growing body of research has highlighted the critical role of parenting in shaping children's academic, emotional, and social trajectories (Bornstein, 2019; Darling & Steinberg, 1993). The concept of parenting styles, first conceptualized by Baumrind (1967) and later refined by Maccoby and Martin (1983), offers a robust

framework for understanding how parents influence not only individual child outcomes but also broader relational dynamics within the educational ecosystem. This bidimensional model remains one of the most widely accepted frameworks in developmental and educational psychology (Steinberg, 2001).

- Authoritative parenting combines high responsiveness with high demands, fostering autonomy while maintaining structure. It is consistently associated with higher academic achievement, better self-regulation, and stronger social competence in children (Baumrind, 1991; Steinberg et al., 1994).
- Authoritarian parenting, while high in control, is low in warmth and communication. It often results in compliance but can undermine intrinsic motivation and openness to collaboration (Grolnick, 2003).
- Permissive parenting emphasizes warmth but offers minimal behavioral guidance, sometimes leading to reduced academic persistence (Lamborn et al., 1991).
- Uninvolved parenting shows low levels on both dimensions and is correlated with poor academic, emotional, and behavioral outcomes (Pettit, Bates, & Dodge, 1997).

Many specialists classify parenting models based on specific criteria. A reasonable classification can be found in A. Kohn (2017), who divides parenting styles into: unilateral parenting and collaborative parenting. While unilateral parenting places the parent and their authority over the child at the center, collaborative parenting is characterized by: the parent shows interest in who the child is as a whole, rather than in what the child does, offering love and acceptance unconditionally.

Table 1. The influence of parenting models on children development and educational partnership

Criteria / Styles	Authoritative	Authoritarian	Permissive	Neglectful
Level of control	High, but balanced	High, rigid	Low	Low
Emotional support	High	Low	High	Low
Communication	Open, bidirectional	Unidirectional, imposed	Affective, but without rules	Nonexistent or inconsistent
Parent-child relationship	Warm, empathetic,	Distant, based on fear	Friendly, but lacking	Distant or absent

Criteria / Styles	Authoritative	Authoritarian	Permissive	Neglectful
	collaborative		authority	
Educational implications	Optimal development, autonomy, responsibility	Conformism, anxiety, lack of initiative	Impulsivity, lack of boundaries	Disinterest, attachment and integration issues
School involvement	Active, cooperative, supportive of the child	Only for control or punishment	Superficial, or without rules	Very low or nonexistent

This study addresses these gaps by examining the influence of diverse parenting models on the dynamics of educational partnerships, adopting a relational framework that integrates individual, interpersonal, and contextual variables. Through a mixed-methods approach, we aim to better understand how parenting styles shape the formation and sustainability of collaborative ties between families and educational institutions, with the ultimate goal of enhancing student outcomes and community cohesion. The relationship between family and school has been a central topic in the pedagogical discourse for decades. Numerous studies (Epstein, 2001; Hoover-Dempsey & Sandler, 1997) underline that children benefit most when families and schools form authentic partnerships, rooted in mutual respect, trust, and shared educational objectives. From a relational perspective, these partnerships go beyond formal meetings or parental presence at school events—they are shaped by the quality of interactions, emotional tone, and symbolic messages that adults convey. The concept of parental models refers to the set of behaviors, beliefs, attitudes, and values that parents demonstrate both in private (within the family) and in public (in relation to institutions such as schools). These models influence how children perceive authority, responsibility, and the value of education (Albulescu, 2002; Roman, 2020). Musata Bocoş (2013) highlights the importance of the relational dimension in education, noting that emotional intelligence and the ability to build trust-based relationships are just as important as pedagogical competence. In this sense, both parents and teachers become co-educators in a shared relational space. Georgeta Pânișoară (2017) reinforces the idea that the psychological climate of educational interactions is decisive. A parent who models anxiety, distrust, or aggression toward school authorities may unconsciously transmit these attitudes to the child. Conversely, a

parent who shows empathy, openness, and confidence in the educational process helps cultivate similar dispositions in their child.

In the Romanian context, partnership practices are also shaped by broader cultural narratives regarding authority, institutional responsibility, and family roles (Voinea, 2018). As highlighted by Petre (2021), schools often adopt a formalistic or hierarchical approach to collaboration, which may limit authentic engagement, especially among parents with low educational capital or from rural areas. From my own educational experience, I have observed that families who treat school as an ally, rather than a source of stress or conflict, tend to have children who are more cooperative, motivated, and resilient. Educational partnerships grounded in relational values have the power to transform not only academic results, but also the emotional wellbeing of students.

Research

The primary objective of this research was to explore how teachers perceive the role of parental models in shaping and sustaining strong educational partnerships. Specifically, the research aimed to identify the ways in which parents' attitudes, behaviors, and relational styles contribute to—or hinder—the collaboration between family and school. This inquiry was motivated by the increasing need to move beyond theoretical frameworks and capture the lived experiences of educators who interact daily with students and their families. A qualitative research design was employed to gain an in-depth understanding of teacher perceptions. The study involved semi-structured interviews with eight teachers working in both urban and rural primary schools in Romania. Participants were selected through purposive sampling, ensuring a range of teaching experience (from 5 to over 20 years) and exposure to diverse socio-cultural school environments. Semi-structured interviews allowed for flexibility in responses, enabling participants to share personal stories, reflect on specific cases, and elaborate on their emotional and professional reactions to various types of parental involvement. Each interview lasted approximately 30–45 minute. The interview questions were of the types:

1. Can you tell us a bit about your experience as a teacher? (e.g., years of experience, type of school, urban/rural setting)
   Example answer:
   „I have been a teacher for over 10 years, working primarily in public schools in rural areas. I've taught both primary and lower secondary students. Working in a rural setting has given me insight into the close-knit nature of these communities, but

also the unique challenges they face in terms of access and resources."

2. How would you describe, in general, the relationship between school and family in the community where you work?

   Example answer:

   In general, the relationship is respectful but often distant. Many parents trust the school, but they are not very involved in the educational process beyond basic communication. There's still a perception that education is solely the responsibility of teachers.

3. What types of attitudes or behaviors have you most frequently observed among the parents you work with?

   Example answer:

   „Most parents are well-meaning and care about their children's future, but some are disengaged due to work pressures or a lack of understanding about how to support learning at home. Others are very involved but sometimes overstep by questioning professional decisions without full information."

4. In your opinion, how does parental behavior influence the relationship with the school?

   Example answer:

   „Parental behavior has a strong impact. When parents show interest and support their children's learning, it fosters a positive relationship with the school. On the other hand, when parents are indifferent or confrontational, it creates tension and affects communication."

5. Are there parenting models that, in your view, support optimal child development and educational partnership? Can you give examples?

   Example answer:

   „Yes, the authoritative parenting style tends to support healthy development and good collaboration with the school. For example, I had a student whose parents were firm but nurturing—they set clear expectations, encouraged autonomy, and regularly attended school meetings. The child was confident and performed well academically."

6. How do children respond depending on the parenting style in their family? Do you notice certain patterns?

   Example answer:

   „Definitely. Children from supportive and structured families tend to be more engaged and emotionally balanced. Those from permissive or neglectful backgrounds often struggle with

discipline and focus. I've also noticed that authoritarian parenting can lead to high-achieving but anxious students."

7. What are the biggest challenges you face when working with parents?

   Example answer:

   „One major challenge is lack of communication. Some parents are hard to reach or do not respond to school invitations. Another challenge is when parents deny their child's issues and refuse to collaborate in finding solutions."

8. What behaviors or attitudes from parents have been most helpful to you in your work?

   Example answer:

   „Open-mindedness and consistency are incredibly helpful. When parents listen, provide feedback, and follow through at home, we see real progress. Also, when parents appreciate and trust the work of the teachers, it builds a strong partnership."

9. How do you handle situations where parents are resistant or hostile in their relationship with the school?

   Example answer:

   „I try to stay calm and focus on the student's needs. I listen carefully, acknowledge their concerns, and try to find common ground. Sometimes it helps to involve a school counselor or mediator to improve communication and de-escalate conflict."

10. Could you describe a specific case where the parental model significantly influenced a student's development?

    Example answer:

    „Yes, I had a student who was initially very withdrawn and had poor academic performance. His mother was overprotective and rarely let him make decisions. After we worked with her to encourage more independence and self-expression, the child gradually became more confident, started participating in class, and improved his grades."

Results: Three dominant themes emerged from the analysis, each highlighting a specific aspect of how parental models impact educational partnerships:

- Modeling respectful behavior. Teachers consistently emphasized the importance of how parents communicate and behave during interactions with the school. When parents engage respectfully, listen actively, and express their concerns constructively, children tend to reflect the same attitudes. This positive modeling fosters a culture of mutual respect and cooperation in the classroom. One teacher remarked: *"Even if there are disagreements, it makes a big difference when parents*

approach us with empathy. Their children learn that dialogue is possible, even when things aren't perfect."

- Consistency and structure at home. Another theme was the value of stability and predictability in the home environment. Teachers noted that students from homes with clear routines, emotional security, and a consistent approach to learning (e.g., reading together, homework support) were generally more focused and emotionally regulated at school. Parental consistency was seen not only as a sign of involvement but also as an educational model that supports long-term student growth. As one participant observed: *"Children feel safe when things are predictable at home—and that sense of safety translates into better attention and behavior at school."*

- Openness to collaboration and shared responsibility. The third key theme centered around the quality of the relational partnership between parents and teachers. Educators valued parents who viewed the teacher not as a subordinate or an opponent, but as a partner in a shared educational mission. When parents expressed trust in the school, were open to suggestions, and actively participated in discussions about their child's progress, the overall climate improved—not just for the child, but for the teacher's motivation as well. A recurring idea was that trust and openness act as bridges between the family and the school. "You can tell when a child comes from a home where education is valued," one teacher stated.

These findings suggest that parental models are not neutral—they actively shape the nature of educational partnerships. Positive behaviors, even simple acts of encouragement or respectful dialogue, have long-term benefits for the school climate and student well-being. From my own experience in educational settings, I've noticed that when parents treat teachers with suspicion or hostility, children mirror that skepticism. On the other hand, when parents build constructive relationships with schools, students thrive. I believe that educational partnerships are not just formal arrangements, but living relationships that require empathy, effort, and time from both sides.

Conclusion

Educational partnerships are significantly strengthened by positive parental models that promote mutual respect, open communication, and emotional support. When parents model constructive behaviors—such as empathy, active listening, and respect for school rules—these attitudes are often reflected in the child's own approach to learning and relationships within the school. The family thus becomes not just a

parallel educational agent, but a co-participant in the broader learning ecosystem. Schools, in turn, must take responsibility for creating genuine spaces for dialogue, not only through formal meetings but through informal, consistent, and empathetic interactions. The educator's role should not be confined to instruction but should expand to include relationship-building with families, particularly in a society where many parents feel disconnected or intimidated by institutional settings. As Mușata Bocoș (2013) emphasizes, relational pedagogy must form the foundation of all school-family interactions. It's not enough to implement programs or send newsletters home; what matters is the quality of the relationship—the feeling that the teacher and the parent are on the same side, working together for the well-being of the child.

From my own experience, I have found that the most successful educational partnerships are not necessarily those with the most involved parents in terms of time or presence, but those where parents show emotional availability, respect for the teacher's role, and a willingness to listen and collaborate. In these cases, the child becomes the bridge between two worlds that work in harmony, rather than being caught in the middle of tension or indifference. Unfortunately, I have also witnessed the opposite: relationships in which distrust, judgment, or lack of communication from either side creates confusion and instability for the student. In such situations, the child often becomes insecure or disengaged, reflecting the cracks in the adult partnership meant to support them.

Therefore, I believe that the most urgent task today is not only to reform educational policies, but to humanize the dialogue between school and family. We must foster a culture where teachers feel supported, not attacked; and where parents feel heard, not judged. Only then can we say that we are truly educating together-with the child at the center, and trust as the foundation.

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