



RESEARCH ARTICLE 

The Impact of Physical Education Teachers' Field Experience on the Effectiveness of Educational Session Delivery Among Middle School Students: A Field Study in the Wilaya of Tamanrasset, Algeria

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Keywords

Physical education; Teacher experience; Lesson effectiveness; Middle school students; Educational outcomes; Pedagogical competence; Tamanrasset

Abstract

This study aims to examine the impact of field experience among physical education and sports teachers on the effectiveness of lesson conduct for middle school students. Recognizing the teacher as a central figure in the educational process and a primary source of knowledge, the study investigates how professional experience influences teaching quality and student outcomes.

The research adopts a descriptive-analytical methodology, utilizing a structured questionnaire composed of both open- and closed-ended items. The sample consists of physical education and sports teachers from middle schools in the

Wilaya of Tamanrasset. Data were analyzed using statistical techniques, including percentages, the chi-square (χ^2) test, and Pearson's correlation coefficient, to ensure the reliability and validity of the findings.

The results indicate that physical education plays a significant role in shaping students' cognitive, psychological, and social development, particularly when guided by experienced and competent teachers. Field experience contributes to enhancing students' curiosity, exploratory thinking, and overall engagement in the learning process. Furthermore, physical education classes provide a supportive environment that allows students to express themselves freely while developing essential knowledge and life skills.

The study concludes that the effectiveness of physical education sessions is closely linked to the teacher's level of experience and pedagogical competence, emphasizing the importance of professional development in improving educational outcomes.

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Introduction

Teachers play a fundamental role in the educational process, serving not only as transmitters of knowledge but also as guides, mentors, and facilitators of students' intellectual and personal development. Their influence extends beyond the classroom, shaping students' attitudes, behaviors, and capacities to adapt to societal demands. As such, the effectiveness of teaching largely depends on the teacher's competence, experience, and ability to respond to students' diverse needs.

This role becomes particularly critical during adolescence, a developmental stage characterized by significant psychological, physical, and social transformations. Adolescents often face challenges related to identity formation, emotional regulation, and social integration, which can affect their academic performance and overall well-being. In this context, teachers are expected to provide not only academic instruction but also emotional support and guidance, helping students navigate this complex stage of development.

Among educators, physical education and sports teachers occupy a distinctive position due to the nature of their subject. Physical education classes are inherently interactive, dynamic, and student-centered, offering opportunities for both physical and cognitive engagement. These sessions contribute to improving students' physical fitness, emotional stability, and social skills, while also fostering discipline, cooperation, and self-confidence.

However, the effectiveness of physical education sessions varies depending on the teacher's level of experience and professional competence. Field experience enables teachers to adapt instructional strategies, manage classroom dynamics effectively, and address students' individual differences. In contrast, a lack of experience may limit the teacher's ability to deliver high-quality instruction and achieve desired educational outcomes.

Given these considerations, this study seeks to explore the extent to which the field experience of physical education and sports teachers influences the conduct of lessons and the academic development of middle school students. By examining this relationship, the research aims to contribute to a better understanding of the role of teacher competence in enhancing educational quality and student achievement.

Research Problem

The effectiveness of the educational process is closely linked to the competence and professional experience of teachers, particularly in disciplines that require both cognitive and practical engagement, such as physical education and sports. The interaction between the physical education teacher and students is not uniform; rather, it varies significantly depending on individual student characteristics, learning capacities, and developmental needs. While the availability of pedagogical tools and institutional resources is important, these elements alone are insufficient in ensuring effective learning outcomes in the absence of a competent and experienced teacher.

A physical education teacher who possesses substantial field experience, a balanced professional identity, and the ability to establish reciprocal and constructive relationships with students is better equipped to enhance the quality of the educational process. Such a teacher can effectively mobilize pedagogical knowledge, adapt instructional strategies, and

address both academic and behavioral challenges faced by adolescents. Conversely, disparities in teachers' competence and practical experience may lead to variations in the quality of lesson delivery, ultimately influencing students' engagement, motivation, and academic achievement.

Moreover, misconceptions surrounding the role of physical education teachers—often perceived as limited to recreational functions—may further undermine the pedagogical potential of this discipline. In reality, physical education represents a multidimensional educational space that contributes to students' physical, psychological, and cognitive development. Within this context, the role of teacher experience becomes central in shaping both the learning environment and student outcomes.

Given these considerations, this study seeks to address the following central research question:

To what extent does the field experience of physical education and sports teachers influence the conduct and effectiveness of educational sessions for middle school students?

Research Questions

To operationalize the research problem, the study is guided by the following sub-questions:

- To what extent does teachers' field experience positively affect the quality of physical education sessions?
- How does the educational session contribute to fostering students' motivation, curiosity, and engagement in learning?
- Is field experience alone sufficient to ensure the effective conduct of physical education sessions, or are additional factors required?

Research Hypotheses

Based on the theoretical and empirical considerations, the study formulates the following hypotheses:

General Hypothesis

- H1: The field experience of physical education and sports teachers has a significant effect on the conduct and effectiveness of educational sessions for middle school students.

Sub-Hypotheses

- H1a: Teachers' field experience positively influences the quality of physical education sessions.
- H1b: Physical education sessions contribute to enhancing students' motivation, curiosity, and engagement in learning.
- H1c: Field experience alone is not sufficient; effective session conduct also depends on pedagogical competence and contextual factors.

Research Objectives

The primary objective of this study is to analyze the role of teachers' field experience in improving the quality of physical education sessions and student outcomes. More specifically, the study aims to:

- Examine the extent to which field experience influences the conduct of physical education sessions.
- Identify the relationship between teacher competence and students' cognitive and behavioral development.
- Assess the role of physical education sessions in fostering motivation, curiosity, and engagement among adolescents.
- Evaluate the importance of professional experience in addressing the developmental challenges associated with adolescence.

Literature Review (Q1-Level Version)

The relationship between teacher competence, field experience, and student learning outcomes has been widely explored within educational research. A growing body of literature emphasizes that teacher quality is one of the most significant determinants of student achievement, particularly in subjects that require both cognitive and practical engagement, such as physical education.

Teacher Competence and Professional Experience

Teacher competence is commonly understood as a multidimensional construct encompassing knowledge, pedagogical skills, and the ability to apply these effectively in diverse educational contexts. According to Philippe Perrenoud,

competence extends beyond the possession of knowledge to include the capacity to mobilize cognitive and practical resources in real teaching situations. This perspective highlights the importance of field experience as a key component of professional expertise.

Similarly, Lee Shulman (1987) introduced the concept of pedagogical content knowledge, emphasizing that effective teaching requires not only subject mastery but also the ability to present content in ways that are accessible and meaningful to students. Field experience plays a critical role in developing this capacity, enabling teachers to refine their instructional strategies through practice.

Empirical studies further support the importance of teacher experience. Research by Linda Darling-Hammond (2000) demonstrates a strong relationship between teacher qualifications, experience, and student academic performance. Likewise, John Hattie (2009) identifies teacher effectiveness as one of the most influential factors in shaping student learning outcomes.

Physical Education and Holistic Development

Physical education has evolved from being perceived as a purely recreational activity to a core component of holistic education, contributing to students' physical, cognitive, and socio-emotional development. According to Richard Bailey (2006), physical education plays a significant role in enhancing not only physical health but also academic achievement, social skills, and psychological well-being.

Furthermore, David Kirk (2010) argues that modern physical education should be viewed as a pedagogical space that fosters critical thinking, cooperation, and lifelong learning. This perspective aligns with contemporary educational frameworks that emphasize the integration of cognitive, affective, and psychomotor domains.

Adolescence and Learning Processes

Adolescence represents a critical stage of development characterized by rapid physical, cognitive, and emotional changes. Educational research highlights that students at this stage require supportive and adaptive teaching approaches to address their developmental needs. Laurence Steinberg (2014) emphasizes that adolescents are particularly sensitive to social influences and require guidance to develop self-regulation and motivation.

In the school context, Jacquelynne Eccles and Robert Roeser (2011) argue that the learning environment plays a crucial role in shaping adolescents' academic engagement and achievement. Teachers who are able to create supportive, structured, and motivating environments can significantly enhance students' cognitive outcomes.

Instructional Strategies and Student Motivation

The effectiveness of teaching methodologies is closely linked to student motivation and engagement. Research by Megan Tschannen-Moran and Anita Woolfolk Hoy (2007) suggests that experienced teachers are more likely to demonstrate higher levels of self-efficacy, which in turn positively influences their instructional practices and student outcomes.

In the context of physical education, effective teaching strategies include the use of interactive, student-centered approaches that promote active participation and intrinsic motivation. These strategies are particularly important in overcoming barriers such as lack of facilities, large class sizes, and limited instructional time.

Research Gap

Despite the extensive literature on teacher competence and physical education, there remains a limited number of studies focusing specifically on the role of field experience in shaping the conduct of physical education sessions, particularly within developing or region-specific contexts such as southern Algeria.

Most existing studies emphasize either teacher quality in general or the benefits of physical education, without integrating these dimensions into a comprehensive analytical framework. Therefore, this study contributes to the literature by examining the combined effect of teacher experience, pedagogical practice, and contextual factors on students' cognitive achievement.

Conceptual Definitions

Education

Education is a multidimensional and dynamic process that extends beyond formal schooling environments. It encompasses the development of individuals' cognitive, moral, and social capacities through continuous interaction within various contexts, including the classroom, family, and broader social environment. From a contemporary perspective, education is understood as a lifelong process aimed at fostering individual growth, social integration, and the acquisition of knowledge and skills necessary for active participation in society.

Physical Education and Sports

Physical education is an integral component of general education, designed to promote the holistic development of individuals through structured physical activities. It contributes to the development of physical fitness, cognitive abilities, emotional regulation, and social skills. As such, it plays a crucial role in achieving balanced and comprehensive growth, particularly during adolescence.

Field Experience

Field experience refers to the practical knowledge and competencies acquired through professional practice in real-life educational settings. It encompasses the ability to apply theoretical knowledge, adapt to diverse situations, and effectively manage teaching and learning processes. Field experience is not merely the accumulation of years in service but reflects the teacher's capacity to integrate knowledge, skills, and pedagogical judgment in addressing complex classroom dynamics.

Concept of Competence

From a terminological perspective, competence is defined as an effective capacity to act in complex and dynamic situations through the mobilization and appropriate application of knowledge and skills. According to Philippe Perrenoud, competence is not limited to the possession of theoretical knowledge but involves the ability to use such knowledge strategically and contextually to identify real-world problems and implement appropriate solutions. In this sense, competence reflects a dynamic integration of cognitive, practical, and reflective dimensions of professional practice.

Furthermore, competence is considered a formative objective that requires the integration of prior learning experiences rather than their mere accumulation. It emphasizes the development of adaptive expertise, enabling individuals to respond effectively to diverse and evolving situations within educational contexts (Hamotte, 2005).

Physical Education and Sports Teacher

From a pedagogical perspective, the physical education and sports teacher is conceptualized as a professional who operates across multiple domains of learning, including the cognitive, affective, and psychomotor domains. According to Al-Luqani and Al-Jamal, the teacher is an individual capable of facilitating various levels of learning outcomes, ranging from knowledge acquisition and comprehension to higher-order processes such as analysis, synthesis, and evaluation.

In this context, the physical education teacher is not merely an instructor of physical activities but a comprehensive educator who contributes to students' intellectual, emotional, and social development. This role requires a commitment to professional practice, participation in cultural and educational development, and active engagement in achieving broader educational objectives.

Similarly, Al-Khouli emphasizes that the preparation of physical education teachers should aim at developing well-rounded professionals who possess strong academic knowledge, pedagogical competence, and leadership skills within the field of sports education. Such preparation enables teachers to function effectively as educators, mentors, and facilitators of student development.

Adolescence

Adolescence is defined as a critical developmental stage that begins with the onset of puberty and extends to full physical, psychological, and social maturity. It is characterized by significant transformations across multiple dimensions, including cognitive development, emotional regulation, identity formation, and social interaction.

In the context of this study, adolescence refers to students aged approximately 13 to 18 years, corresponding to the middle and secondary school levels. This stage is particularly sensitive, as individuals experience rapid changes that may influence their behavior, academic performance, and social integration. Consequently, the role of educators—especially physical education teachers—is crucial in guiding students through this transitional phase and supporting their holistic development.

Research Methodology

Research Design

This study adopts a descriptive-analytical research design, which is widely used in educational and social sciences to examine relationships between variables and interpret observed phenomena. The descriptive approach goes beyond the mere collection of data, aiming to analyze, interpret, and derive meaningful conclusions that can contribute to a deeper understanding of the research problem (Shafik, 1998).

Similarly, the descriptive method is defined as a systematic process of analysis and interpretation conducted to achieve specific research objectives related to a particular social or educational issue (Bouhouch & Dnibat, 1995). This approach is particularly suitable for the present study, as it allows for the examination of the relationship between teachers' field experience and the effectiveness of educational session conduct.

Exploratory Phase

Prior to the main data collection, an exploratory phase was conducted to refine the research problem and identify key variables. This phase involved reviewing relevant literature and conducting preliminary field observations. A field visit was carried out at Suaidani Boujemaa Middle School in the Wilaya of Tamanrasset to gain practical insights into the educational environment and to validate the research instrument.

This exploratory stage contributed to:

- Clarifying the research questions
- Identifying the study variables
- Designing the questionnaire
- Defining the research population

Research Population and Sample

The research population refers to the entire group of individuals relevant to the study's objectives. It must include all categories related to the research problem while avoiding duplication or sampling bias (Shafie & Ali, n.d.).

In this study, the research population consists of physical education and sports teachers working in middle schools in the Wilaya of Tamanrasset. A sample of 30 teachers was selected to participate in the study. Although relatively limited in size, the sample is considered appropriate for a descriptive-analytical study focusing on a specific regional context.

Research Variables

The study is based on the analysis of two main variables:

Independent Variable

- Field experience of physical education teachers, defined as the level of practical experience, professional exposure, and pedagogical competence acquired through teaching practice.

Dependent Variable

- Conduct of the educational session, referring to the effectiveness, organization, and quality of physical education lesson delivery, including student engagement, classroom management, and instructional outcomes.

Research Instrument

The primary data collection instrument employed in this study was a structured questionnaire, designed to capture teachers' perceptions and practices regarding the role of field experience in the conduct of physical education sessions. The questionnaire consisted of a combination of open-ended and closed-ended questions, allowing for both quantitative measurement and qualitative insights.

The instrument was organized into several thematic sections aligned with the study's research hypotheses and objectives. Closed-ended questions facilitated statistical analysis, while open-ended questions provided deeper understanding of teachers' perspectives. The questionnaire was administered directly to participants, with clarification provided where necessary to ensure the accuracy and consistency of responses.

Research Scope

Spatial Scope

The study was conducted in several middle schools located in the Wilaya of Tamanrasset, southern Algeria, including Suaidani Boujemaa Middle School. This regional focus allows for the examination of educational practices within a specific socio-cultural and institutional context.

Temporal Scope

Data collection was carried out over a defined period extending from April 2015 to May 2015, ensuring temporal consistency in the responses and minimizing external variations.

Statistical Methods

The purpose of statistical analysis in this study is to generate quantitative indicators with statistical significance, enabling the systematic examination of relationships between variables and the validation of research hypotheses. Statistical methods were selected based on their suitability for descriptive and inferential analysis within the study's design.

The following statistical techniques were employed:

1. Percentage Analysis

Percentage analysis was used to describe the distribution of responses across different categories. This method provides a clear representation of the relative proportions of responses within the sample.

Formula:

$$\text{Percentage} = \frac{\text{Frequency} \times 100}{\text{Total Sample Size}}$$

2. Pearson Correlation Coefficient (r)

The Pearson correlation coefficient was used to measure the strength and direction of the relationship between variables, particularly in assessing the association between teachers' field experience and the effectiveness of session conduct.

Formula:

$$r = \frac{n\sum xy - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

3. Chi-Square Test (χ^2)

The Chi-square (χ^2) test was applied to examine whether observed differences in response frequencies are statistically significant or occurred by chance. This test is particularly useful for categorical data and hypothesis testing in social science research.

Formula:

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

Where:

- O = Observed frequency
- E = Expected frequency

Analysis and Discussion of Teachers' Questionnaire Results

Question 1

Do you consider physical education classes at the middle/secondary school level to be primarily:

- Educational
- Cognitive
- Recreational

Purpose of the Question

This question aims to assess teachers' perceptions of the fundamental role and function of physical education within the educational system.

Analytical Perspective (Q1-Level Interpretation)

This question serves as a foundational indicator of how physical education is conceptualized by practitioners. Understanding whether teachers perceive physical education as primarily educational, cognitive, or recreational provides critical insight into their pedagogical orientation and instructional priorities.

From a theoretical perspective, contemporary educational frameworks emphasize the multidimensional nature of physical education, integrating cognitive, affective, and psychomotor domains. Therefore, the dominance of one category over others may reflect underlying pedagogical biases or systemic constraints within the educational environment.

The results of this question will contribute to evaluating whether teachers' perceptions align with modern educational theories that advocate for a holistic approach to physical education.

Purpose of Question 1: To determine the perceived importance of the physical education class according to high school PE teachers.

Table 1 shows frequencies, percentages, and Chi-Square values for **Question 1**

Question	Answer	Frequency	Percentage
	Yes	20	66.66%
	Sometimes	09	30%
	No	01	3.33%
Total		30	100%
Calculated Chi-Square	Tabulated Chi-Square	Significance Level	Degrees of Freedom
18.2	5.99	0.05	2
			Significance
			Significant

Question 1

Analysis

The results presented in Table 1 indicate that a substantial majority of respondents (66.66%) perceive physical education (PE) classes as primarily educational in nature. In contrast, 30% of the participants identified PE as mainly recreational, while a marginal proportion (3.33%) considered it primarily informative or cognitive.

To assess the statistical significance of these differences, the Chi-square (χ^2) test was applied. The calculated χ^2 value (18.2) exceeds the critical (tabulated) value (5.99) at a significance level of $\alpha = 0.05$ with 2 degrees of freedom. This result indicates that the observed distribution of responses is statistically significant, confirming that the predominance of the “educational” perception is not due to random variation.

From an analytical perspective, these findings suggest that teachers conceptualize physical education beyond its traditional recreational function, recognizing its broader pedagogical value within the educational system. This aligns with contemporary educational frameworks that position physical education as an integral component of holistic student development, encompassing cognitive, social, and behavioral dimensions.

Conclusion

Based on these findings, it can be concluded that physical education is predominantly perceived by teachers as an educational discipline, rather than merely a recreational or auxiliary activity. This perception reflects a shift toward recognizing the instructional and developmental significance of physical education within the broader educational process.

Question 2

Research Question

What are the main factors that hinder the effective conduct of physical education classes?

- Lack of facilities
- Large number of students
- Limited class time

Purpose of the Question

This question aims to identify the structural and contextual barriers that affect the quality and effectiveness of physical education sessions from the perspective of teachers. Understanding these constraints is essential for evaluating the conditions under which physical education is delivered and for identifying potential areas for institutional improvement.

Analytical Perspective

The identification of constraints such as insufficient facilities, overcrowded classrooms, and limited instructional time highlights the importance of institutional and environmental factors in shaping teaching effectiveness. While teacher competence and experience are critical determinants of educational quality, these factors operate within a broader structural context that may either facilitate or hinder effective lesson delivery.

In this regard, the analysis of Question 2 contributes to a more comprehensive understanding of the interaction between teacher-related variables (e.g., experience, competence) and contextual variables (e.g., infrastructure, class size, time allocation). This multidimensional perspective is essential for interpreting the overall effectiveness of physical education sessions and for situating the role of field experience within a realistic educational environment.

Table 2 shows the frequencies, percentages, and Chi-square (χ^2) values for Question 2:

Question	Answer	Total	Calculated χ^2	Tabulated χ^2	Sig. Level	DF	Significance
Q2	Facility shortage	Student density	Time allocated	30	10.4	5.99	0.05
Freq.	18	08	04				
Perc.	60%	26.66%	13.33%	100%			

Question 2

Analysis

The results presented in Table 2 indicate that the **lack of sports facilities** represents the most significant barrier to the effective conduct of physical education sessions, as reported by **60%** of the respondents. In comparison, **26.66%** of the participants identified the **large number of students (class size)** as a key constraint, while **13.33%** highlighted the **limited instructional time** allocated to physical education sessions.

To assess the statistical significance of these differences, the Chi-square (χ^2) test was applied. The calculated χ^2 value (**10.4**) exceeds the critical value (**5.99**) at a significance level of $\alpha = 0.05$ with **2 degrees of freedom**, indicating that the observed differences in responses are **statistically significant**. This confirms that the predominance of “lack of facilities” as the primary constraint is not due to chance.

From an analytical standpoint, these findings underscore the critical role of **institutional and infrastructural conditions** in shaping the effectiveness of physical education. While teacher competence and field experience are essential for delivering high-quality instruction, their impact is significantly constrained by inadequate physical resources. The absence of appropriate facilities limits the implementation of practical activities, reduces student engagement, and restricts the diversity of pedagogical approaches available to teachers.

Furthermore, the identification of class size and time allocation as secondary constraints reflects broader systemic challenges within the educational environment. Overcrowded classes can hinder individualized instruction and effective classroom management, while insufficient time allocation reduces opportunities for skill development and meaningful student participation.

Conclusion

Based on these findings, it can be concluded that structural and infrastructural limitations—particularly the lack of adequate sports facilities—constitute the primary obstacle to the effective delivery of physical education sessions. Addressing these challenges requires institutional investment in educational infrastructure, as well as policy-level interventions aimed at improving learning conditions.

Question 3

Research Question

If physical education sessions cannot be conducted due to weather conditions, how do teachers respond?

- Conduct theoretical lessons
- Cancel the session
- Implement alternative activities

Purpose of the Question

This question aims to examine teachers’ adaptive strategies and pedagogical flexibility in response to external environmental constraints, such as adverse weather conditions. It provides insight into how teachers maintain instructional continuity and ensure learning outcomes despite disruptions to practical activities.

Analytical Perspective

The responses to this question are critical for understanding the extent to which teachers are able to adapt their instructional practices in challenging conditions. The reliance on theoretical lessons or alternative activities may reflect both the level of teacher preparedness and the availability of institutional support.

From a pedagogical perspective, the ability to shift from practical to theoretical instruction demonstrates instructional adaptability, which is a key component of professional competence. However, frequent reliance on theoretical sessions

may also indicate underlying infrastructural limitations, such as the absence of indoor facilities, which constrain the implementation of physical activities.

Thus, the analysis of this question contributes to a broader understanding of how external environmental factors interact with teacher competence and institutional conditions to influence the effectiveness of physical education sessions.

Table 3 shows the frequencies, percentages, and Chi-square (χ^2) values.

Question	Answer	Total	Calculated χ^2	Tabulated χ^2	Sig. Level	DF	Significance
Q3	Theoretical lessons	Session cancellation	Something else	30	21.8	5.99	0.05
Freq.	22	30	05				
Perc.	73.33%	10%	16.6%	≈100%			

Question 3

Analysis

The results presented in Table 3 indicate that a substantial majority of respondents (**73.33%**) reported that, when unable to conduct practical physical education (P.E.) sessions due to adverse climatic conditions, they resort to delivering theoretical lessons. In contrast, 16.6% of the respondents indicated that they implement alternative activities, while a smaller proportion (10%) reported that they cancel the session entirely.

To evaluate the statistical significance of these differences, the Chi-square (χ^2) test was applied. The calculated χ^2 value (21.8) significantly exceeds the critical value (5.99) at a significance level of $\alpha = 0.05$ with 2 degrees of freedom, indicating that the observed variation in responses is statistically significant. This confirms that the reliance on theoretical instruction is the dominant and consistent practice among teachers under such conditions.

From an analytical perspective, these findings reflect a relatively high level of instructional adaptability, as most teachers seek to maintain continuity in the learning process despite environmental constraints. The preference for theoretical lessons suggests that teachers attempt to compensate for the absence of practical activities by focusing on cognitive and conceptual aspects of physical education, such as rules, strategies, and health-related knowledge.

However, the limited use of alternative pedagogical activities—such as modified indoor exercises or interactive learning strategies—may indicate constraints related to infrastructure, lack of resources, or insufficient training in adaptive teaching methods. Similarly, the decision by some teachers to cancel sessions highlights the persistence of structural limitations that hinder the effective delivery of physical education under challenging conditions.

Conclusion

Based on these findings, it can be concluded that theoretical instruction constitutes the primary adaptive strategy employed by physical education teachers when practical sessions cannot be conducted due to climatic factors. While this approach ensures instructional continuity, it also underscores the need for improved infrastructural support and professional training to diversify teaching strategies in non-ideal conditions.

Question 4

Research Question

In your opinion, what best defines the concept of field experience?

- A set of organized abilities
- A set of knowledge and skills
- The ability to apply personal skills and knowledge

Purpose of the Question

This question aims to assess teachers' conceptual understanding of field experience, which represents a key variable in the study. By examining how teachers define this concept, the study seeks to evaluate whether their perceptions align with contemporary pedagogical theories that emphasize the integration of knowledge, skills, and practical application.

Analytical Perspective

Understanding how teachers conceptualize field experience is essential for interpreting its role in educational practice. In modern educational theory, field experience is not merely associated with accumulated knowledge or isolated skills but is understood as the **capacity to mobilize and apply competencies effectively in real-world teaching situations**.

Therefore, teachers' responses to this question provide insight into their level of professional awareness and pedagogical orientation. A tendency to define field experience in terms of application and integration may reflect a more advanced and practice-oriented understanding, whereas more limited definitions may indicate a narrower perception of professional competence.

Table 4 represents the frequencies, percentages, and Chi-square (χ^2) values (Question 4).

Question	Answer	Total	Calculated χ^2	Tabulated χ^2	Sig. Level	DF	Significance
Q4	Set of abilities	Knowledge and skills	Use of skills and knowledge	30	21.8	5.99	0.05
Freq.	03	05	22				
Perc.	10%	16.66%	73.33%	≈100%			

Question 4

Analysis

The results presented in Table 4 indicate that a clear majority of respondents (73.33%) conceptualize field experience as the ability to effectively apply personal skills and knowledge in practical teaching situations. In contrast, 16.66% of the participants defined field experience as a set of knowledge and skills, while a smaller proportion (10%) perceived it as a set of organized abilities.

To assess the statistical significance of these differences, the Chi-square (χ^2) test was conducted. The calculated χ^2 value (21.8) exceeds the critical value (5.99) at a significance level of $\alpha = 0.05$ with 2 degrees of freedom, indicating that the observed variation in responses is statistically significant. This confirms the predominance of the perception that field experience is fundamentally linked to the practical application of competencies.

From a theoretical perspective, this finding aligns with contemporary educational frameworks, which define professional competence not merely as the accumulation of knowledge but as the capacity to mobilize and apply knowledge, skills, and experience in real-world contexts. The dominance of this response suggests that teachers possess a relatively advanced and practice-oriented understanding of field experience, emphasizing its functional and applied dimension rather than its purely theoretical aspects.

Conclusion

Based on these findings, it can be concluded that physical education teachers predominantly perceive field experience as the practical application of knowledge and skills in teaching contexts. This perception reflects an understanding consistent with modern pedagogical theories, which emphasize the integration and contextual use of competencies as a core component of professional expertise.

Question 5

Research Question

Do you consider the absence of field experience among physical education teachers to be an obstacle to students' understanding and comprehension of the implemented program?

- Yes
- No

Purpose of the Question

This question aims to evaluate teachers' perceptions of the importance of field experience as a determinant of instructional effectiveness, particularly in relation to students' ability to understand and engage with the curriculum. It directly addresses the central research variable by examining whether a lack of experience is perceived as a barrier to effective teaching and learning.

Analytical Perspective

The responses to this question provide critical insight into the perceived relationship between teacher competence and student learning outcomes. If the majority of respondents consider the absence of field experience to be an obstacle, this

would reinforce the argument that professional experience plays a central role in facilitating effective knowledge transmission, classroom management, and student comprehension.

From an educational perspective, field experience enhances teachers' ability to:

- Adapt instructional strategies to students' needs
- Manage classroom dynamics effectively
- Provide clear and contextually relevant explanations

Thus, the analysis of this question contributes to validating the study's core hypothesis regarding the significant impact of teacher experience on the quality of educational sessions.

Question	Answer	Total	Calculated χ^2	Tabulated χ^2	Sig. Level	DF	Significance
Q5	Yes	No	30	19.2	3.841	0.05	1
Freq.	27	03					
Perc.	90%	10%	100%				

Question 5

Analysis

The results presented in Table 5 reveal that a substantial majority of respondents (90%) perceive the absence of field experience among physical education teachers as a significant obstacle to students' understanding and comprehension of the implemented curriculum. In contrast, only 10% of the participants indicated that they do not consider the lack of experience to be a limiting factor.

To determine the statistical significance of this distribution, the Chi-square (χ^2) test was applied. The calculated χ^2 value (19.2) exceeds the critical value (3.84) at a significance level of $\alpha = 0.05$ with 1 degree of freedom, indicating that the observed difference in responses is highly statistically significant. This confirms that the perception of field experience as a critical determinant of student comprehension is not due to chance but reflects a consistent and dominant view among teachers.

From an analytical perspective, these findings strongly support the central premise of the study, highlighting the crucial role of professional experience in enhancing teaching effectiveness and facilitating student learning. Field experience enables teachers to adapt instructional strategies, simplify complex concepts, and respond effectively to students' diverse learning needs. In its absence, teachers may struggle to translate theoretical knowledge into practical and accessible forms, thereby limiting students' ability to fully engage with and comprehend the curriculum.

Moreover, this result underscores the importance of experiential knowledge as a component of pedagogical competence, reinforcing theoretical frameworks that emphasize the integration of knowledge, skills, and practice in effective teaching. The findings also suggest that educational systems should prioritize the development of teachers' practical experience through continuous training and professional development programs.

Conclusion

Based on these findings, it can be concluded that the absence of field experience among physical education teachers constitutes a significant barrier to students' understanding and comprehension of educational programs. This highlights the need to strengthen teacher preparation and ongoing professional development to improve instructional quality and learning outcomes.

Question 6

Research Question

Do you believe that the teaching methodology you use encourages students to exert their maximum effort during physical education sessions?

Purpose of the Question

This question aims to assess teachers' perceptions of the effectiveness of their pedagogical approaches in motivating students and enhancing their engagement during physical education sessions. It is closely related to the concept of teaching quality and its impact on student participation and performance.

Analytical Perspective

The responses to this question provide insight into the relationship between teaching methodology and student motivation, which is a critical factor in educational effectiveness. A teaching methodology that encourages active participation, engagement, and effort reflects a higher level of pedagogical competence and adaptability.

From a theoretical standpoint, student motivation is influenced by instructional strategies that promote autonomy, interaction, and meaningful learning experiences. Therefore, analyzing teachers' perceptions of their methodologies contributes to understanding how instructional practices shape students' willingness to engage and perform during physical education sessions.

Analysis and Interpretation of Results

Question 6: Effectiveness of Teaching Methodology

Table 6. Teachers' Perceptions of Methodological Effectiveness

Response	Frequency	Percentage
Yes	28	93.3%
No	2	6.66%
Total	30	100%

Statistical Test: $\chi^2 = 22.53 > 3.84$ ($\alpha = 0.05$; $df = 1$) → Statistically Significant

Analysis

The results presented in Table 6 indicate that a substantial majority of respondents (93.3%) believe that the teaching methodologies they employ effectively encourage students to exert maximum effort during physical education sessions. In contrast, only a small proportion (6.66%) expressed disagreement.

The Chi-square (χ^2) test confirms the statistical significance of this distribution, as the calculated value (22.53) exceeds the critical value (3.84) at a significance level of $\alpha = 0.05$ with 1 degree of freedom. This demonstrates that the predominance of positive responses is not due to chance, but reflects a consistent perception among teachers.

From an analytical perspective, these findings highlight the importance of instructional methodology as a key determinant of student motivation and engagement. Effective teaching strategies—particularly those that are interactive, student-centered, and adaptive—are likely to foster greater participation and effort among students. This is consistent with contemporary educational theories that emphasize the role of pedagogy in enhancing intrinsic motivation and learning outcomes.

However, it is important to note that this result reflects teachers' self-perceptions, which may not fully capture students' actual experiences. Therefore, while the findings suggest a strong level of confidence in teaching methodologies, further investigation incorporating student perspectives would provide a more comprehensive evaluation.

Conclusion

It can be concluded that the majority of physical education teachers perceive their teaching methodologies as effective in motivating students to perform at their best. This underscores the central role of pedagogical strategies in shaping student engagement and effort during physical education sessions.

Question 7: Integration of Field Experience in Teaching

Table 7. Use of Field Experience During Instruction

Response	Frequency	Percentage
Yes	25	83.33%
No	5	16.66%
Total	30	100%

Statistical Test: $\chi^2 = 13.33 > 3.84$ ($\alpha = 0.05$; $df = 1$) → Statistically Significant

Analysis

The findings presented in Table 7 indicate that a large majority of respondents (83.33%) report that they actively incorporate and demonstrate their field experience during the implementation of the physical education curriculum.

Meanwhile, 16.66% of teachers indicated that they do not explicitly emphasize their field experience in instructional practice.

The Chi-square (χ^2) test confirms that this distribution is statistically significant, as the calculated value (13.33) exceeds the critical value (3.84) at a significance level of $\alpha = 0.05$ with 1 degree of freedom. This suggests that the integration of field experience into teaching practices is a dominant and consistent trend among respondents.

From a theoretical perspective, this result reinforces the importance of experiential knowledge as a central component of teaching competence. Teachers who draw upon their practical experience are more likely to deliver contextually relevant instruction, adapt to classroom challenges, and provide meaningful learning experiences for students.

Furthermore, the demonstration of field experience may serve as a motivational and instructional tool, allowing students to connect theoretical knowledge with real-world applications. This is particularly relevant in physical education, where effective learning depends on the integration of cognitive understanding and practical performance.

Conclusion

It can be concluded that most physical education teachers actively integrate their field experience into instructional practice, contributing to the enhancement of teaching quality and student learning outcomes. However, this represents a predominant tendency rather than a universal practice, highlighting the need for continued professional development among educators.

Analysis

The results presented in Table 7 indicate that a substantial majority of respondents (83.33%) reported that they consciously demonstrate and utilize their field experience during the implementation of the physical education curriculum. In contrast, 16.66% of the participants indicated that they do not explicitly incorporate their field experience in the instructional process.

To assess the statistical significance of this distribution, the Chi-square (χ^2) test was applied. The calculated χ^2 value (13.33) exceeds the critical value (3.84) at a significance level of $\alpha = 0.05$ with 1 degree of freedom, indicating that the observed differences in responses are statistically significant. This confirms that the tendency of teachers to integrate their field experience into teaching practices is not due to random variation but represents a dominant and consistent pattern.

From an analytical perspective, these findings highlight the importance of experiential knowledge as a core component of pedagogical practice. Teachers who actively draw upon their field experience are more likely to deliver instruction that is contextually relevant, adaptive, and responsive to students' needs. This integration enhances the quality of lesson delivery, facilitates clearer communication of concepts, and supports more effective classroom management.

Moreover, the emphasis on demonstrating field experience reflects a practice-oriented teaching approach, which aligns with contemporary educational theories that prioritize the application of knowledge over its mere transmission. Such an approach is particularly valuable in physical education, where learning outcomes depend on both cognitive understanding and practical engagement.

Conclusion

Based on these findings, it can be concluded that the majority of physical education teachers actively incorporate their field experience into the implementation of teaching programs, thereby enhancing the effectiveness of instructional practices. However, it is more accurate to state that this reflects a predominant tendency among respondents, rather than a universal behavior across all teachers.

Question 8

Research Question

On what basis do teachers assess students' performance in physical education?

- Cognitive tests
- Practical tests
- Other forms of assessment

Purpose of the Question

This question aims to identify the evaluation criteria and assessment strategies employed by physical education teachers. It provides insight into whether assessment practices emphasize cognitive knowledge, practical performance, or a combination of both.

Analytical Perspective

Assessment practices in physical education are a critical component of the teaching–learning process, as they reflect teachers’ pedagogical priorities and influence students’ engagement and performance. A focus on practical assessment indicates an emphasis on skill acquisition and physical performance, whereas cognitive assessment highlights theoretical understanding.

From a contemporary educational perspective, effective assessment in physical education should adopt a holistic approach, integrating cognitive, psychomotor, and affective dimensions. Therefore, analyzing teachers’ assessment practices contributes to understanding the extent to which current evaluation methods align with modern pedagogical frameworks.

Question 8: Assessment Methods in Physical Education

Table 8. Distribution of Assessment Methods

Assessment Type	Frequency	Percentage
Cognitive Tests	1	3.33%
Practical Tests	29	96.66%
Other Tests	0	0%
Total	30	100%

Statistical Test: $\chi^2 = 54.2 > 5.99$ ($\alpha = 0.05$; $df = 2$) → Statistically Significant

Analysis

The results presented in Table 8 demonstrate that an overwhelming majority of respondents (96.66%) rely on practical tests to assess students’ performance in physical education, while only a marginal proportion (3.33%) use cognitive-based assessments.

The Chi-square (χ^2) test confirms the statistical significance of this distribution, as the calculated value (54.2) substantially exceeds the critical value (5.99) at a significance level of $\alpha = 0.05$ with 2 degrees of freedom. This indicates that the dominance of practical assessment methods is not due to random variation but reflects a clear and consistent evaluative pattern.

From an analytical perspective, these findings suggest that teachers prioritize the psychomotor domain of learning, emphasizing performance-based evaluation over cognitive assessment. While this aligns with the practical nature of physical education, it may also indicate a limited integration of cognitive evaluation, which is essential in modern pedagogical frameworks advocating a holistic approach to assessment.

Conclusion

It can be concluded that physical education teachers predominantly rely on practical assessment methods, reflecting a strong orientation toward performance-based evaluation, with limited emphasis on cognitive or alternative forms of assessment.

Question 9: Training for Working with Adolescents

Table 9. Training Experience of Teachers

Response	Frequency	Percentage
Yes	24	80%
No	6	20%
Total	30	100%

Statistical Test: $\chi^2 = 10.8 > 3.84$ ($\alpha = 0.05$; $df = 1$) → Statistically Significant

Analysis

The findings indicate that a substantial majority of respondents (80%) have received specialized training to work with adolescents, while 20% reported no such training. The Chi-square test confirms the statistical significance of this difference, suggesting that training is a dominant characteristic among the sample.

This result highlights the growing recognition of adolescence as a critical developmental stage requiring specialized pedagogical approaches. Teachers with such training are more likely to demonstrate adaptive teaching practices, emotional sensitivity, and effective classroom management strategies.

Conclusion

The majority of physical education teachers have received training to work with adolescents, which likely enhances their ability to address students' developmental and educational needs effectively.

Question 10: Causes of Limited Teacher Initiative

Table 10. Perceived Causes of Limited Initiative

Cause	Frequency	Percentage
Lack of Competence	11	36.66%
Indifference	14	46.66%
Other Factors	5	16.66%
Total	30	100%

Statistical Test: $\chi^2 = 4.2 < 5.99$ ($\alpha = 0.05$; $df = 2$) → Not Statistically Significant

Analysis

The results indicate that indifference (46.66%) is the most frequently cited factor, followed by lack of competence (36.66%), and other reasons (16.66%). However, the Chi-square test reveals that the calculated value (4.2) is lower than the critical value (5.99), indicating that these differences are not statistically significant.

This suggests that there is no dominant consensus among teachers regarding the primary cause of limited initiative. The distribution reflects a multifactorial explanation, where both personal (motivation, attitudes) and professional (competence, training) factors may interact.

Conclusion

The lack of initiative among teachers cannot be attributed to a single dominant factor; rather, it reflects a combination of attitudinal and professional variables.

Question 11: Consideration of Individual Differences

Table 11. Attention to Individual Differences

Response	Frequency	Percentage
Yes	26	86.66%
No	4	13.33%
Total	30	100%

Statistical Test: $\chi^2 = 16.13 > 3.84$ ($\alpha = 0.05$; $df = 1$) → Statistically Significant

Analysis

A large majority of respondents (86.66%) reported that they take individual differences into account during physical education sessions. The Chi-square test confirms that this pattern is statistically significant.

This finding reflects a high level of pedagogical awareness, as recognizing individual differences is essential for inclusive and effective teaching. It also suggests that teachers are adopting student-centered approaches, adjusting instruction to accommodate diverse abilities and needs.

Conclusion

Most teachers demonstrate awareness of individual differences, indicating alignment with modern inclusive teaching practices.

Question 12: Role of Field Experience in Pedagogical Relationships

Table 12. Perceived Role of Field Experience

Response	Frequency	Percentage
Yes	30	100%
No	0	0%
Total	30	100%

Analysis

All respondents (100%) agreed that field experience plays a significant role in strengthening the pedagogical relationship between teachers and students. Although no statistical test is required due to the uniformity of responses, the result clearly indicates a strong consensus.

This finding reinforces the central premise of the study, emphasizing that field experience enhances teachers' ability to build effective, supportive, and interactive relationships with students.

Conclusion

Field experience is universally perceived as a critical factor in improving teacher–student relationships.

Question 13: Consideration of Psychological and Social Conditions

Table 13. Consideration of Students' Conditions

Response	Frequency	Percentage
Yes	28	93.66%
No	2	6.66%
Total	30	100%

Statistical Test: $\chi^2 = 22.53 > 3.84$ ($\alpha = 0.05$; $df = 1$) → Statistically Significant

Analysis

The results indicate that a vast majority (93.66%) of teachers consider the psychological and social conditions of adolescents during physical education sessions. The Chi-square test confirms the statistical significance of this finding.

This reflects a strong level of professional and pedagogical maturity, as attention to students' socio-emotional context is essential for effective teaching, particularly during adolescence.

Conclusion

Teachers demonstrate a high level of awareness regarding students' psychological and social needs, contributing to a supportive and effective learning environment.

Discussion and Interpretation of Results

Analysis of Teachers' Perceptions (Table 13)

The results presented in Table 13 indicate that an overwhelming majority of respondents (93.66%) reported that they take into account the psychological and social conditions of adolescents when conducting physical education sessions, while only a marginal proportion (3.84%) indicated otherwise. The Chi-square (χ^2) test confirms the statistical significance of this distribution, with a calculated value (22.53) exceeding the critical value (3.84) at a significance level of $\alpha = 0.05$ with 1 degree of freedom.

This finding reflects a high level of pedagogical awareness among teachers, demonstrating their recognition of adolescence as a sensitive developmental stage requiring adaptive teaching strategies. It also suggests that teachers actively integrate socio-emotional considerations into their instructional practices, which is essential for fostering effective learning environments and promoting student engagement.

Discussion of Results in Light of the First Sub-Hypothesis

The first sub-hypothesis posited that students' cognitive achievement is influenced by the competence and abilities of physical education teachers. The empirical findings provide strong support for this assumption.

Data derived from both teachers' and students' questionnaires indicate that teachers' pedagogical competence—particularly their ability to implement effective teaching methodologies—plays a critical role in enhancing students' cognitive engagement and academic performance. Teachers reported that their instructional approaches encourage students to exert greater effort during physical education sessions, which is reflected in students' own perceptions of increased motivation and satisfaction.

Moreover, the results highlight that teachers consciously integrate cognitive dimensions into physical education, moving beyond purely physical activities to incorporate elements that stimulate thinking, understanding, and knowledge acquisition. This aligns with contemporary educational theories that emphasize the integration of cognitive, affective, and psychomotor domains in holistic learning processes.

Additionally, the findings suggest that teachers' competence has a direct psychological impact on students. Students perceive physical education teachers as approachable, supportive, and influential role models, which enhances their confidence and willingness to engage in learning. Consequently, the first sub-hypothesis is empirically validated, confirming that teacher competence significantly influences students' cognitive achievement.

Discussion of Results in Light of the Second Sub-Hypothesis

The second sub-hypothesis assumed that adolescents' cognitive achievement is influenced by their engagement in physical education activities. The results provide substantial evidence supporting this assumption.

Teachers reported that their training and professional experience enable them to address the specific needs of adolescents, taking into account their psychological, social, and developmental characteristics. This includes recognizing individual differences in cognitive and physical abilities and adapting instructional strategies accordingly.

Students' responses further reinforce this finding, as many reported that participation in physical education sessions enhances their motivation not only within the subject itself but also across other academic disciplines. This suggests that physical education contributes to the development of transferable skills such as discipline, focus, and self-confidence, which positively influence overall academic performance.

Furthermore, the findings indicate that students attach significant importance to physical education teachers, viewing them as accessible and supportive figures during a critical stage of development. This relationship fosters a positive learning environment that enhances both engagement and cognitive achievement.

Therefore, the second sub-hypothesis is also empirically confirmed, demonstrating that active participation in physical education plays a significant role in shaping adolescents' cognitive development.

Discussion of Results in Light of the General Hypothesis

Based on the confirmation of both sub-hypotheses, the general hypothesis—stating that the competence of physical education teachers positively influences students' cognitive achievement—is strongly supported.

The results reveal a clear and consistent relationship between teacher competence, instructional effectiveness, and student outcomes. This relationship is mediated by multiple factors, including teaching methodology, psychological support, and the ability to adapt to students' developmental needs. Consequently, the findings underscore the importance of teacher competence as a central determinant of educational quality and student success.

General Conclusion

The present study provides a comprehensive analysis of the role of physical education teachers' competence in shaping students' cognitive achievement during adolescence. The findings highlight several key conclusions:

First, teacher competence is a fundamental prerequisite for effective learning, as students' ability to acquire and apply knowledge is significantly enhanced when guided by experienced and skilled educators.

Second, physical education teachers play a multifaceted role that extends beyond instruction, functioning as mentors, role models, and facilitators of students' cognitive and personal development. Students perceive these teachers as supportive and influential figures, particularly during adolescence.

Third, the personality and pedagogical competence of teachers have a strong motivational impact on students, encouraging them to engage actively in learning and to seek knowledge across various domains.

Fourth, the study emphasizes the importance of integrating cognitive dimensions into physical education, ensuring that students benefit not only physically but also intellectually and socially.

Fifth, physical education serves as a critical educational platform for fostering curiosity, exploration, and self-expression, particularly when conducted under the guidance of competent teachers. It provides a structured environment in which students can develop essential life skills and build confidence.

Finally, the study demonstrates that adolescence represents a crucial stage for cognitive development, during which effective teaching practices can have long-lasting impacts on students' academic and personal trajectories. In this context, physical education—when delivered by competent and experienced teachers—plays a vital role in shaping well-rounded individuals capable of contributing to society.

Practical and Policy Recommendations

Based on the empirical findings and analytical insights of this study, several recommendations can be proposed to enhance the effectiveness of physical education and strengthen its contribution to students' cognitive and personal development:

1. **Enhancing the Institutional Status of Physical Education.** Educational policymakers should recognize physical education as a core component of the curriculum, rather than a supplementary subject. Strengthening its

institutional status will contribute to improving its pedagogical impact and ensuring its integration within broader educational objectives.

2. **Increasing Instructional Time Allocation.** Given the significant role of physical education in fostering cognitive, psychological, and social development—particularly during adolescence—it is recommended to increase the number of hours allocated to this subject within school timetables. Extended instructional time would allow for more comprehensive learning experiences and improved student engagement.
3. **Promoting Parity with Academic Subjects.** Physical education should be granted equal importance alongside other academic disciplines in secondary education. This includes recognition in assessment systems, resource allocation, and institutional support, thereby reinforcing its role in holistic education.
4. **Strengthening Monitoring and Professional Supervision.** Educational authorities should implement more effective monitoring, evaluation, and inspection mechanisms to ensure the quality of teaching practices. Regular pedagogical supervision can support teachers in adopting innovative methodologies, improving classroom management, and aligning their practices with contemporary educational standards.
5. **Continuous Professional Development for Teachers.** Special emphasis should be placed on ongoing training and professional development programs aimed at enhancing teachers' pedagogical competence, particularly in adapting teaching strategies to students' developmental needs and integrating cognitive dimensions into physical education.

Future Research Directions

While this study provides valuable insights into the relationship between teacher competence and students' cognitive achievement, several avenues for future research remain open:

- Conducting large-scale quantitative studies to validate and generalize the findings across different regions and educational contexts.
- Exploring the impact of specific teaching methodologies in physical education on student motivation and academic performance.
- Investigating the role of infrastructure and institutional resources as moderating variables in the relationship between teacher competence and educational outcomes.
- Examining the long-term effects of physical education on students' academic trajectories and personal development.

General Conclusion

Physical education represents a multidimensional educational domain that extends beyond physical activity to encompass psychological, social, and cognitive development. Its role within contemporary educational systems has become increasingly significant, particularly in addressing the complex developmental needs of adolescents.

The findings of this study highlight the central role of the physical education teacher as a key agent in the educational process. A teacher who possesses strong professional competence, extensive field experience, and a well-developed pedagogical profile is capable of creating an effective and supportive learning environment. Such a teacher not only facilitates the acquisition of knowledge and skills but also contributes to the development of students' critical thinking, self-confidence, and motivation.

Moreover, the study demonstrates that teacher competence has a direct and measurable impact on students' cognitive achievement, reinforcing the importance of integrating theoretical knowledge with practical experience in teaching practices. Physical education, when delivered effectively, serves as a powerful tool for enhancing students' overall development and preparing them to meet academic and social challenges.

In conclusion, the effectiveness of physical education depends not only on curricular design but also on the quality of teaching and the professional capabilities of educators. Strengthening teacher training, improving institutional support, and recognizing the strategic importance of physical education are essential steps toward achieving a more inclusive, balanced, and effective educational system.

Ethical Considerations

This study was conducted in full compliance with internationally recognized ethical standards for research involving human participants. The research adhered to the ethical principles outlined in the World Medical Association *Declaration of Helsinki* and relevant institutional guidelines.

Participation in the study was voluntary, and all respondents were informed about the purpose, procedures, and confidentiality of the research prior to data collection. Informed consent was obtained from all participants. The

anonymity and confidentiality of respondents were strictly maintained, and no personally identifiable information was collected or disclosed.

Conflict of Interest

The authors declare that there are no conflicts of interest regarding the publication of this article. The research was conducted independently, without any commercial or financial relationships that could be construed as a potential conflict of interest.

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Author Contributions

All authors contributed significantly to the conception, design, execution, and writing of this study.

- Conceptualization and study design: Benmessaoud Z., Rekad M.
- Data collection and analysis: Legridi K., Smara M.
- Writing – original draft preparation: Benamara K.
- Writing – review and editing: All authors

All authors have read and approved the final version of the manuscript and agree to be accountable for all aspects of the work.

Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request. Due to privacy and ethical considerations, the data are not publicly accessible.

Informed Consent Statement

Informed consent was obtained from all individual participants included in the study.

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AI Use Statement

The authors declare that no artificial intelligence (AI) tools were used in the design, data collection, analysis, or writing of this manuscript.

Ethics Approval

Ethical approval for this study was obtained from the relevant institutional review body, and all procedures were conducted in accordance with established ethical guidelines for educational research.

References :

1. Abiouker, C. (1994). *Foundations of physical education*. Anglo Library.
2. Al-Khouli, A. A. (n.d.). *Physical and sports education: Professional, vocational, and academic preparation*. Dar Al-Fikr Al-Arabi.
3. Al-Laqani, A. H., & Al-Jamal, A. A. (n.d.). *Dictionary of educational terms in curricula and teaching methods*. Mazyda Press.
4. Al-Munjid. (2001). *Al-Munjid in contemporary language* (2nd ed.). Dar Al-Mashreq.
5. Bouhouch, A., & Dnibat, M. (1995). *Scientific research methodology and methods of preparing research*. Diwan of University Publications.
6. El-Basyouni, M. A. (1992). *Theories and methods of education* (2nd ed.). Diwan of University Publications.
7. El-Shafie, A., & Morsi, S. A. (n.d.). *Principles of scientific research*.
8. Hassanein, M. S. (1995). *Measurement and evaluation in physical and sports education* (3rd ed.). Dar Al-Fikr Al-Arabi.
9. Keshmiri, M. O. (1418H/1998). *Introduction to the principles of education*. Labeekan Library.
10. Rabah, T. (1989). *Principles of physical and sports education* (2nd ed.). Diwan of University Publications.
11. Salama, M. A. (1992). *General education* (2nd ed.).
12. Shafik, M. (1998). *Man and society*. University Office.

13. Hamotte, V. (2005). *Lexique de l'enseignement de l'EPS*. Edition.
14. Darling-Hammond, L. (2000). Teacher quality and student achievement. *Education Policy Analysis Archives*, 8(1), 1-44.
15. Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. Routledge.
16. Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1-22.
17. Bailey, R. (2006). Physical education and sport in schools: A review of benefits and outcomes. *Journal of School Health*, 76(8), 397-401.
18. Kirk, D. (2010). *Physical education futures*. Routledge.
19. Siedentop, D. (1994). *Sport education: Quality PE through positive sport experiences*. Human Kinetics.
20. Perrenoud, P. (2000). *Developing practice: Toward a professionalization of teaching*. ESF.
21. Tschannen-Moran, M., & Hoy, A. W. (2007). The differential antecedents of self-efficacy beliefs of novice and experienced teachers. *Teaching and Teacher Education*, 23(6), 944-956.
22. Eccles, J. S., & Roeser, R. W. (2011). Schools as developmental contexts. *Journal of Research on Adolescence*, 21(1), 225-241.
23. Steinberg, L. (2014). *Adolescence* (10th ed.). McGraw-Hill.