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**The Influence of Educator-Student Communication Quality on Promoting
Targeted Pedagogical Behaviors in Secondary School Physical Education and
Sports Instruction**

BENMAAMAR Mostefa^{*}

M'Hamed BOUGARA University of Boumerdès ALGERIA

m.benmaamar@univ-boumerdes.dz

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^{*}Corresponding author

Abstract:

This study examines the nature and processes of educator-student pedagogical communication contexts in physical education sessions. The research aims to promote pedagogical behaviors that fulfill educational objectives while addressing organizational and disciplinary requirements. A descriptive approach was employed, using questionnaire-based data collection from educators and students. The study categorized various types of communication contexts and analyzed their perceptions. Results indicate that cultivating appropriate communication environments, particularly those emphasizing encouragement and positive reinforcement, is crucial for achieving educational goals. These findings contribute to understanding effective pedagogical communication strategies in physical education, potentially informing educator training and session management practices.

Keywords: Pedagogical communication; educator-student interaction; secondary school students; physical education and sports educator; physical education session.

Introduction

Educators play a pivotal role in implementing effective communication strategies with their students, facilitating the accurate and efficient transmission of information. Proficient educators demonstrate adept decision-making skills, including establishing educational objectives, selecting pedagogical alternatives, and resolving student-posed challenges. While some pedagogical decisions result from meticulous consideration of instructional and curricular goals, many require instantaneous judgment during student interactions. (Adas, 1999)

Educators can address the interpersonal dimension of pedagogy by cultivating productive relationships with their students. This can be achieved through the reciprocal exchange of ideas, comprehension of students' academic and personal challenges, and acknowledgment of their affective states. Such an approach, characterized by openness and empathy, engenders trust and facilitates the development of a humanistic educational ethos among learners.

In physical education instruction, educators play a pivotal role in executing procedural tasks by planning, organizing, guiding, and directing students' activities. Establishing a positive educator-student dynamic is crucial, as it significantly influences learner engagement. This positive relationship is nurtured by the educator's active involvement and acknowledgment of students' thoughts, goals, and emotional states. Such engagement should be characterized by

confidence, authenticity, and a positive disposition while simultaneously demonstrating comprehension of students' challenges and respecting their perspectives. (Said Jasim Al-Asadi, 2003)

An educator's capacity to establish efficacious interpersonal relationships is widely regarded as a fundamental competency within the pedagogical domain. The qualitative nature of interactions, both between the educator and learners and among the learners themselves, reflects the prevalent educational climate. When these interpersonal dynamics are characterized by mutual respect and the active promotion of learning, it indicates a conducive academic environment. Such an atmosphere engenders a sense of psychological safety and comfort, facilitating learners' ability to concentrate on their academic pursuits and cognitive development.

Efficacious interpersonal dynamics within the educational milieu serve as catalysts for learner engagement in pedagogical contexts, thereby eliciting optimal cognitive and behavioral investment levels. This pedagogical approach seeks to establish an equilibrium between learners' psychological well-being and attaining prescribed educational outcomes. Such a balanced methodology not only fosters an environment conducive to academic achievement but also promotes the learner's holistic development (Buqai'i, 2010)

I. 1. Problem Statement

In the domain of physical education and sports pedagogy, scholars such as Pieron (1993) and Delnes have proposed a categorization of learners' pedagogical behaviors (Mary Lou Veal, 2012). This taxonomic framework delineates five distinct categories:

- A. Motor activity
- B. Information reception
- C. Waiting periods
- D. Management and organizational tasks
- E. Ancillary activities

The fifth category, ancillary activities, encompasses all learner behaviors that do not fall within the purview of assigned tasks or the categories above. Examples include hydration breaks or adjustments to personal attire.

To analyze these behavioral patterns, we employed a systematic observational methodology. This approach involves using an observation grid,

which serves as an instrument in the scientific evaluation of pedagogical practices. Implementing such observational tools facilitates a rigorous and empirical assessment of teaching efficacy within the physical education and sports context.

To better understand the research variables and how they are connected, we will specifically examine the interactions between educators and students and the students' pedagogical behaviors. This study will focus on finding ways to encourage and display these behaviors during physical education and sports sessions for adolescents aged 15 to 18 in secondary education. To break down the main research question, we have derived several sub-questions.

2. Research Questions

What are the appropriate contextual frameworks for educator-student pedagogical interactions that facilitate the activation of various dimensions of students' pedagogical behaviors during physical education and sports sessions?

- A. How do physical education and sports educators perceive educator-student pedagogical interactions during their sessions?
- B. How do students interpret the contextual aspects of educator-student pedagogical interactions during physical education and sports sessions?
- C. How do students perceive their educators through the lens of assigned tasks related to educator-student pedagogical interactions during physical education and sports sessions?

3. General Hypothesis

The presence of appropriate contextual frameworks for educator-student pedagogical interactions facilitates the activation of various dimensions of students' pedagogical behaviors during physical education and sports sessions.

Based on this general hypothesis, two partial hypotheses are proposed:

First Partial Hypothesis

- a) Contextual frameworks for educator-student pedagogical interactions primarily serve affective purposes during physical education and sports sessions.
- b) The presence of contextual frameworks related to encouragement in educator-student pedagogical interactions achieves the intended outcomes of these interactions during physical education and sports sessions.

Second Partial Hypothesis

- a) The presence of appropriate contextual frameworks for educator-student interactions related to the educator's instructional tasks during class achieves the necessary affective outcomes for students.
- b) Various contextual frameworks for educator-student interactions consistently and similarly evolve to primarily achieve the purpose of appreciation and positive reinforcement during class.

4. Research Significance

The diverse contextual frameworks of educator-student interactions during physical education and sports sessions serve multiple pedagogical, organizational, and disciplinary purposes. By comprehending the essence and nature of these frameworks, educators can more effectively modulate and adapt them to achieve desired educational outcomes.

5. Research Objectives

- Examine educators' perceptions and beliefs regarding the pedagogical interaction frameworks they employ with students during physical education and sports sessions.
- analyze students' interpretations of various educator-student pedagogical interaction frameworks during physical education and sports sessions from the learner's perspective.
- identify the predominant modes of educator-student pedagogical interaction frameworks during physical education and sports sessions.

6. Methodological and Statistical Procedures:

To ensure the achievement of research goals in a methodical and scientifically rigorous manner, following established scholarly practices, the following aspects were addressed:

- a) The protocols for both Pilot and primary studies
- b) The research methodology employed
- c) The temporal and spatial parameters of the investigation
- d) The sampling strategy, including selection methods and justification
- e) The data collection instruments and their adaptation processes to align with the research objectives

Additionally, the statistical methods used to analyze research data were delineated and justified.

Pilot Study

7. 1. Research Sample

The pilot study was initiated following official approval from the Directorate of Education for the Eastern Algiers Province on October 25, 2017. Two secondary educational institutions, Mohamed Hadjeres and Abane Ramdane High School, were selected as the sites for conducting the preliminary research procedures. The sampling strategy employed a simple random sampling technique for group selection. The pilot sample consisted of six physical education and sports educators recruited to assess the effectiveness and suitability of the research instruments.

7.2. Sample Characteristics:

The pilot study sample comprised two distinct groups representing key secondary education, physical education, and sports stakeholders. The characteristics of these groups were as follows:

- Educators: Certified physical education and sports instructors employed in secondary education institutions.
- Students: Adolescents enrolled in secondary schools range in age from 15 to 18 years, with representation from both male and female genders.

Demographic data pertaining to educational background and socioeconomic status were collected to provide a comprehensive profile of the participants. Subsequently, these data were analyzed and presented in the following sections.

7.3. Educational Characteristics of Students' Families

Table 01. Educational status of students' families

Level	Father's educational level		Mother's educational level	
	Frequency	Percentage	Frequency	Percentage
illiterate	13	%2,7	16	%3,3
Primary school level	23	%4,8	24	%5
Middle school level	51	%10,6	34	%7,1
High school level	130	%27	179	%37,2

University level	246	%51,1	210	%43,7
Total	463	%96,3	364	%96,3
Missing Values	18	%3,7	18	%3,7

Economic Characteristics of Students' Families:

Table 02. Occupational status of students' parents

Father's work			Mother's work		
Work	Frequency	Percentage	Work	Frequency	Percentage
Out of Work	08	%1,7	Out of Work	284	%59
Public Sector Employee	179	%37,2	Public Sector Employee	67	%13,9
Trader	19	%04	Trader	02	%0,4
Professor (teacher)	04	%0,8	Professor (teacher)	47	%9,8
doctor	12	%2,5	Doctor	22	%4,6
Laborer	18	%3,7	Laborer	01	%0,2
Freelance Work	93	%19,3	/	/	/
Senior Position	111	%23,1	senior position	34	%7,1
Nurse	02	%0,4	/	/	/
Total	446	%92,7	Total	457	%95
Missing Values	35	%7,3		24	%05

Table 03. Housing characteristics of Students' Families

Type of Housing	Personal property of the family or the property of others, such as rented property				
Type of Housing	Personal property of the family or property owned by others, such as rental housing		Type of Housing		
	Frequency	Percentage	Origin of the Property	Frequency	Percentage
Villa	186	%38,7	Private property	358	%74,4
Residence in a popular quarter	24	%05			
Apartment	258	%53,7	Loud for the house	105	%21,8
Fragile Housing	10	%2,1			
Total	478	%99,4	Total	463	%96,3

Missing Values	03	%0,6	Missing Values	18	%02
Table 04 presents the ownership status of the housing for the students' families.			Table 03 presents the type of housing for the students' families.		
*Missing Values: instances of non-response. These missing values were identified through follow-up interviews with respondents and educators. Such omissions can be attributed to several factors inferred based on the qualitative feedback received. These factors include Loss of parents, lack of trust, Embarrassment caused by the question, Oversight of the question, and Questions touching on private family matters.					

Temporal and Spatial Parameters of the Pilot Study:

The pilot study started on October 25, 2017, during the first semester of the 2017/2018 academic year.

Research Instruments:

To address the research questions, the following data collection instruments were used:

- Educator Questionnaire: This instrument was designed to facilitate the analysis and interpretation of data obtained from the observation of pedagogical interactions.
- Student Attitude Questionnaire: This tool assessed students' attitudes towards their physical education and sports instructors.
- Student-Educator Communication Questionnaire: This instrument was developed to evaluate students' perceptions regarding the quality of communication between themselves and their physical education and sports instructors.

A. Questionnaire for Educators:

The purpose of this Questionnaire is to clarify theoretical concepts pertaining to events observed in monitoring pedagogical interactions between educators and students, encompassing verbal and non-verbal communication. Educators were consulted and interviewed for this study, while students were excluded due to various considerations, including cognitive factors.

This Questionnaire is derived from the research conducted by Barriere-Boizumault Magali (2013). It has been adapted and modified as necessary, subsequently undergoing review by specialists to achieve its final form.

B. Questionnaire for Students:

To achieve the study's objectives, evaluating students' comprehension levels and attitudes regarding communication with their instructors was essential, guided by an extensive literature review. The Questionnaire was developed based on those utilized in the research studies of Barriere-Boizumault (2013), Laabane (2011), and Goumiri (2012).

The final Questionnaire has two sections, incorporating both open-ended and semi-structured questions. This design facilitates the collection of diverse perspectives and allows respondents to express their views with maximum comfort and minimal constraints.

8. Psychometric Properties of the Instrument:

The instrument underwent initial development in its comprehensive form before being submitted to a panel of subject matter experts for review. Subsequent modifications were implemented, encompassing the incorporation of specific statements, elimination of others, and refinement of necessary elements. This process culminated in the instrument's final operational iteration. The validity of the instrument was subsequently established through a test-retest reliability assessment. These procedures address the primary sources of variance and error margin discrepancies, manifesting as random variables affecting individual performance during any evaluation. The stability of the test is contingent upon the time interval, after which its reliability is determined (Hassan Ahmed Al-Shafei, 1999).

9. Implementation of Research Methodology:

The study employed several measures to ensure optimal data collection conditions. Given the nature of the inquiries, the physical education instructor was absent during the questionnaire administration following Barriere-Boizumault's (2013) recommendations. This approach served a dual purpose: to alleviate potential student discomfort while responding and maintain individual responses' integrity through the physical separation of participants.

10. Methodological and Statistical Procedures for the Main Study:

The pilot study validated the research instruments and confirmed their appropriateness for the investigation. It also established a suitable research methodology, identified potential challenges for the investigator, assessed fieldwork conditions, and evaluated the readiness of participants (educators and

students) and administrative staff to engage with the proposed scenarios. Subsequently, the main study proceeded, taking into account temporal, spatial, and other contextual factors and the resources at the researcher's disposal. The following section outlines the methodology, research tools, and the reasons for their selection to gather the necessary data to achieve the study's objectives.

10.1. Educational research

Educational research is a fundamental endeavor for developing competence in educational settings and generating knowledge that facilitates the achievement of educational objectives through optimal methods and approaches. It serves to prevent the educational process from descending into disorder and arbitrariness. Furthermore, it provides essential data for establishing patterns or models that represent education dynamics in specific contexts, enabling the projection of outcomes when these conditions change. Educational research also contributes to identifying and defining educational trends, evaluating their effectiveness, and selecting among them prior to implementation. Indeed, educational research encompasses processes that have become integral to ensuring the robustness and efficacy of any educational system.)Hassan(2001 ‘

10.2. Research Methodology:

Scientific research in physical education and sports, as delineated by Selis et al. (1959), encompasses several key objectives. These include identifying the specific characteristics and attributes of individuals, situations, groups, or phenomena; analyzing correlations between phenomena, representing a more sophisticated approach than mere description; and examining causal relationships between phenomena, investigating their reciprocal influences. This last objective constitutes the ultimate aim of scientific inquiry in the field of physical education (Hassan Ahmed Al-Shafi'i, Principles of Scientific Research in Physical Education and Sports, 1999)

This study utilized a descriptive approach characterized by the collection of precise scientific descriptions of the phenomenon under investigation and the analysis and interpretation of current situations. This method is particularly effective in identifying opinions, beliefs, and attitudes among individuals and groups (Boudaoud Abdel-Yamin, 2009). Descriptive research extends beyond mere data collection, classification, and tabulation; it encompasses a thorough analysis of the gathered information, including a degree of interpretation of the results (Fatima Awad Saber, 2002).

11. Research Sample:

A sample comprises a subset of individuals from a population selected to represent the whole. The accuracy of this representation is contingent upon the sampling method employed and the sample size. A population is a group of individuals or objects sharing one or more variable characteristics (Mubarak, 1992).

Through our field survey, we identified the institutions housing our research participants: educators and students who demonstrated a willingness to participate and the administrative staff. This was evidenced by their positive engagement with the research team.

The research sample consisted of 20 physical education and sports educators and 20 student groups distributed across 07 secondary schools under the jurisdiction of the East Algiers Education Directorate.

To achieve the research objectives, we employed a simple random sampling method. This approach affords each individual in the population an equal probability of selection. In this sampling technique, individuals are chosen randomly (Abrash, 2009), which aligns with achieving unbiased research outcomes.

From a population of 161 educators, as per the East Algiers Education Directorate's census for the 2017/2018 academic year, twenty (20) were selected through simple random sampling. Their opinions and beliefs were gathered via a questionnaire, fulfilling the research aims.

Simple random sampling is characterized by the absence of any specific, intentional selection technique. It is conducted randomly, ensuring all units of the population have equal chances of being chosen. This process adheres to established rules, such as using random number tables and lottery methods (Abrash, 2009).

For the student component of the study, 481 participants were selected to provide their opinions through a questionnaire. These students were under the supervision of the educators in the study sample and were chosen using the same sampling method.

Table 04. Distribution of the sample members, including educators and student groups, across different high schools:

High School	N Educators	N Group	Hight school	N Educators	N Group
Mohammed Mazari High School	04	04	Mustafa Al-Ashraf High School	05	05
Rabah Bitat High School	03	03	Mohamed Bedjaoui High School 02	02	02
Tamaris High School	03	03	Nait Belkacem Belkacem High School	02	02
Abban Ramadan High School	01	01			

Table 05 illustrates the distribution of sample members, including educators and student groups, across different high schools.

Study Tools and Rationale for Their Use:

Statistical Methods and Techniques Employed:

This study utilized a range of statistical methods and techniques to ensure robust data analysis and interpretation:

- Cooper's formula
- Face validity assessment
- Percentage calculations
- Chi-square test
- Test-retest reliability measure
- Pearson correlation coefficient

II. Results for the Primary Hypothesis:

Q1. How would you categorize the verbal communication employed during your session? Identify and classify the various types of verbal interactions utilized throughout the session.

"Purpose of the inquiry: To delineate the concept defined by the instructor within a specific behavioral category and to ascertain the most frequently employed behavioral category of pedagogical interactions".

Table 05. the results derived from Question 01, Part 01.

N Question	N	encouragement	appreciation	all of them
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Question 01	20	05	02	13
Part 01		%25	%10	%65

Table 06. the results derived from Question 01, Part 02.

N Question	N	encouragement	appreciation	discipline	organization	all of them
Question 01	2	14	02	01	02	01
Part 02	0	%70	%10	%05	%10	%05

The data presented in the tables above indicate that the response "all of them" occurred 13 times, constituting 65% of total responses. This was followed by encouragement, which appeared five times (25%), and appreciation, occurring twice (10%). In the subsequent section, encouragement emerged as the predominant response with 14 occurrences (70%), while appreciation and organization were recorded twice each (10%). Lastly, discipline and "all of them" were each observed once, each representing 5% of the responses.

Table 07. the results derived from Question 01, Part 03.

N Question	N	Agree	Disagree
Question 01	20	20	00
Part 03		%100	%00

The data presented in the table indicate unanimous agreement among all 20 educators surveyed, representing 100% consensus, with no dissenting opinions expressed.

Q15. To what extent should physical education and sports instructors demonstrate personal interest in their student's lives, including inquiries about extracurricular activities? Why?

How do various modes of communication, both verbal and non-verbal, contribute to establishing an optimal educational environment in physical education settings? What are they, in your opinion?

Table 08. the results derived from Question 15, Part 01.

N Question	N	Yes	No
Question 15	20	15	05
Part 01		%75	%25

Analysis of the data reveals varied responses across different parts of Question 15. In the first part, 75% (n=15) of educators responded affirmatively, while 25% (n=5) responded negatively.

Table 09. the results Question 15, Part 02.

N Question	N	Yes	No
Question 15 Part 02	20	19	01
		%95	%05

overwhelmingly positive response, with 95% (n=19) of educators answering affirmatively and only 5% (n=1) responding negatively.

Table 10. the results derived from Question 15, Part 03

N Question	N	Mandatory Assistance	Professional Duties	Curiosity
Question 15 Part 03	20	03	12	05
		%15	%60	%25

Table 11. demonstrates a distribution across three options: 15% (n=3) selected "Mandatory Assistance", 60% (n=12) chose "Professional Duties", and 25% (n=5) opted for "Curiosity".

Table 11 . The results derived from Question 15, Part 04.

N Question	N	Verbal Communication	Verbal \Non-Verbal
Question 15 Part 04	20	02	18
		%10	%90

Two educators selected "Verbal Communication," representing 10%, while 18 opted for "Verbal and Non-Verbal Communication," accounting for 90%.

Table 12. the results derived from Question 15, Part 05.

N Question	N	Encouragement	Clarification
Question 15 Part 05	20	15	05
		%75	%25

Fifteen educators chose "Encouragement," representing 75%, while five selected "Clarification," accounting for 25%.

The overall results of students' pedagogical behaviors:

Table 13. The overall results of students' pedagogical behaviors.

Categorie Behavior	Physical Activity	Management Behavior	Listening Behavior	Waiting behavior	Other Behavior	Total
Moyenne	39.31	29.96	37.80	35.85	17.36	160.28
SD	9.92	11.59	8.15	11.49	14.15	55.3
Variation	98.49	134.54	66.44	132.12	200.20	631.79
Percentage	24.53%	18.69%	23.58%	22.37%	10.83%	100 %
Total	3145	2397	3024	2868	1389	12823

Analysis of the pedagogical behaviors presented in the table reveals diverse patterns across categories. Physical activity emerges as the predominant behavior, with a mean of 39.31 (SD = 9.92), constituting 42.53% of total observed behaviors. Listening behavior follows, demonstrating a mean of 37.80 (SD = 8.15) and comprising 23.58% of observations. Waiting behavior exhibits similar prominence, with a mean of 35.85 (SD = 11.49), accounting for 22.37% of the total. While less frequent, management behavior still represents a significant portion at 18.69%, with a mean of 29.96 (SD = 11.59). The "other behavior" category, encompassing miscellaneous actions, displays the lowest frequency, with a mean of 17.36 (SD = 14.15), representing 10.83% of observed behaviors.

Table 14. The overall results of pedagogical interactions observed by the researcher (Author's research 2018).

Categorie Behavior	educator's response to satisfactory student performance	educator's response to unsatisfactory student performance	student performance	reactions to negative behaviors	Total
Number of behaviors	7602	15672	4509	2259	30042
Percentage	%25	%52	%15	%8	%100

The table above illustrates that the aggregate number of observed behaviors is 30,042. Of these, 7,602 behaviors pertain to the educator's response to satisfactory student performance, while 15,672 behaviors (52%) correspond to the educator's response to unsatisfactory student performance, collectively comprising 23,274 behaviors or 77% of the total. For student performance, 4,509 behaviors were observed, constituting 15% of the aggregate. Furthermore, reactions to negative behaviors were documented in 2,259 instances, representing 8% of the observed behaviors.

Table 15. The results of behaviors observed through the pedagogical interaction observation grid during the session: an analytical study of the pedagogical interactions conducted by the researcher (Author's research 2018).

	educator's response to satisfactory student performance			educator's response to unsatisfactory student performance						reactions to negative behaviors
Categorie Behavior	Educator's estimates	Student assessment and performance	Student responses and reactions	Encouragement	Clarification	Encouragement with information	Criticism	criticism and information reinforcement	Student performance and initiative	Course system
N behaviors	3760	3840	2200	3300	2390	2120	3340	4520	2310	2260
Mean	188	192	110	165	119.5	106	167	226	115.5	113
Standard Deviation	44.67	41.75	35.09	46.28	31	38.98	33.88	55.47	30.17	30.1
Variance	2122.48	3850.86	1087.41	2262.06	113.04	1458.18	1773.44	987.78	781.93	798.24
percentage	% 12	%13	%7	%11	%8	%7	% 11	% 15	%8	% 8

Correlation Analysis of Educator and Student Pedagogical Behaviors: Results from the Pearson Coefficient Test

Table 16 . The results of the relationship between the dimensions of the educator's behavioral categories observed with the pedagogical interaction observation grid for all sessions.

Categorie Behavior	Educator Appreciation	Criticism	Appreciation and performance emphasis	Encouragement	Clarification	Encouragement with information	criticism and information reinforcement	Organization
motor activity	0.41	-0.06	0.054	0.15	-0.04	0.01	0.19	0.15
organization	0.03	0.01	-0.08	-0.07	0.11	0.006	0.12	0.12
listening	-0.16	-0.36	-0.26	-0.43	-0.29	-0.42	-0.47	0.23
waiting	0.03	0.13	0.01	-0.18	0.03	-0.06	0.14	-0.1
negative behavior	-0.12	0.006	-0.21	-0.13	0.1	-0.09	-0.17	-0.01

The results presented in the table indicate the following correlations:

Educator appreciation and motor activity correlate positively ($r = 0.41$). Similarly, encouragement and motor activity exhibit a positive relationship ($r = 0.15$). A correlation is observed between criticism and information reinforcement ($r = 0.19$) and organization and motor activity ($r = 0.15$).

Clarification and management show a positive correlation ($r = 0.11$). Criticism with information reinforcement and management also exhibit a positive relationship ($r = 0.12$). Additionally, the dimensions of organization and management demonstrate a correlation ($r = 0.12$).

Educator appreciation and listening negatively correlate ($r = -0.16$). Criticism and listening exhibit a stronger negative relationship ($r = -0.36$). Appreciation with performance confirmation and listening shows a negative correlation ($r = -0.26$). Encouragement and listening to the educator demonstrate a pronounced negative relationship ($r = -0.43$). Clarification and listening exhibit a negative correlation ($r = -0.29$). Encouragement with information provision and listening shows a strong negative relationship ($r = -0.42$). Criticism with information reinforcement and listening to the educator demonstrate the strongest negative correlation in this set ($r = -0.47$). Conversely, organization and listening to the educator exhibit a positive correlation ($r = 0.23$).

Criticism and waiting display a positive correlation ($r = 0.13$). Encouragement and waiting exhibit a negative relationship ($r = -0.13$). Criticism with information reinforcement and waiting show a positive correlation ($r = 0.14$). Organization and waiting demonstrate a slight negative relationship ($r = -0.1$).

A statistically significant negative correlation exists between educator appreciation and negative behavior ($r = -0.12$). Appreciation and performance emphasis exhibit a negative relationship ($r = -0.21$). Encouragement and negative behavior correlate negatively ($r = -0.13$). Clarification and negative behavior demonstrate a slight positive relationship ($r = 0.1$). Criticism with information reinforcement and negative behavior correlate negatively ($r = -0.17$).

Analysis of Results for Two Sub-hypotheses Derived from the Third Partial Hypothesis:

"Appropriate educator-student communication contexts, aligned with the instructor's classroom responsibilities, facilitate the achievement of necessary affective objectives among students."

"Diverse educator-student communication contexts converge uniformly towards the primary goal of offering praise and commendation during the instructional period."

- 1- How do you perceive your educator? Authoritative, Kind, Indifferent to students.

Table 17. The results derived from Question 01, Part 01.

N Question	N	highly authoritative	Pleasant	disinterested
Question 01	481	35	427	19
Part 01		7.3%	88.8%	4%

Examining the data presented in the table above, we observe that 35 students (7.3%) selected the "highly authoritative" option, 427 students (88.8%) chose the "pleasant" option, and 19 students (4%) opted for the "disinterested" category.

1- Does the educator interact more with boys or girls in your class?

Table 18. The results derived from Question 08, Part 01.

N Question	N	Males	Females	both genders
Question 08	481	42	35	404
		8.7%	7.3%	84%

The data from the table reveal a notable distribution across gender categories. The majority of respondents, constituting 84.0% (n = 404), classified the subject as about "both genders." In contrast, a smaller proportion of participants identified gender-specific categorizations: 8.7% (n = 42) designated the subject as "male," while 7.3% (n = 35) classified it as "female."

Results Analysis for the Second Sub-hypothesis of the Third Partial Hypothesis

The hypothesis posits that various educator-student communication contexts shift towards students primarily to offer appreciation and congratulations during lessons, with uniformity and consistency.

To test this hypothesis, participants were presented with the following scenario and Questionnaire:

When your physical education and sports educator communicates with you regularly and begins to offer appreciation and congratulations frequently (e.g., saying, "Well done, keep it up"), what do you believe is the reason? Please indicate your response by marking (X) in the appropriate box:

1. I possess a good athletic level: ☐ Yes ☐ No? I exert significant effort: ☐ Yes ☐ No? My attentiveness is: ☐ Consistent ☐ Occasional ? Other reason (please specify): _____ ? I believe I receive

appreciation and congratulations: ☐ Less than others ☐ Same as others ☐ More than others?.

Table 19. The results derived from Question 01, Part 01.

N Question	N	Female	Male
Question 01	481	292	189
Part 01		98.8%	1.2%

Table 20. The results derived from Question 01, Part 02.

N Question	N	I have a good athletic level	I do not have a good athletic level
Question 01	481	475	06
Part 02		98.8%	1.2%

Table 21. The results derived from Question 01, Part 03.

N Question	N	Agree	disagree
Question 01	481	471	10
Part 03		97.9%	2.1%

Table 22. The results derived from Question 01, Part 04.

N Question	N	I'm always attentive	Sometimes only attentive
Question 01	481	444	37
Part 04		92.3%	7.7%

Table 23. The results derived from Question 01, Part 05.

N Question	N	appreciation than others	equal appreciation than their peers	more appreciation than their peers
Question 01	481	34	400	47
Part 05		7.1%	83.2%	9.8%

Analysis of the results for Question 1 reveals distinct response patterns across its various components:

In the initial component, an overwhelming majority of 475 students (98.8%) responded affirmatively, while a minimal fraction of 6 students (1.2%) provided negative responses.

The second component demonstrated a similar trend, with 471 students (97.9%) offering affirmative responses and 10 (2.1%) responding negatively.

For the third component, a substantial proportion of 444 students (92.3%) reported being attentive, whereas 37 students (7.7%) indicated the contrary.

The fourth component, addressing comparative perceptions, yielded a more diverse distribution: 34 students (7.1%) perceived receiving less appreciation than others, a significant majority of 400 students (83.2%) reported receiving equal appreciation, and 47 students (9.8%) indicated receiving more appreciation than their peers.

2. The physical education instructor employs verbal communication for multiple purposes. Please indicate with an (X) in the appropriate box for each of the following:

- Providing encouragement
- Correcting performance
- Enhancing performance
- Facilitating class separation
- De-escalating agitation

In the table below, analyze the efficacy and benefits of utilizing gestures, signs, and verbal communication according to type and situational context:

2. This question assesses the various purposes of verbal communication initiated by your physical education educator. Please indicate your response by marking (X) in the appropriate box for each purpose listed below:

- For encouragement
- To correct performance
- To enhance performance
- To separate sessions
- To calm me if I am agitated

Additionally, please describe the benefit and effectiveness of using gestures, signs, and verbal communication according to type and situation in the table provided below:

Table 24. The results derived from Question 08, Part 01.

Question	N	encouragement	correct performance	enhance performance	separate sessions	calm me if I am agitated
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Question 08	481	186	172	50	38	35
Part 01		38.7%	35.8%	10.4%	7.9%	7.3%

Table 25. The results derived from Question 08, Part 02.

N Question	N	Yes	No
encouragement	481	470	11
		97.7%	2.3%
enhance performance		423	58
		87.9%	12.1%
correct performance		436	45
		90.6%	9.4%
separate sessions		403	78
		83.8%	16.2%
calm me if I am agitated		413	68
		85.9%	14.1%

Table 26. The results derived from 08, Part 03.

Question	N	Yes	No
encouragement	481	384	97
		79.8%	20.2%
enhance performance		397	84
		82.5%	17.5%
correct performance		390	91
		81.1%	18.9%
separate sessions		385	96
		80%	20%
calm me if I am agitated		352	129
		73.2%	26.8%

Analysis of Question 8 yields the following results across its multiple components:

- Part (01) demonstrates a distribution of responses regarding the primary purpose of educator communication:
 - Encouragement: 38.7% (n = 186)
 - Performance correction: 35.8% (n = 172)
 - Performance enhancement: 10.4% (n = 50)
 - Class separation: 7.9% (n = 38)

- Agitation mitigation: 7.3% (n = 35)

The subsequent parts reveal high levels of affirmative responses:

- Part (02): An overwhelming majority (97.7%, n = 470) responded affirmatively, while only 2.3% (n = 11) provided negative responses.
- Part (03): A substantial proportion (87.9%, n = 423) answered in the affirmative, whereas 12.1% (n = 58) responded negatively.
- Part (04): A significant majority (90.6%, n = 436) provided affirmative responses, in contrast to 9.4% (n = 45) responding negatively.
- Part (05): The affirmative responses constituted 83.8% (n = 403), while negative responses accounted for 16.2% (n = 78).
- Part (06): A considerable majority (85.9%, n = 413) answered affirmatively, compared to 14.1% (n = 68) responding negatively.
- Part (07): 79.8% (n = 384) of respondents indicated positive responses, whereas 20.2% (n = 97) indicated negative responses.
- Part (08): A significant proportion (82.5%, n = 397) provided affirmative answers, with 17.5% (n = 84) responding negatively.
- Part (09): Affirmative responses were given by 81.1% (n = 390), while negative responses accounted for 18.9% (n = 97).
- Part (10): The affirmative response rate was 80.0% (n = 385), compared to 20.0% (n = 96) responding negatively.
- Part (11): The lowest yet still substantial affirmative response rate was 73.2% (n = 352), with 26.8% (n = 129) responding negatively.

III. Discussion

1. Discussion of the first partial hypothesis

The findings from the surveyed educators corroborate the observed patterns of educator-student communication during physical education sessions. Analysis of responses regarding the conceptualization of verbal communications utilized by educators during lessons reveals that educators' understanding predominantly encompasses various behavioral categories of educator-student pedagogical interactions.

Encouragement and appreciation emerge as prominent elements in this conceptualization, with encouragement consistently ranked as the primary or secondary choice. Appreciation receives varied rankings, including being placed last by some participants. Educators generally perceive encouragement as the

most frequently employed communication strategy during lessons. Some educators equally prioritize appreciation and organizational communication, assigning them equivalent ranks. Individual variations exist, with one educator prioritizing discipline and another considering all mentioned behavioral categories equally significant.

Educators' responses reveal a hierarchical preference regarding the appropriateness of physical contact. The majority deems physical contact most suitable during moments of encouragement, assigning it the highest rank. A subset of respondents considers it fitting for expressions of appreciation, ranking this scenario second. Two educators consider physical contact neutral in its appropriateness, ranking this view third. Lower rankings are assigned to disciplinary contexts and explanatory situations.

For the temporal aspect of physical contact, a clear preference emerges for its occurrence during the activity itself, with most educators ranking this option first. The post-activity period is considered the second most appropriate time. Interestingly, some educators posit no specific optimal time for physical contact, while others maintain a neutral stance on timing. Both of these perspectives receive the lowest rankings among the respondents.

In a previous study, the author examined data collected by observing students' pedagogical behaviors during physical education and sports sessions, which yielded the following conclusions.

The comprehensive analysis of behavioral monitoring data indicates statistically significant relationships between dimensions of educator-learner communication categories and dimensions of pedagogical behavior categories. These correlations are evident between various categories of responses to proficient student performance and categories such as motor activity, classroom management, and attentiveness to instruction within students' pedagogical behavior classifications. Furthermore, statistically significant relationships are observed between diverse categories of responses to suboptimal or incorrect student performance and the aforementioned student behavior categories. Additionally, statistically significant correlations exist between various categories of reactions to negative behaviors and categories such as waiting and negative behavior within students' pedagogical behavior classifications.

Examining correlations between educator and student behavioral categories revealed a spectrum of statistical relationships, ranging from positive to inverse

and from moderate to weak in strength. Notably, a stronger correlation was observed between criticism accompanied by information confirmation and students' behavioral categories than between criticism alone. Moreover, a preference was noted for correlations between encouragement, particularly when coupled with information provision, and other behavioral categories.

The research demonstrated that when combined with information validation, criticism positively influences motor activity and classroom management. This approach also reduces passive behavior, contrasting with behavior aimed solely at criticism. Additionally, as organizational behavior increased, students exhibited more behaviors related to motor activity, classroom management, and attentive listening, while waiting and passive behaviors decreased.

2. Discussion of the second partial hypothesis

The data collected from students regarding appropriate educator-student communication contexts in physical education sessions yields significant insights. In response to the inquiry about educator qualities, most respondents rank the benevolent educator as their primary preference. Subsequently, a subset of students positions the highly authoritative educator in the second rank. Notably, another group places the educator demonstrating minimal interest in students in the third position.

The findings are noteworthy regarding the question of educator interaction based on student gender. Most respondents prioritize "male and female students equally" as their first choice, indicating a preference for gender-inclusive interaction. A subset of students ranks "male students" as their second choice, while the remaining respondents position "female students" in the third and final rank.

The data describing the source of educator-student communication contexts in physical education sessions reveals a higher proportion of female respondents than males. Concerning athletic ability, class engagement, and educator recognition relative to peers, most students self-report having a good athletic level and exerting effort during lessons. The majority also perceive themselves as receiving praise and congratulations comparable to their peers.

Regarding the educator's verbal communication with students, encouragement is predominantly ranked as the primary choice. Some respondents position performance correction as second, while others prioritize performance

enhancement, followed by class separation. Calming agitated students is consistently ranked last. Regarding the perceived effectiveness of verbal communication, students generally concur on the following order: encouragement, performance correction, performance enhancement, calming agitated students, and finally, class separation.

3. General Analysis of the First Partial Hypothesis Results:

Examining beliefs and concepts regarding verbal educator-learner communications, considering the majority of opinions and perceptions reveals that these concepts are predominantly confined to encouragement and appreciation. Encouragement is observed to be more frequently employed during sessions, playing a significant role in organizational relationships and shaping the overall atmosphere of the educational environment.

Regarding nonverbal communication, the conceptualization is primarily defined as encouragement, with its role primarily aimed at organizational relationships during sessions. Verbal communications are prioritized in educator-learner pedagogical interactions.

Students perceive both verbal and non-verbal educator-learner communications as catalysts for student initiative in performance. However, verbal communication in numerous educational situations causes student discomfort, primarily related to criticism. Similarly, non-verbal communications elicit discomfort in various educational contexts related to several behavioral categories, particularly negative appreciation.

Concerning individual student characteristics that influence educator behaviors, it is apparent that student initiative for performance can alter educator behaviors. These individual characteristics play a role in communications, primarily in the context of encouragement.

Encouragement is identified among the essential verbal communications, particularly for important tasks. Non-verbal communications are found to be beneficial with student response to performance, though no specific optimal timing is identified.

Findings regarding physical contact indicate that it is primarily utilized for the purpose of encouragement and occurs during activities.

4. General Analysis of the Second Partial Hypothesis Results:

The data analysis regarding students' preferences for physical education educator qualities reveals several significant findings. Students predominantly favor instructors who are empathetic, attentive, and committed to their pedagogical role. Notably, students perceive their educators as non-discriminatory in terms of gender. Moreover, students expressed a willingness to contribute to a positive classroom atmosphere.

The educator's role in fostering an optimal learning environment involves providing recognition and positive reinforcement. Students prefer classrooms where educator-student emotional connections are prioritized. Interestingly, students favor receiving educator approval through non-verbal cues, specifically smiles, rather than verbal expressions or other gestures, indicating a preference for subtle communication methods.

Furthermore, the findings indicate that educators interact with all students equitably, regardless of gender or academic performance. This inclusive approach aligns with students' perceptions of a non-discriminatory learning environment.

Regarding educator-student communication during physical education lessons, the data suggests that students believe they receive praise and encouragement comparable to their peers, which motivates learning. Even when displeased, educators maintain communication due to their approachable demeanor. Educators employ a combination of verbal and nonverbal communication, with gestures and movements often sufficing for criticism. However, other forms of communication may require verbal accompaniment.

The study also reveals that physical contact, such as touching the back, shoulder, or arm, is perceived as ineffective and unnecessary and is primarily used for criticism. Signal-based communication is predominantly employed for performance correction. Lastly, verbal communication, including specific phrases, is primarily utilized for encouragement.

5. Conclusion:

This research aims to contribute to the multifaceted field of education, which inherently requires continuous enhancement and development. The primary objective of this study was to provide a scientific foundation that facilitates the construction and modification of curricula and pedagogical methodologies in physical education and sports. Furthermore, it sought to expand the horizons of

innovative research in this domain, which is currently emerging, and to present aspirations for developing a novel teaching approach based on Educator-student pedagogical interactions.

This approach is designed to align with contemporary educational needs and the broader school environment, with a particular focus on the Algerian context. The research findings have led to the formulation of several recommendations:

- a. Prioritize and investigate methods to enhance emotional Educator-learner relationships in physical education and sports sessions.
- b. Emphasize and explore the development of non-authoritarian pedagogical approaches in physical education and sports instruction.
- c. Examine and support Educator-learner communication contexts related to organizational aspects, given their significance in fostering an optimal learning environment.
- d. Reevaluate specific Educator-learner communication contexts, particularly those related to encouragement, regarding their situational appropriateness regarding type, timing, and location.
- e. In physical education and sports sessions, prioritize Educator-learner communication contexts that combine constructive criticism with positive reinforcement over isolated criticism.
- f. Implement and assess innovative approaches in Educator-learner communication contexts related to clarification in physical education and sports instruction.
- g. Conduct further research on the effectiveness of various Educator-learner communication strategies in physical education, focusing on their impact on student engagement and learning outcomes.

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