
Competency Assessment of Physical Education Teachers and its Influence on Students' Cognitive Learning

Jerome Arban, Vincent Domdom, John Vincent Aliazas, & Roger Gimpaya

College of Teacher Education, Laguna State Polytechnic University, Philippines

DOI - <http://doi.org/10.37502/IJSMR.2023.6603>

Abstract

This study aimed to assess the competency of physical education teachers and its influence on the cognitive learning of students. The research involved 80 junior high school students from two integrated high schools in the province of Laguna. The results indicated that physical education teachers exhibited a high level of perceived knowledge, skills, and professional value positions. Similarly, the students' cognitive abilities in terms of comprehension, memory, and application were found to be highly satisfactory. Furthermore, the analysis using Pearson correlation revealed significant relationships between different variables. Specifically, knowledge and skills were significantly correlated with memory, indicating that the level of knowledge and skills possessed by physical education teachers had a positive impact on students' memory abilities. Additionally, the findings showed a significant correlation between memory and professional value positions, suggesting that students' memory performance was influenced by the professional values demonstrated by their physical education teachers. These findings highlight the importance of competent physical education teachers in enhancing students' cognitive learning. The results suggest that teachers who possess extensive knowledge and skills in physical education can positively influence students' memory abilities, which are crucial for effective cognitive learning. Moreover, the study emphasizes the significance of professional values among physical education teachers, as they can contribute to the development of students' memory skills. These findings can serve as a foundation for future research and can also guide educational institutions and policymakers in designing effective training programs for physical education teachers to improve their competencies and ultimately enhance students' cognitive learning outcomes.

Keywords: Competency Assessment, Physical education, Student Cognition.

1. Introduction

In schools, the presence of qualified teachers who can provide high-quality instruction is crucial for the success and motivation of students (Seferoglu, 2005; Siegle, Rubenstein, & Mitchell, 2014). Teachers play a central role in the educational process, both inside and outside the classroom, as they are responsible for equipping students with knowledge, skills, and experiences. Consequently, in all educational systems, the training and development of teachers to meet the needs and requirements of the teaching profession are of utmost importance (Aliazas et al., 2022). Teachers must possess a good level of teaching ability.

According to the REPUBLIC ACT No. 4670 from June 18, 1966, Section 3 of the Magna Carta for Public School Teachers, the Department of Education is responsible for establishing a recruitment policy regarding the selection and appointment of teachers. The minimum qualifications for teachers in kindergarten and elementary grades include a Bachelor's degree in Elementary Education. For teachers in secondary vocational and two-year technical courses, the minimum qualification is a master's degree.

Education is recognized as a critical instrument for achieving economic and social progress. It is considered an investment in human capital, which enhances labor productivity, promotes technological innovation, and generates a higher rate of return compared to physical capital (Gimpaya et al., 2022). Education also helps to reduce poverty by improving worker productivity. Effective teachers, according to Anderson (2004), are those who meet the goals they set for themselves or that are set for them by others. To fulfil these goals, teachers must possess the necessary knowledge and skills and be able to apply them effectively. Dunlosky et al. (2013) emphasized that effective teaching involves more than just simple teaching methods. Effective teachers must adapt innovative teaching approaches to the specific classroom and individual students. Competency refers to the appropriate procedure of imparting knowledge, skills, and applications to students (Medina & Del Rosario, 2022). To enhance student achievement, teachers must possess a range of competencies, including educational, personal, social, and professional competencies. However, certain competencies have had a significant influence on shaping and determining educational goals and systems. Therefore, assessing teacher quality is crucial.

While measuring teacher quality using standardized test scores is a challenging task for novice researchers, the researcher has chosen to employ student responses as the assessment method for this research topic (Dimaunahan & Panoy, 2021). The objective of the study is to determine whether the competency of a Physical education teacher affects students' cognitive learning. Physical education teachers play a crucial role in the classroom, designing and implementing physical and sports activities that contribute to the development and enhancement of students' values, ethics, physical abilities, strength, psychological health, motor skills, and social attitudes, while maximizing physical activity opportunities (Abu-Jameh, 2013).

Research has identified a cognitive problem related to physical education teachers and students. Teaching competency seems to be misaligned with the teacher's qualifications, as the teacher may have pursued a degree unrelated to physical education. The study aims to investigate whether "out-of-field teaching" can affect students' learning in a specific area. The researcher aims to determine the relationship between the competency of Physical education teachers and the cognitive learning of Grade 10 students. This research will explore how teacher competency, flexibility, and knowledge in the field can impact students' cognitive learning in Physical education, an area where students often face challenges in their learning.

The ability of a teacher has a direct impact on students' development and can influence their knowledge, communication skills, and behavior (Zulueta & Panoy, 2022). Ensuring the quality of learning, especially for students, is crucial when teachers can effectively demonstrate and apply lessons. On the other hand, there are various perspectives regarding competencies, with teachers employing different skills and teaching techniques that can impact students' cognitive

learning, especially in subjects like dancing. Teachers' effectiveness in implementing teaching techniques may vary within school lessons. Therefore, the researcher aims to explore strategies that can enhance teacher competencies in Physical education classes, ultimately benefiting students' cognitive learning outcomes.

This research aims to address the gap in understanding how teacher competencies, particularly in physical education, can impact students' cognitive learning. The researcher recognizes that teachers' effectiveness in teaching techniques can vary, and there is a need to identify approaches that can enhance teacher competencies in this specific subject.

The role of physical education teachers goes beyond simply teaching physical and sports activities. They are responsible for fostering the development of students' values, ethics, physical abilities, psychological well-being, motor skills, and social attitudes (Abu-Jameh, 2013). However, there seems to be a cognitive discrepancy between the competencies of some Physical education teachers and the subject matter they handle. Some teachers may have pursued degrees unrelated to physical education and find themselves teaching in this field.

The issue at hand is whether this "out-of-field teaching" has any impact on students' cognitive learning in physical education. The researcher aims to investigate the relationship between the competencies of physical education teachers and the cognitive learning outcomes of Grade 10 students. The study seeks to explore how teacher competencies, flexibility, and subject knowledge influence students' cognitive learning experiences in Physical education.

It is important to assess the impact of teacher competencies in this context, as it can significantly influence students' overall development. A teacher's ability to effectively demonstrate and apply lessons can enhance students' knowledge acquisition, communication skills, and behavior. However, given the wide range of competencies and teaching techniques employed by teachers, it is necessary to identify specific strategies that can enhance teacher competencies in physical education classes.

By investigating the relationship between teacher competencies and students' cognitive learning outcomes in physical education, this research aims to contribute to the understanding of effective teaching practices in this subject area. It seeks to identify approaches that can improve the quality of instruction and enhance students' learning experiences. Ultimately, the findings of this study can provide valuable insights for teacher training programs, curriculum development, and educational policies aimed at improving the quality of physical education instruction.

This research endeavors to explore the impact of teacher competencies on students' cognitive learning outcomes in physical education. By understanding how teacher competencies, flexibility, and subject knowledge influence students' learning experiences, this study aims to contribute to the improvement of teaching practices in this field. By enhancing teacher competencies, it is anticipated that students' cognitive learning in physical education can be positively influenced, leading to their overall development and well-being.

2. Literature Review

Competency assessment plays a crucial role in evaluating the effectiveness of teachers and their impact on students' learning outcomes. In the context of physical education, assessing the competencies of teachers becomes essential in understanding how their abilities influence students' cognitive learning. This literature review will explore existing studies that have examined the competency assessment of Physical Education teachers and its influence on students' cognitive learning outcomes.

Several studies have highlighted the importance of teacher competencies in Physical Education. For instance, Gråstén and Jaakkola (2012) conducted a study examining the relationship between teacher competencies and students' physical activity levels. The results indicated that teachers who demonstrated higher competencies in creating a supportive and motivating learning environment had a positive influence on students' physical activity engagement (Gråstén, 2021). This finding suggests that teacher competencies in areas beyond subject knowledge, such as instructional strategies and classroom management, can impact students' cognitive learning outcomes.

Furthermore, a study by Silverman and Dwyer (2001) focused on the impact of teacher competencies in movement education on students' cognitive development. The researchers found that teachers who possessed high levels of competency in movement education were more effective in promoting students' cognitive skills, including critical thinking, problem-solving, and decision-making. This study emphasizes the importance of specific competencies related to the subject matter and instructional approaches in facilitating students' cognitive learning in Physical Education.

In a study by Uosukainen et al. (2018), the researchers investigated the relationship between teacher competencies and students' motivation in Physical Education. The findings revealed that teachers who demonstrated higher competencies in fostering a positive and inclusive learning environment had a significant influence on students' intrinsic motivation and enjoyment of Physical Education. This suggests that teacher competencies in creating a positive classroom climate and promoting student engagement can contribute to cognitive learning outcomes.

Moreover, the study conducted by Li et al. (2019) focused on the impact of teacher competencies in fostering physical literacy in Physical Education. The researchers found that teachers who possessed higher competencies in assessing students' movement skills and providing appropriate feedback had a positive influence on students' cognitive understanding of movement concepts and skills. This study highlights the importance of teacher competencies in promoting cognitive learning through effective assessment and feedback strategies.

In addition to the impact of teacher competencies on students' cognitive learning outcomes in Physical Education, research has also explored the factors influencing the development of these competencies among teachers. A study by Hastie and colleagues (2015) investigated the professional development needs of Physical Education teachers in relation to their competencies. The findings highlighted the importance of ongoing professional development opportunities for teachers to enhance their competencies and improve instructional practices.

This suggests that continuous learning and professional growth are essential for Physical Education teachers to effectively support students' cognitive learning.

Another study by Li et al. (2018) examined the relationship between teacher self-efficacy and competencies in Physical Education. The results indicated that teachers who had higher levels of self-efficacy were more likely to demonstrate higher competencies in instructional planning, student engagement, and classroom management. This study emphasizes the role of teacher beliefs and confidence in influencing their competencies, which, in turn, can impact students' cognitive learning outcomes.

Furthermore, the study conducted by Bulger and colleagues (2020) focused on the implementation of competency-based teacher education in Physical Education. The researchers highlighted the importance of aligning teacher education programs with the identified competencies required for effective teaching in Physical Education. By integrating competency-based approaches, teacher education programs can better prepare future educators to meet the specific demands of the field, ultimately enhancing students' cognitive learning experiences (Parson et al., 2018).

Overall, the existing literature emphasizes the significance of teacher competencies in Physical Education and their influence on students' cognitive learning outcomes. The findings highlight the importance of creating a supportive learning environment, employing effective instructional strategies, promoting student motivation, and providing appropriate assessment and feedback. Ongoing professional development, teacher self-efficacy, and competency-based teacher education are identified as key factors in enhancing teacher competencies in Physical Education.

Research on the competency assessment of physical education teachers and its influence on students' cognitive learning outcomes highlights the crucial role that teacher competencies play in shaping educational experiences in this subject area. By understanding the specific competencies that contribute to effective teaching and learning, educational stakeholders can develop targeted strategies to enhance teacher preparation, professional development, and instructional practices. By focusing on the development and assessment of teacher competencies, educators can promote optimal cognitive learning experiences for students in Physical Education.

3. Methodology

The descriptive correlation study design was chosen for this research as it focuses on reporting connections between variables rather than establishing a causal relationship. Since the study aims to examine the relationship between the competency of physical education teachers and students' cognitive learning, this design is suitable for identifying and describing the manifestation of teachers' competency in relation to the cognitive learning outcomes of junior high school students.

To ensure a diverse range of perspectives and experiences, a stratified sampling technique was employed to select participants. The researchers selected a total of eighty (80) Grade 10 students from Dayap National High School-Main and Dayap Integrated National High School,

both of which offer Physical Education classes. By including students from different schools, the study can capture a broader representation of student perceptions and experiences regarding teacher competency and cognitive learning.

The research instrument used in this study consists of three parts. Part I gathers information about the students' perceptions of the competency of their Physical Education teachers, including their knowledge, skills, and professional values. Part II collects information about the students' cognitive learning, specifically focusing on comprehension, memory, and application of knowledge. Part III elicits information about the perceived correlation between the competency of the teachers and the students' cognitive learning outcomes.

To assess the students' perceptions of the competency of their physical education teachers and their cognitive learning, the researchers employed measures of central tendency, namely mean and standard deviation. These measures help gauge the overall perception and variability in responses among the students.

Additionally, the significance of the association between the students' cognitive learning outcomes and the competency of their physical education teachers was determined using the Pearson correlation coefficient (Pearson r correlation). This statistical measure assesses the strength and direction of the relationship between two variables, in this case, the competency of the teachers and the students' cognitive learning outcomes.

By employing the descriptive correlation study design and utilizing the research instrument described above, this study aims to provide a comprehensive understanding of the relationship between the competency of Physical Education teachers and students' cognitive learning outcomes. The findings will contribute to the existing knowledge in the field of educational management and provide insights into the importance of teacher competency in fostering students' cognitive development in physical education.

4. Results and Discussion

Table 1. Perceived Competency Assessment of PE Teachers in terms of Knowledge.

My PE teacher...	Mean	SD	Verbal Interpretation
1. integrates a variety of facts/information to help students understand the subject better.	3.69	0.61	Highly Observed
2. effectively introduces a topic by utilizing his/her extensive knowledge.	3.56	0.57	Highly Observed
3. encourages students to express their views on the topic while also guiding them to expand their prior knowledge.	3.68	0.52	Highly Observed
4. efficiently delivers the subject's concepts to the students.	3.69	0.49	Highly Observed
5. shows expertise in the subject matter and excels in sharing his/her knowledge during class discussions	3.70	0.54	Highly Observed
OVERALL	3.67	0.40	Highly Observed

Legend: 3.26-4.00 *Highly Observed*, 2.51-3.25 *Observed*, 1.76-2.50 *Moderately Observed*, 1.00-1.75 *Not at all*.

Table 1 presents the respondents' perception of the competency of PE teachers in terms of knowledge. The table highlights specific indicators that assess the PE teacher's expertise and effectiveness in sharing their knowledge during class discussions.

Indicator 5, which measures the PE teacher's ability to demonstrate expertise in the subject matter and excel in sharing knowledge during class discussions, received the highest mean score of 3.70. This score is interpreted as highly observed, indicating that the PE teachers possess a significant advantage in showcasing their competence and shining in their knowledge during discussions. This advantage allows them to effectively convey their expertise in the topic area, resulting in a better understanding of the subject matter.

On the other hand, indicator 2, which assesses the PE teacher's skill in introducing a topic by utilizing extensive knowledge, received the lowest mean score of 3.58. Despite being the lowest score among the indicators, it is still interpreted as highly observed. This implies that the PE teachers are efficient at introducing topics by drawing on their wide expertise.

Overall, the table demonstrates that the knowledge competency of physical education teachers is high, as indicated by the overall mean score of 3.67, which is interpreted as "Highly observed." This means that the PE teachers possess a strong understanding of the physical education subject matter, which is crucial for influencing the cognitive learning of students. Consequently, it is vital for PE teachers to have a solid mastery of the subject matter, as their level of knowledge greatly impacts their ability to present topics, ideas, and strategic approaches during class discussions, leading to a better comprehension of the subject matter among students (Carada et al., 2022).

Therefore, PE teachers consistently achieve their competency goals in terms of knowledge, as evidenced by the total mean score of 3.67, which is interpreted as highly observed. This highlights the importance of teachers being the most knowledgeable individuals in their respective fields and emphasizes the need for continuous improvement and development of subject matter expertise.

Table 2. Perceived Competency Assessment of PE Teachers in terms of Skills.

My PE teacher...	Mean	SD	Verbal Interpretation
1. skillfully demonstrates the routines to be learned before allowing the students to try it themselves.	3.63	0.54	Highly Observed
2. diligently selects information for teaching so that students may understand the subject better.	3.58	0.59	Highly Observed
3. has a strong ability to motivate and inspire the students to excel in class.	3.58	0.61	Highly Observed
4. has the ability to remain calm and show empathy even in challenging situations.	3.71	0.56	Highly Observed
5. exhibits authority in solving problems, making choices, and managing conflicts.	3.60	0.59	Highly Observed

OVERALL	3.63	0.47	Highly Observed
---------	------	------	-----------------

Legend: 3.26-4.00 *Highly Observed*, 2.51-3.25 *Observed*, 1.76-2.50 *Moderately Observed*, 1.00-1.75 *Not at all*.

Table 2 presents the respondents' perception of the competency of PE teachers in terms of skills. The table highlights specific indicators that assess the PE teacher's ability to remain calm and empathetic in challenging situations and their diligence in selecting information for teaching to enhance students' understanding.

Indicator 4, which measures the PE teacher's capacity to remain calm and show empathy even in challenging situations, received the highest mean score of 3.71. This score is interpreted as highly observed, indicating that the PE teachers have the ability to stay calm and empathize even in stressful conditions. This skill is crucial for creating a supportive and understanding learning environment, particularly during challenging situations that students may face.

Indicator 2, which assesses the PE teacher's diligence in selecting information for teaching to enhance students' understanding, received the lowest mean score of 3.58. Despite being the lowest score among the indicators, it is still interpreted as highly observed. This implies that the PE teachers carefully choose information for teaching to ensure that students have a better grasp of the subject. This skill is important for facilitating effective learning and comprehension among students.

Overall, the table demonstrates that the competency of physical education teachers in terms of skills is high, as indicated by the overall mean score of 3.63, interpreted as "Highly observed." Skills play a significant role in influencing the cognitive learning of students in physical education. Therefore, the PE teachers possess the necessary skills to effectively deliver the required knowledge to students in the context of teaching physical education.

The coordinator in Physical Education at emphasizes the importance of teachers maintaining and developing their skills to improve their teaching competency. This can be achieved through attending seminars or training programs that target physical skills relevant to the subject matter.

However, it is worth noting that skills received the lowest overall mean score of 3.63, with a standard deviation of 0.47, interpreted as "highly observed." One possible factor contributing to this result is the modality of classes, particularly during the COVID-19 pandemic, which required flexible learning and modular approaches. The limitations and constraints of face-to-face classes may have impacted the ability of PE teachers to execute certain skills and engage students fully. The assessment methods in physical education, which heavily rely on performance tasks, may have also been affected.

According to Gagnon et al. (2019), some qualities of a good teacher include skills in communication, listening, collaboration, adaptability, empathy, and patience. These qualities contribute to an engaging classroom environment, real-world learning experiences, sharing of best practices, and a lifelong love of learning, all of which are traits of excellent teaching.

Overall, PE teachers consistently achieve their competency goals in terms of skills, as evidenced by the total mean score of 3.63, interpreted as highly observed. It is crucial for PE teachers to continuously enhance their skills to provide effective instruction and create a supportive learning environment for students.

Table 3. Perceived Competency Assessment of PE Teachers in terms of Professional Value Position.

My PE teacher...	Mean	SD	Verbal Interpretation
1. is capable of discussing, implementing, and sustaining classroom expectations to the students.	3.66	0.53	Highly Observed
2. is an inspirational figure that demonstrates excellence in teaching.	3.68	0.50	Highly Observed
3. exhibit a positive attitude towards teaching during classes.	3.63	0.64	Highly Observed
4. is good at communicating with work colleagues, parents, and students.	3.74	0.47	Highly Observed
5. instills enthusiasm in the classroom by engaging students in a variety of activities that they will enjoy.	3.63	0.68	Highly Observed
OVERALL	3.67	0.47	Highly Observed

Legend: 3.26-4.00 *Highly Observed*, 2.51-3.25 *Observed*, 1.76-2.50 *Moderately Observed*, 1.00-1.75 *Not at all*.

Table 3 presents the respondents' perception of the competency of PE teachers in terms of professional value position. The table highlights specific indicators that assess the PE teacher's ability to communicate effectively with colleagues, parents, and students, as well as their skill in instilling enthusiasm and passion in the classroom.

Indicator 4, which measures the PE teacher's proficiency in communicating with work colleagues, parents, and students, received the highest mean score of 3.74. This score is interpreted as highly observed, indicating that the PE teachers are adept at connecting with co-workers, parents, and students, and they excel in collaboration. Effective communication skills are crucial for fostering positive relationships and maintaining open lines of communication between all stakeholders involved in a student's education.

Indicator 5, which assesses the PE teacher's ability to instil enthusiasm in the classroom by engaging students in a variety of enjoyable activities, received the lowest mean score of 3.63. Despite being the lowest score among the indicators, it is still interpreted as highly observed. This implies that the PE teachers effectively inspire passion in the classroom by involving students in a range of enjoyable activities. Creating a positive and engaging learning environment is essential for motivating students and enhancing their overall learning experience.

Overall, the table demonstrates that the competency of physical education teachers in terms of professional value position is high, as indicated by the overall mean score of 3.67, interpreted as "highly observed." The professional value position of PE teachers is crucial as it

directly impacts the cognitive learning of students. Students observe how their physical education teachers excel in their profession, both in terms of their career and the subject matter itself.

According to Stronge (2018), effective teachers possess certain characteristics, including recognizing complexity, communicating clearly, and serving conscientiously. These qualities contribute to the overall professional value position of teachers, ensuring their effectiveness in the classroom.

Lastly, PE teachers consistently achieve their competency goals in terms of professional value position, as evidenced by the total mean score of 3.67, interpreted as highly observed. The ability to communicate effectively with colleagues, parents, and students, as well as the skill in instilling enthusiasm and passion in the classroom, are essential attributes of an effective PE teacher. By exemplifying professionalism and demonstrating their dedication to their profession, PE teachers contribute to creating a positive and impactful learning environment for students.

Table 4. Perceived Cognitive Learning among Respondents in terms of Comprehension.

Rating	Frequency	Percent	Interpretation
90%-100%	32	40	Excellent
85%-89%	40	50	Very satisfactory
80%-84%	4	5	Satisfactory
75%-79%	4	5	Fairly satisfactory
Below 74%	0	0	Unsatisfactory
Total	80	100	

The table presented indicates the level of cognitive learning of students in terms of comprehension. Based on the findings, a majority of the respondents achieved a very satisfactory level of comprehension. This implies that nearly half of the students demonstrated a higher frequency and percentage of comprehension in their PE subject.

The results show that only a small number of students obtained low scores in comprehension, both in terms of frequency and percentage. This indicates that the majority of students have a strong cognitive learning ability in PE, as they are able to accurately answer questions related to the subject matter. Their comprehension extends beyond simple literal understanding and encompasses the application of what they have learned to new situations and projects, as highlighted by Martin & Rimm-Kaufman (2015).

Comprehension in this context goes beyond mere surface-level understanding of the text. It reflects the students' ability to effectively grasp and interpret the information presented in the PE subject, allowing them to apply their knowledge in various contexts. The positive results indicate that the students possess the cognitive skills necessary to comprehend and utilize the knowledge acquired in PE.

It is worth noting that the students' high level of comprehension could be attributed to effective teaching strategies, the competence of PE teachers, and the engagement of students

in the learning process. These factors contribute to a conducive learning environment that promotes comprehension and application of knowledge.

In summary, the table demonstrates that the majority of students have achieved a satisfactory level of comprehension in their PE subject. Their ability to comprehend and apply what they have learned to new situations and projects is an important aspect of cognitive learning. The positive results highlight the effectiveness of teaching methods and the students' ability to grasp and utilize the knowledge acquired.

Table 5. Perceived Cognitive Learning among Respondents in terms of Memory.

Rating	Frequency	Percent	Interpretation
90%-100%	62	77.5	Excellent
85%-89%	10	12.5	Very satisfactory
80%-84%	4	5	Satisfactory
75%-79%	2	2.5	Fairly satisfactory
Below 74%	2	2.5	Unsatisfactory
Total	80	100	

Table 5 shows the cognitive learning of the students in terms of memory. Most of the respondents are in excellent level when it comes to their memory. It only means that they are excellent in memorizing the basic cheer leading motions.

Based on the results of the data we can say that many students recognized pictures very well, because some students have a multiple intelligence when it comes to pictures, they can really recognized the picture very well. And it shows that almost of the students have a higher result of frequency and percentage when it comes to their memory.

According to Gagnon et al. (2019), Evidence for the benefits provided by spatial memory can be found in the strong correlation between measures of spatial ability and interface performance. Research on learning and memory has been a central focus of psychologists interested in adult development and aging for both theoretical and practical reasons (Baltes & Baltes, 2014). Major reviews of work in this area have documented an increasing amount of research activity as well as changes in paradigmatic emphasis.

Table 6. Perceived Cognitive Learning among Respondents in terms of Application.

Rating	Frequency	Percent	Interpretation
90%-100%	37	46.25	Excellent
85%-89%	13	16.25	Very satisfactory
80%-84%	18	22.5	Satisfactory
75%-79%	10	12.5	Fairly satisfactory
Below 74%	2	2.5	Unsatisfactory
Total	80	100	

Table 6 presents the cognitive learning of students in terms of application. The majority of respondents achieved an excellent level of application. However, the data also indicates that many students did not recognize the questions very well. Despite this, nearly half of the students obtained high scores in terms of frequency and percentage when it comes to

application. This suggests that these students possess multiple intelligence in the word smart domain, while the other half may not demonstrate the same strength in this area.

The results indicate that the students have a good cognitive learning ability in PE when it comes to applying their knowledge. They are able to answer questions related to the PE subject correctly, showcasing their understanding and ability to transfer their knowledge into practical applications. This aligns with the idea advocated by Dixson (2015), who highlights the importance of both observational learning (learn-by-reading) and application learning (learn-by-doing) behaviors in the learning process. The ability to effectively apply knowledge in practical situations is a valuable skill for students.

It is essential to further evaluate how to enhance online teaching and learning, particularly in the context of PE. Addressing different perspectives and providing a quality online learning journey is crucial for optimizing the cognitive learning outcomes of students. The online learning environment may present unique challenges, but it also offers opportunities to incorporate interactive and engaging activities that promote application and experiential learning (Panergayo & Aliazas, 2021).

Overall, Table 6 demonstrates that the majority of students have achieved an excellent level of application in their cognitive learning. Although some students may struggle with recognizing questions, many still demonstrate a strong ability to apply their knowledge effectively. The incorporation of observational and application learning approaches can further enhance the online teaching and learning experience, allowing students to develop their cognitive skills and apply their knowledge in practical scenarios.

Table 7. Test of Correlation between competency of physical education and cognitive learning of grade 10 students.

	Comprehension	Memory	Application
Knowledge	.306**	.441**	-.106
Skills	.319**	.317**	.027
Professional value position	.189	.423**	-.021

** . Correlation is significant at the 0.01 level (2-tailed).

Table 7 presents the results of the correlation test between the competency of physical education teachers and cognitive learning in terms of comprehension. The significance level used in the test is 0.001 (2-tailed). The findings indicate that knowledge and skills have a weak correlation with students' comprehension in cognitive learning, while professional value position has a very weak correlation.

The weak correlation between knowledge (competency of PE teacher) and students' comprehension suggests that teachers need to improve their teaching methods to ensure that students understand the subject matter more effectively. It emphasizes the importance of teachers carefully presenting the content and ensuring that students grasp the concepts being

taught. Enhancing the knowledge base of teachers can contribute to students' comprehension as they benefit from the teacher's expertise in the subject.

Similarly, the weak correlation between skills and students' comprehension implies that teachers should focus on improving their critical thinking skills, as this can help enhance students' understanding. By effectively demonstrating and teaching these skills, teachers can maximize the potential of students in comprehending the subject matter.

On the other hand, the very weak correlation between professional value position and students' comprehension suggests that the way teachers present themselves and their professionalism does not significantly impact students' comprehension in cognitive learning. While professional values are important in creating a positive learning environment, they may not directly influence students' understanding of the subject matter.

Various factors can potentially affect the relationship between students' comprehension and teachers' competency (Aliazas et al., 2022). The standardized content of the subject, the mastery of the subject by the teacher, and the selection of knowledge to be taught all play a role. Teachers in public schools often follow a standardized curriculum provided by the Department of Education, which contains specific topics to be taught in physical education. The teacher's mastery of the subject and their ability to deliver the lessons clearly can impact students' comprehension. Additionally, the teacher's knowledge and their selection of relevant information to share with students are crucial in facilitating comprehension.

Regarding the relationship between teacher skills and students' comprehension, when a teacher demonstrates a skill effectively, students' interest in learning that skill is likely to increase (Calosa et al., 2023). Students may also remember the skill more easily when it is demonstrated by the teacher themselves. In terms of professional value position, teachers can enhance their expertise by participating in seminars, training sessions, and other professional development opportunities. This continuous improvement in knowledge and expertise contributes to the effectiveness of teaching and can be observed and learned by students.

While there are correlations between the competency of physical education teachers and students' comprehension, the relationships are generally weak. Teachers should focus on improving their teaching methods, enhancing their knowledge base, and developing their critical thinking skills to facilitate better comprehension among students. Professional values, while important, may not have a direct impact on students' comprehension. It is crucial for teachers to continually strive for professional growth and expertise to ensure effective teaching and enhance students' understanding of the subject matter (Arazo et al., 2023).

The correlation between the competency of PE teachers and cognitive learning in terms of memory is examined in Table 8. The significance level used in the test is 0.001 (2-tailed). The findings reveal that knowledge and professional value position have a moderate correlation with students' memory in cognitive learning, while skills have a weak correlation.

The moderate correlation between knowledge and students' memory suggests that when teachers possess a strong knowledge base and effectively deliver the lesson, students are better able to recall and remember the subject matter. This implies that the teacher's expertise and

ability to present the content in a memorable way contribute to students' memory retention. When students have a clear understanding of the topics taught by the teacher, they are more likely to retain the information. Similarly, the moderate correlation between professional value position and students' memory indicates that the teacher's professional values and commitment to their profession can influence students' memory retention. Teachers who prioritize their role as educators and demonstrate professionalism in their teaching can create an environment conducive to effective learning and memory retention.

On the other hand, skills have a weak correlation with students' memory in recreational activity. This suggests that the skills demonstrated by the teacher may have limited impact on students' memory of the recreational activities. Other factors, such as student engagement and personal interest, may also play a role in memory retention in this context. Regarding the correlation between competency of PE teachers and cognitive learning in terms of application, the findings in Table 9 indicate that knowledge and professional value position have no correlation with students' application in cognitive learning. Conversely, skills have a very weak correlation with students' application.

According to Bloom's Taxonomy (Adams, 2015), application refers to the student's ability to apply acquired knowledge in different learning situations, such as answering questions or solving problems. In this study, knowledge is defined as the competency of the teacher in effectively discussing the lesson and demonstrating expertise on the subject matter. The limited correlation between knowledge and application suggests that while teachers may have sufficient knowledge, the mode of class delivery during the pandemic, such as online or modular classes, may have hindered students' opportunities to apply their knowledge actively. Performance-based discussions and demonstrations were restricted due to health protocols, which may have affected the application of learning.

Similarly, the lack of correlation between professional value position and application implies that the teacher's professional values do not directly impact students' application of knowledge in cognitive learning. The application of acquired knowledge by students depends on their individual learning processes and how they choose to apply the knowledge. However, skills have a significant but very weak correlation with students' application. This indicates that even if the teacher is skilled in teaching physical education, students may have their own unique ways of learning and applying the subject matter. The concept of Multiple Intelligence suggests that individuals have different learning processes, and this may contribute to the weak correlation between teacher skills and students' application.

In summary, the correlation tests show that knowledge and professional value position have moderate correlations with students' memory in cognitive learning, while skills have a weak correlation. However, knowledge and professional value position have no correlation with students' application in cognitive learning, while skills have a very weak correlation. The mode of class delivery during the pandemic, individual learning processes, and other external factors may influence the relationship between teacher competency and students' cognitive learning outcomes. Further research and exploration are necessary to gain a comprehensive understanding of these relationships.

5. Conclusion

These results highlight the importance of the competency of physical education teachers in facilitating students' cognitive learning outcomes. The high levels of perceived knowledge, skills, and professional value positions among the teachers indicate that they possess the necessary qualities to effectively teach and engage students in the subject of physical education.

The students' cognitive abilities, as measured by comprehension, memory, and application, were found to be highly satisfactory. This suggests that the students were able to understand, remember, and apply the knowledge and skills taught by their physical education teachers. The positive cognitive learning outcomes reflect the effectiveness of the teaching methods employed by the teachers and the students' active participation in the learning process.

The significant correlations between different variables provide valuable insights into the factors influencing students' cognitive learning. The strong correlation between knowledge and memory suggests that the depth of knowledge possessed by the teachers positively influenced students' memory abilities. When teachers have a solid understanding of the subject matter and effectively communicate it to students, they create a conducive learning environment that facilitates memory retention.

Moreover, the significant correlation between memory and professional value positions indicates that the teachers' professional values and commitment to their role as educators play a role in enhancing students' memory performance. When teachers demonstrate professionalism, dedication, and a passion for their profession, students are likely to be more engaged and motivated to remember the information taught.

These findings emphasize the importance of not only the teachers' knowledge and skills but also their professional values in promoting students' cognitive learning in physical education. It highlights the need for continuous professional development and training for physical education teachers to enhance their competencies and improve their teaching practices.

Overall, the study provides valuable insights into the relationship between the competency of physical education teachers and students' cognitive learning outcomes. It underscores the significance of knowledgeable and skilled teachers who embody professional values in promoting effective learning experiences for students in physical education. The findings can inform the development of strategies and interventions to further enhance the teaching practices and learning outcomes in the field of physical education.

References

- 1) Abu-Jameh, M. (2013). The Role of Educational Supervisors in Improving the Efficiencies of Sport Education Teachers in Gaza Governorates' Public Schools in Light of Total Quality Standards. Unpublished Master Thesis, Al-Azhar University.
- 2) Adams, N. E. (2015). Bloom's taxonomy of cognitive learning objectives. *Journal of the Medical Library Association: JMLA*, 103(3), 152.
- 3) Aliazas, J. V., Pasia, A., & Madrideo, J. Teaching Effectiveness: A Design Feedback Process of One State University in the Philippines. In 3rd International Conference on

- Multidisciplinary Industry and Academic Research. Institute of Industry and Academic Research Incorporated.
- 4) Aliazas, J. V., Panoy, B. R., & Baguna, A. C. (2022). Person-Environment Fit: Empowering Leadership Practices on Teachers' Work Engagement and Motivation. In 3rd International Conference on Multidisciplinary Industry and Academic Research. Institute of Industry and Academic Research Incorporated.
 - 5) Arazo, E., Durana, M. R., Umali, A., & Almazan, R. C. (2023). Online Learning Self-Efficacy as Correlates to Academic Procrastination among Pre-Service Teachers. *International Journal of Scientific and Management Research*. 6(5), 171-187.
 - 6) Anderson, L. W. (2004). *Accroître l'efficacité des enseignants*. Unesco.
 - 7) Baltes, M. M., & Baltes, P. B. (2014). *The psychology of control and aging (psychology revivals)*. Psychology Press.
 - 8) Bulger, S. M., Goc Karp, G., Kauffman, H., Li, W., & Shaffer, E. (2020). Implementing competency-based teacher education in physical education. *Journal of Teaching in Physical Education*, 39(1), 85-93.
 - 9) Carada, I., Aliazas, J. V., Palacio, L., & Palacio, C. M. A. (2022). Perceived Skills and Employability of Senior High School Graduates: Basis for Youth Employment Policy. *International Journal of Social Sciences and Humanities Invention*, 9(01), 6759-6766.
 - 10) Calosa, J. R., Andalajao, C. J., & Almazan, R. C. (2023). Social Media Use, Social Media Behavior, Cognitive Biases, and Political Awareness among Student Voters. *International Journal of Scientific and Management Research* 6(5), 135-154.
 - 11) Dixson, M. D. (2015). Measuring student engagement in the online course: The Online Student Engagement scale (OSE). *Online Learning*, 19(4), n4.
 - 12) Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013). Improving students' learning with effective learning techniques: Promising directions from cognitive and educational psychology. *Psychological Science in the Public Interest*, 14(1), 4-58.
 - 13) Gagnon, S. G., Huelsman, T. J., Kidder-Ashley, P., & Lewis, A. (2019). Preschool student-teacher relationships and teaching stress. *Early Childhood Education Journal*, 47(2), 217-225.
 - 14) Gimpaya, R. A., Ofrin, D., Hermosa, J., Ching, D. A., Pasia, A. E., & Francisco, A. Sports Performance Strategies for Better Athletic Performance among Students in the Master's Level. In 3rd International Conference on Multidisciplinary Industry and Academic Research. Institute of Industry and Academic Research Incorporated.
 - 15) Gråstén, A., & Jaakkola, T. (2012). Motivational climate, physical education teachers' teaching styles, and students' motivation in Finnish physical education. *Journal of Sports Science & Medicine*, 11(2), 260-269.
 - 16) Gråstén, A., Yli-Piipari, S., Huhtiniemi, M., Salin, K., Hakonen, H., & Jaakkola, T. (2021). A one-year follow-up of basic psychological need satisfactions in physical education and associated in-class and total physical activity. *European Physical Education Review*, 27(3), 436-454.
 - 17) Hastie, P. A., Casey, A., Fekete, G., & Kulik, N. (2015). Teachers' perceptions of their professional development needs related to teaching physical education. *Journal of Teaching in Physical Education*, 34(4), 701-722.

- 18) Li, C., Wang, J., & Wu, Y. (2019). Teacher competency and physical literacy development among secondary school students: A multilevel mediation model. *European Physical Education Review*, 25(1), 82-98.
- 19) Li, C., Wang, L., & Wang, J. (2018). Physical education teacher self-efficacy, job satisfaction, and teacher-student relationship: A moderated mediation model. *Frontiers in Psychology*, 9, 1428.
- 20) Martin, D. P., & Rimm-Kaufman, S. E. (2015). Do student self-efficacy and teacher-student interaction quality contribute to emotional and social engagement in fifth grade math?. *Journal of school psychology*, 53(5), 359-373.
- 21) Medina, M. V., & Del Rosario, A. L. (2022). Online Collaborative Learning and the Enhancement of Most Essential Learning Competencies in General Mathematics among Grade Eleven Senior High School Students. *International Journal of Scientific and Management Research*, 3(5), 55-65.
- 22) Panergayo, A. A. E., & Aliasas, J. V. C. (2021). Students' Behavioral Intention to Use Learning Management System: The Mediating Role of Perceived Usefulness and Ease of Use. *International Journal of Information and Education Technology*, 11(11).
- 23) Parson, L., Childs, B., & Elzie, P. (2018). Using competency-based curriculum design to create a health professions education certificate program the meets the needs of students, administrators, faculty, and patients. *Health Professions Education*, 4(3), 207-217.
- 24) Seferoglu, S. S. (2005). A study on teaching competencies of teacher candidates. In *Proceedings of International Conference on Education (ICE)*. National University of Singapore, Singapore.
- 25) Siegle, D., Rubenstein, L. D., & Mitchell, M. S. (2014). Honors students' perceptions of their high school experiences: The influence of teachers on student motivation. *Gifted child quarterly*, 58(1), 35-50.
- 26) Silverman, S., & Dwyer, T. (2001). The effect of specific teacher competencies on students' cognitive, affective, and psychomotor learning in physical education. *Research Quarterly for Exercise and Sport*, 72(3), 243-251.
- 27) Stronge, J. H. (2018). *Qualities of effective teachers*. Ascd.
- 28) Uosukainen, H., Viira, A., & Ojala, J. (2018). Physical education teacher competencies and student motivation. *Physical Education and Sport Pedagogy*, 23(4), 385-400.
- 29) Zulueta, L., & Panoy, J. F. (2022). Scenario-Based Microlearning Strategy for Improved Basic Science Process Skills in Self-Directed Learning. *International Journal of Science, Technology, Engineering and Mathematics*, 2(4), 54-73.