



INTRINSIC AND EXTRINSIC MOTIVATION ON STUDENTS' ACHIEVEMENT IN PHYSICAL EDUCATION: A COMPARATIVE ANALYSIS

DOI: 10.5281/zenodo.20116836

YVONNE P. YBAÑEZ

University of the Visayas

yvonne_ybanez@uv.edu.ph

CRESENCIO L. MEJARITO, EdD

University of the Visayas

ABSTRACT

The main purpose of the study was to assess the influence of intrinsic and extrinsic motivation as motivational factors on the learning outcomes of students in physical education, as implemented by Physical Education Teachers. The study compared the mean achievement scores of students taught in Physical Education applying an intrinsic motivational strategy and those taught applying an extrinsic motivational strategy and examined the significant difference between pretest and posttest scores of intrinsic and extrinsic incentive motivations in Physical Education (PE). Applying the quasi-experimental design, the study employed paired-test to compare pre-test and posttest scores and T-test to assess the study's significant difference and determine whether the means of the pre- and posttest scores differ significantly. Data were gathered from Junior High School particularly Grade 9 students. Findings showed that both intrinsic and extrinsic motivation have been improved after the intervention. The intrinsic motivation presented a stronger effect; it means that outcomes suggested that intrinsic motivators fostered more sustainable behavioral change of students and increased the long-term participation in physical education. Conversely, extrinsic motivation also increased, though the effect was comparatively smaller. This implied that external motivation like prizes, rewards and recognition could positively influence behavior, however; less effective in sustaining long-term participation than intrinsic motivation. Finally, the study highlighted the significance of prioritizing intrinsic motivation in physical education instruction, since it cultivated the self-driven learners to likely more engaged meaningfully and consistently in physical education.

Keywords: *Intrinsic Motivation, Extrinsic Motivation, Incentive Tactics, Motivational Domains*

INTRODUCTION

Student achievement is significant in the student's learning process to evaluate the output of educational practice. Measuring the educational goal is well attained through standardized tests, oral recitation, participation in physical activity, and academic performance, while motivation is a predictor of academic performance. Understanding how these different motivational drivers influence learning is crucial in enhancing teaching methods and strategies. Nevertheless, for this to happen, it is also significant to develop the fundamental motivation through evaluating and comparing which type of motivational drivers is more effective. This would give ideas that can be a way to develop more strategies for the educators in physical education that can boost the engagement of the learners to achieve success.

Importantly, this study helped identify factors contributing to achievement gaps, both teacher and student. It can be a way to improve educational practices and augment learning strategies. Findings of this study can inform policy decisions associated with teachers' training, curriculum design, and resource allocation because evidence-based policies are the best way to provide more efficient and effective use of instructional resources that improve overall student outcomes. This would provide guidance and insight into the complexities of intrinsic and extrinsic motivation, facilitating a deeper comprehension of the appropriate motivational drivers for teaching physical education and tailoring them to meet students' needs through specific techniques that encourage participation with enthusiasm and enjoyment as integral components of their learning process. So, it's crucial to find out what motivates students and how that affects their academic performance.



Motivation enhances the commencement and continuation of educational activities Salta, K., & Koulougliotis, D. (2020). Academic success can be conceptualized as a combination of cognitive and emotional motivation that drives individuals to pursue a particular objective. Naz, S., Shah, S. A., & Qayum, A. (2020) also discovered a positive correlation between motivation and students' academic achievement. The study of Sabarun, S., Nurbatra, L. H., Qamariah, Z., Widiastuty, H., & El-Muslimah, A. H. S. (2020) yielded analogous findings on the correlation between internal and extrinsic motives and writing performance Ronquillo-Elvina, F., & Quirap, E. A. (2024). Yarin, I.E., Elias, J., Surichaqui, A.A, Sulca, R.E., and Pozo, F. (2022) discovered that the correlation between intrinsic motivation and academic performance is significant, positive, and weak, resembling that of extrinsic motivation. The calculated result indicates an absence of a substantial correlation between extrinsic goals and academic performance.

One of the things this study looked at was how well students did in school. Academic achievement was a way to find out how much a student knew, how well they did, or how well they performed in school. Achievement was typically assessed through tests and/or examinations, as well as physical performance in physical education. For instance, participation in sports activities, dance, and recreational activities was also measured and graded. However, the questions that required relevant answers pertained to the impact of two types of motivation that drove engagement in physical education classes. In this section, the researcher aimed to explore whether physical education classes motivated students. Unmotivated students during class found it difficult to retain information and often disrupted their performance. They did not want to listen to the lesson and became sidetracked easily. They did not take part in some activities and performed poorly in sports, dance, and other fun things.

Furthermore, based on the researcher's performance in the licensure examination for teachers, particularly in General Education and her major, Physical Education, it revealed how deeply her foundational knowledge, cultivated during elementary and secondary schooling, had been internalized. The seamless recall of concepts, from biomechanics in PE to historical literacy in general studies, underscored the enduring impact of motivational strategies embedded in her early education. Recent research corroborated this experience: Hattie's Visible Learning framework (2020) demonstrated that learners who engaged with autonomy-supportive teaching methods (e.g., choice in activities, peer collaboration in PE) exhibited 1.6 times greater retention and transferability of skills. Furthermore, Naz, S., Shah, S. A., & Qayum, A. (2020) found that metacognitive strategies (e.g., reflective journals, goal setting in lessons) doubled students' capacity to apply knowledge in novel contexts, mirroring her ability to adapt childhood learnings to licensure-test scenarios. These studies affirmed that when educators intentionally selected motivational approaches, such as fostering relevance in PE through real-world health applications or embedding culturally responsive examples in history, students did not merely understand content; they internalized frameworks for lifelong problem-solving. Her journey exemplified how strategic pedagogy transformed transient lessons into cognitive tools, preparing learners not just for exams, but for the unpredictable "tests" of life. Subsequently, physical education is mandatory for all students within the K-12 curriculum, as outlined in Paragraph 1 of Republic Act No. 9155, also referred to as the "Governance of Basic Education Act of 2001." The Schools Physical Education and Sports Development Act of 1969, also known as Republic Act No. 5708, says that integrated physical education, school sports, and physical fitness programs should stay part of the basic education curriculum and be run by the Department of Education. This study is predicated on the idea that physical education instruction is dynamic within our educational system and enhances students' engagement in sports and other recreational pursuits.

In this study, the researcher assessed the influence of intrinsic and extrinsic motivation as motivational factors on the learning outcomes of students in physical education, as implemented by Physical Education Teachers. In the end, it was determined which motivator had the greatest influence on the learners' learning process, thereby informing the teaching tactics of physical education teachers. This also helped the youngsters do better in school, especially in physical education. It provided interventions that were appropriate for teaching and learning strategies among physical education teachers and made strategies that encouraged learners and gave more interventions on students' engagement that resulted in overall academic achievements.

This study aimed to evaluate the Impact of Intrinsic and Extrinsic Motivation on Student Achievement in Physical Education: A Comparative Analysis of Motivational Drivers. The result of this study could be a baseline for the study of what instructional materials in teaching physical education could be developed and served as an output of this study.

Significance of the Study



This study focused on the evaluation of the Effects of Extrinsic and Intrinsic Motivation on Physical Education Student Achievement through a Comparative Analysis of Motivational Drivers. The study's findings were used as a starting point for further research into the best instructional resources for physical education instruction. This study served as important consequences for several stakeholders in Physical Education. For students, it showed how knowing the difference between intrinsic and extrinsic motivation may help them study better, like what they learn, and remember what they learned in PE. The findings offered sports coaches valuable insights into how to help student-athletes by encouraging them to love and value sports, guiding athlete behavior, strengthening training responses, and boosting competitive performance.

The study provided Physical Education teachers with a more profound comprehension of how to enhance student engagement through motivational tactics, enabling learners to become lifetime participants in physical exercise. Teachers could help students develop critical thinking, long-term memory, and a real love for sports and recreation by using both intrinsic and extrinsic motivation in their lessons. This way, students would be interested in the subject because they want to be, not because they must.

This research gave significant ramifications for diverse stakeholders in Physical Education. For department heads and coordinators, it stressed the importance of helping teachers put into practice activities that boosted their motivational tactics, which ultimately led to better student performance. As the researcher and a Physical Education teacher, she immediately benefited from this study by developing and implementing effective teaching and motivational tactics that enhanced student engagement, while also upholding the quality of education in physical education. This finding was also useful for future researchers because it helped them plan more studies on how to improve motivational drivers in PE. The conclusions and discoveries reported herein served as a basis for subsequent study, facilitating the continuous advancement of successful motivational strategies in education.

Theoretical Conceptual Framework of the Study

The theories that were deemed relevant in this research were the Self-Determination Theory; this theory was applied to determine the motivational drivers that could boost the engagement of the learners in their learning process, while Achievement Goal Theory was used to evaluate the impact of motivation on student achievement academically. Republic Act No. 9155. The "Governance of Basic Education Act of 2001" and Republic Act No. 5708, also known as "The Schools Physical Education and Sports Development Act of 1969," both say that the Department of Education must continue to include integrated physical education and school sports and physical fitness programs in the basic education curriculum. Republic Act 5708, or "The Schools Physical Education and Sports Development Act of 1969," on the other hand, requires physical education and sports programs that can inspire children both intrinsically (via fun activities) and extrinsically (through praise and prizes).

This was the legal basis of the study that gave further explanations to the significance of this research. This supported the research conclusions since this was a credible basis and influential legal reasoning. By involving the specific legal sources, it gave clarity and precision, allowing the readers to understand easily; it also ensured compliance with legal requirements and relevant laws and regulations.

Decentralizing Management. This concept leads to the substantial changes at the school level. The principals need to change their role according to the order of the educational policy makers and reformulate their strategies and actions that can sustain the changes in managing the school and the implementation of the new curriculum. As the outcome of school governance, teachers and principals must present a set of skills, knowledge, and activities associated with sports that can boost the interest of learners in engaging in sports.

School Governance. This refers to the autonomy of schools in handling their affairs, both teachers and students, financial matters, and a conducive environment and other resources in school. The school stakeholders, like parents and the community, are likely to make a suitable decision based on the current situation of the school. In other words, the principal leadership approaches must be understood as the ability to influence. Changes in school governance will provide improved educational outcomes and experiences to learners.

Local Needs and Partnership. Identifying the needs of the local community and partnership can help educational policymakers understand how to make improvements in communities in the most efficient ways. Partnership with the stakeholders will make collaborative relationships that can make advanced plans for the common goals and help develop the community.



Article XIV Section 19 of the 1987. This constitution provides that “[t]he State shall promote physical education and encourage sports programs, league competitions, and amateur sports, including training for international competitions, to foster self-discipline, teamwork, and excellence for the development of a healthy and alert citizenry. All educational institutions shall undertake regular sports activities throughout the country in cooperation with athletic clubs and other sectors.”

Self-determination theory (SDT; Ryan and Deci, 2017). It has evolved into a significant theory of human motivation and well-being, supported by much scientific evidence. It provides a framework for comprehending the motivating foundations of personality and social conduct, as well as the connection between fundamental psychological needs and well-being, psychological flourishing, and a good quality of life.

Self-determination theory offered a comprehensive framework for elucidating human motivation and personality by delineating the psychological demands essential for optimal motivation and engagement, particularly regarding students' academic success. This theory is appropriate for this study to ascertain the influence of intrinsic and extrinsic motivation on the personal growth of learners regarding their behavior and involvement in the learning process.

This theory provides a very clear and dynamic schemes that apply to atmospheres, including the classroom and the cultures of each learner, and it also explains the complex scenarios in human motivation. This provides insights into how to foster both intrinsic and extrinsic motivation, ultimately leading to foresees well improved performance, better persistence, and boosted well-being. This agrees with direct comparisons of outcomes related to diverse motivational types.

Personality. Our attributes reflect on our image, which needs to be improved in terms of character and behavior. One of the educational goals is personality development of the learner, including major traits, motivational drives, interest, self-concept, developing skills, and emotional patterns.

Social Behavior. The behavioral outcome of the learners holds significance for educational practices because they need to shape the behavior of learners that they were exposed to during childhood. Social behavior might be influenced by culture as social norms and the environment. However, it is constantly changing when one continues to grow and develop through different stages of life. In this situation, the guidance from teachers is significant to lead this behavior, and the desired outcomes are to become a good person with love and sincerity in developing their social behavior and cognitive abilities.

Psychological Needs. Psychological needs have a significant influence on behavior, acting as ultimate drivers of our actions and shaping our actions to the world around us. This influence activates on numerous levels, from basic survival instincts to compound social interactions. Basically, psychological needs are key to unlocking human potential and reaching justifiable motivation. Psychological needs play an important role in motivation, determining the reasons behind our actions and the perseverance with which we follow our goals.

Achievement Goal Theory (Maehr & Zusho, 2009). Achievement Goal Theory (AGT) provides a powerful lens for understanding how individuals' motivations, both intrinsic and extrinsic, influence their pursuit of goals in various contexts. This theory posits that the type of goal an individual adopts significantly impacts their engagement, effort, and ultimately, their performance. This theory impacts the students' academic achievement because it can create more instructional strategies and motivation that lead to the success of learners in academic pursuits. This is the main goal why motivation must be applied effectively and efficiently in the classroom to achieve the educational goal.

Even though the models keep changing, most academics believe that competence is the most important part of the theory. In this context, competence is defined as the capacity to perform a task effectively, adequately, or successfully. Achievement Goal Theory posits that achievement goals are future-oriented cognitive representations of desired outcomes Hulleman, C. S., Kosovich, J. J., Barron, K. E., & Daniel, D. B. (2017). These internal goals guide behavior in distinct manners, contingent upon the individual's conceptualization of competence.

This theory served as the guiding path in the investigation of student achievement since it was one of the variables of this study. This justified the significance of research by giving enlightenment on how it contributed to a wider understanding of the specific topic. This also explained the prevailing knowledge and showed a relationship between different aspects. In students' achievements, motivation and achievement goals were connected to each other because they shaped learning strategies, competence, and overall academic success.



Construct of Competence. This refers to the idea isn't just about individual knowledge and skills but also includes the ability of the individual to apply that knowledge and skills successfully in a specified context. The dynamic concept goes beyond gaining information, applying the theory to the real world, or the practical application of theory. The way the competence arrived in the educational settings will lead to maintaining its precise implication from the original context.

Future Oriented. This refers to a future conceptualization of plans and goals, focusing on individuals' expectations of forthcoming events and their impact on decision-making. This is said to make people think about future orientation and functions that get people involved and motivated in different situations and for different reasons Duckworth, A. L., Taxer, J. L., Eskreis-Winkler, L., Galla, B. M., & Gross, J. J. (2019) posited that future-oriented thinking enhances strategic planning abilities and serves as a protective factor against goal disengagement. By imagining the problems that can come up when working toward a goal, a person can come up with ways to get around such problems.

Cognitive Representation. This refers to the important characteristic of the social cognitive system where suggestions are used as basic units to characterize meaning in cognition and language, empowering sympathetic and interpretation of the world. It is usually a thought of wide concepts and relations that reflect humans' comprehension and knowledge. It is also a large network referred to as mental ability and knowledge frames.

Motivation Drivers. This refers to teaching and learning ways in the encouragement of learners to learning activities and better performance that can ultimately achieve academic goals and objectives. These drivers can be characterized into intrinsic and extrinsic motivations. These two types of motivation are both necessary in students' learning and teaching strategies to enhance the learning and teaching process effectively. Therefore, it's vital to understand how to facilitate motivation in the classroom. Rather than focusing on rewards, focus on the quality of the relationship with the students.

Intrinsic Motivation. It refers to the motivational drive that encourages students to participate in the learning process through their interest in learning. They are enjoying learning as part of their cognitive improvement, cognitively, and improving their skill better. This motivation gives enlightenment to the learners in making academic goals competitive and extraordinary because learners give effort without any extra rewards.

Extrinsic Motivation. It refers to the want of people to join in activities to gain something different from the task itself. Instances of extrinsic motivation comprise medals for the winners, extra points for good attendance, a certificate for positive behavior, and higher grades if they join extracurricular activities. External motives can encourage children's readiness to learn, and they are not destructive to students' intrinsic motivation. However, if it is always tolerated that way, students might not give extra effort if there is no reward in return.

Student's Achievement in Physical Education. It entails not only the enhancement of physical skills but also the acquisition of knowledge and competencies pertinent to engagement in physical activities, literary pursuits, and additional co-curricular endeavors. Things like motivation, how the teacher teaches, and the subject matter itself can all affect how well students do in Physical Education. Some studies show that there is a favorable link between physical activity and academic achievement. This shows how important Physical Education is for both physical and mental health. To reach the educational aim, students need to be physically fit in order to do a cognitive task well.

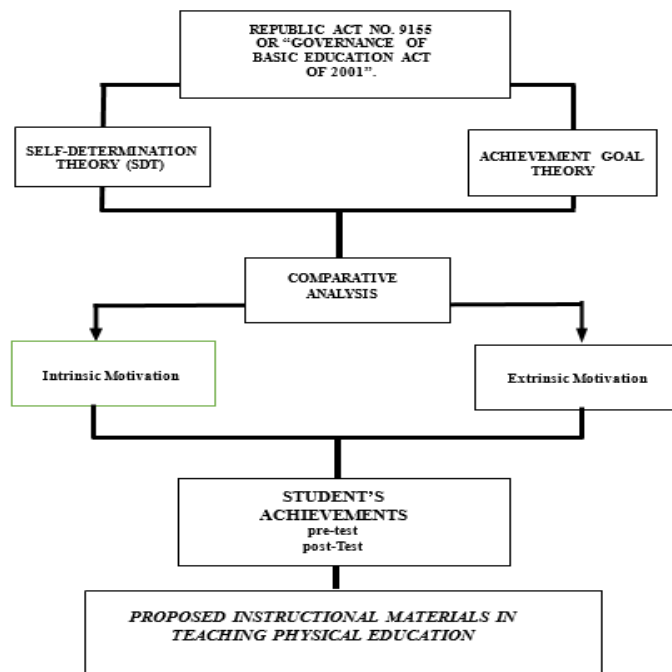
Pre-Test. This refers to a preliminary test in assessing the knowledge and abilities before a formal assessment, training, or research study. It's a tool to measure the knowledge of the learners if they already know or can do before introducing a new concept or topic, or intervention. A pre-test is a test that a participant takes before they learn something. You can use this to figure out what to teach in class or what skills students need to have before they can take the class. People who just know a little about a topic will find a pre-test most helpful. It is an important step in checking the quality and readability of a sample instrument to give it to a small group of people before the study is fully validated.

Post-Test. This refers to an assessment or test administered after a lecture or classroom learning process to evaluate learning, measure the progress and effectiveness of the intervention, and it is a tool for changes in participants' knowledge or skills. It's often used in combination with a pre-test to track learning progress and identify areas for improvement. A post-test is a test that is given to those who have just finished or are about to finish their training. You can see how much knowledge you got by using pre-testing and post-testing.



Figure 1

Schematic Diagram of Theoretical Conceptual Framework of the Study



Proposed Instructional Materials in Teaching Physical Education. Referring to the enhanced instruction strategies and resources in physical education, the proposed strategies and materials include both traditional and modern resources. It should be flexible to different teaching and learning styles and be used to develop advanced skills, knowledge, and encourage active lifestyles.

REVIEW OF RELATED LITERATURE AND STUDIES

This related literature provides a basis for understanding the influence of motivation in student's academic achievement in Physical Education. It supports the impact of intrinsic and extrinsic motivation on learners through existing studies and theories.

Intrinsic motivation. This is characterized as motivation that comes from inside a person instead of from outside benefits like money or grades. The source of motivation is the enjoyment of the action itself or the feeling of accomplishment that comes from finishing or even working on a task. (Santos-Longhurst, 2019) Someone who is intrinsically motivated, for example, will like working on a math problem because it is fun. An intrinsically motivated individual will address a problem because the challenge of discovering a solution offers a sense of satisfaction.

In both scenarios, the individual completes the task with the expectation of a reward, such as a prize, monetary compensation, or a grade in the case of students. Intrinsic motivation does not mean that a person will not look for rewards. It just means that outside rewards aren't enough to keep someone motivated. For instance, a student who is intrinsically motivated could want to do well on an assignment. But if the student isn't interested in the homework, the chance of getting a good grade isn't enough to keep them motivated to work on it (Li, 2021). Extrinsic motivation is the reverse of intrinsic motivation. The second type of drive comes from outside of you. Intrinsic motivation, conversely, emanates from within the individual Sabarun, S., Nurbatra, L. H., Qamariah, Z., Widiastuty, H., & El-Muslimah, A. H. S. (2020).

To understand intrinsic motivation examples, think of them as sources of inspiration. Extrinsic motivation is almost the same as instigation, though. You see, when you are extrinsically motivated, you are doing something you don't want to do or are not interested in. You feel like you're doing something. On the other hand, love-driven work will always be an example of intrinsic motivation. Naz, S., Shah, S. A., & Qayum, A. (2020) asserts that intrinsic



motivation invariably involves engaging in activities that individuals desire to achieve for themselves. The person would do it even if they weren't going to get paid, win an award, or earn a grade for it. Murayama, K., & Jach, H. (2024). says that it can help someone get out of a life or job that is hard and painful by looking for ways to make money that they also like. Sennett went on to say that a person might not do a sales job they hate just because they need money, and they can acquire that money by doing that sales job.

Teachers may make the subject highly lively, energetic, and interesting for the students, which will help them learn more than merely memorizing things to pass a test and then forgetting them Murayama, K., & Jach, H. (2024). It is commonly known that motivational speakers utilize a lot of phrases about life to help people find their inner motivation. If someone is intrinsically motivated, they will do something only because they enjoy it or feel good about it. However, the absence of intrinsic drive in an individual does not exclude the pursuit of rewards. Yarin, I.E., Elias, J., Surichaqui, A.A, Sulca, R.E., and Pozo, F. (2022) assert that an intrinsically driven individual recognizes the benefits of incentives; yet, these rewards are insufficient to sustain their motivation.

In other words, a person keeps doing the work as long as they are interested in it or believe in it, whether or not there is a reward. If you can get someone to match their values with yours, you can give them an internal yearning for the idea of value, which can motivate them to do something. That is the strength of intrinsic motivation. Intrinsic motivation lasts longer than extrinsic motivation since it takes time for wants to go away Yarin, I.E., Elias, J., Surichaqui, A.A, Sulca, R.E., and Pozo, F. (2022).

Extrinsic motivation. It is when someone else motivates someone else Dorado, A. (2023). Defines extrinsic motivation as a situation where a person completes a task or displays a behavior due to external influences, such as the prospect of obtaining rewards. Yarin, I.E., Elias, J., Surichaqui, A.A, Sulca, R.E., and Pozo, F. (2022). assert that an intrinsically driven individual recognizes the benefits of incentives; yet, these rewards are insufficient to sustain their motivation. In other words, the individual will keep doing the activity as long as he is interested in it or believes in it, whether or not there is a reward. If you can get someone to match their values with yours, you can give them an internal yearning for the idea of value, which can motivate them to do something. That is the strength of intrinsic motivation. Also, intrinsic motivation lasts longer than extrinsic motivation because it takes time for cravings to go away Uehara, S., Mawase, F., Therrien, A. S., Cherry-Allen, K. M., & Celnik, P. (2019).

These incentives give people happiness and satisfaction that the job itself wouldn't. People who are motivated by external factors will undertake a task even if they don't want to because they think they will be happy when they get a reward. The perks could be anything from a smiley face to something as big as fame or money. For example, a person who doesn't like math but is motivated by something outside of themselves might work hard on a math problem because they want the prize for accomplishing it. If a student did well on an assignment or in class, they would get a good grade Cherry, K. (2019).

Extrinsic motivation, on the other hand, doesn't mean that someone won't enjoy working on or complete a task. It just implies that the thought of getting a reward will keep them motivated even if the task at hand isn't very enjoyable. Li, H., Zhang, J., & Wang, Y. (2025). For instance, a student who is motivated from the outside may hate an assignment, find it boring, or not care about the subject at all. But the chance of getting a good grade will keep the student motivated to work hard to finish the task. Extrinsic incentive probably has to do with the idea of rewarding behavior. So, when you do a certain type of activity or act in a certain way, you get the result you want as a "reward." For example, you want to save money so you can go on vacation. So, you don't give in to the impulse to buy things on a whim, and you become pickier about how you spend your money in general. After a while, you notice that the money you placed aside is steadily expanding. You use your savings for what you planned to do with them when you have enough for that trip and go on vacation. The vacation is an outside motive, and it is also the reward for saving for it Işıkğöz, M. E. (2025).

Motivation can have a big effect on how well pupils do in school and what they learn. Consequently, parties aiming to enhance students' academic performance must understand the factors that affect student motivation Michael, F. B., Uwaechia, F. C., Omowumi, O. E., Chinenye, E. C., & Temitope, O. F. (2024) say that the teacher's ability to control the classroom is one of the most important things that affects how motivated students are. In general, good classroom management is a practice that helps students learn on their own, be more productive, and do better in school. The main goal is to keep the teaching and learning process from being interrupted and to let it continue in an organized way. For instructors, keeping good order in the classroom is still a huge worry (Firdaus, 2019). A study by Işıkğöz, M. E. (2025). found that teachers' ability to manage their classrooms is the most important component



in creating a healthy classroom climate. The teacher's ability to communicate is a big part of how motivated their students are. Teacher-student interactions cultivated in a proficient and assured communication environment enhance both student motivation and academic achievement. Işıkgöz, M. E. (2025). Informal communication outside of the classroom seems to strengthen the relationship between teachers and students, as well as improve formal communication skills in the classroom.

These findings provide ramifications for policy and practices, underscoring the comprehensive advantages of integrating physical education into efforts for student success. The discovered positive connection corresponds with the notion that consistent physical activity not only promotes health but also facilitates cognitive growth and may increase academic achievement. Barbosa, A., Whiting, S., Simmonds, P., Scotini Moreno, R., Mendes, R., & Breda, J. (2020). So, putting more emphasis on education in schools and other places of learning can help improve the overall health of students.

The discussion also recognizes that the relationship between education and academic success may be reciprocal. The results suggest that being more involved in school is associated to doing well in school, but it's also possible that those who do well in school are more willing to do physical activities. To gain a deeper understanding of this link, subsequent studies could examine its evolution. To completely understand how physical education affects children as a whole, you need to know how fitness and performance are related. To gain insight, students use fitness metrics such as cardiovascular endurance and strength to identify relationships with academic performance. Foglesong, M. (2021). The purpose of this in-depth study is to find the factors that could have a direct effect on academic performance. By identifying these fitness indicators, educators and policymakers can tailor educational programs to emphasize activities that foster the development of these qualities, hence potentially optimizing the academic advantages gained from such programs.

According to the research conducted by Estevan, I., Bardid, F., Utesch, T., Menescardi, C., Barnett, L. M., & Castillo, I. (2021), a significant emphasis is placed on discerning the impact of consistent participation in physical education (PE) on student achievement levels. This approach examines not only grades but also evaluates markers of educational accomplishment. On the other hand, said that teachers can find points when engagement levels have a bigger effect on academic success by looking at them. This part is very important for making recommendations for teachers and politicians that are based on facts. Knowing how often students should do PE to obtain the best results can help with focused interventions and changes to the curriculum. In summary, this study elucidates the correlation between participation in physical education and academic performance, offering insights that enhance students' comprehensive development within the educational framework Roopa D.R. (2023).

Students Achievements. Motivation can have a big effect on how well pupils do in school and what they learn. Consequently, parties aiming to enhance students' academic performance must understand the factors that affect student motivation. The teacher's ability to control the classroom is one of the most important things that affects how motivated students are. In general, good classroom management is a practice that helps students learn on their own, be more productive, and do better in school. The main goal is to keep the teaching and learning process from being interrupted and to let it continue in an organized way. Teachers are still very worried about keeping strong classroom control. Teachers' ability to manage their classrooms is the most important part of creating a positive classroom climate Işıkgöz, M. E. (2025).

The way a teacher talks to students play a big part of how motivated they are. Teacher-student interactions cultivated in a proficient and assured communication environment enhance both student motivation and academic achievement. Pereira, M., Marques, M. C., Neiva, H. P., & Daniel, A. (2021). Informal communication seems to strengthen the bond between teachers and students outside of the classroom, in addition to improving formal communication skills in the classroom. These findings suggest that policies and practices should emphasize the comprehensive advantages of integrating physical education into efforts for student success. The discovered positive correlation supports the notion that consistent physical activity promotes health, fosters cognitive growth, and may increase academic achievement. Barbosa, A., Whiting, S., Simmonds, P., Scotini Moreno, R., Mendes, R., & Breda, J. (2020). So, putting more emphasis on education in schools and other places of learning can be a way to improve the overall health of students.

The chat also talks about how education and academic success might not always be linked. The results suggest that being more involved in school is associated to doing well in school, but it's also possible that those who do well in school are more willing to do sports. To gain a deeper understanding of this link, subsequent studies



could examine its development throughout time. To completely understand how physical education affects children as a whole, you need to know how fitness and performance are related. To obtain an understanding, students use fitness markers such as cardiovascular endurance and strength to identify links with academic performance (Foglesong, M. (2021).

According to the research conducted by Estevan, I., Bardid, F., Utesch, T., Menescardi, C., Barnett, L. M., & Castillo, I. (2021), a significant emphasis is placed on discerning the impact of consistent participation in physical education (PE) on student achievement levels. This approach examines not only grades but also evaluates markers of educational accomplishment. On the other hand, said that teachers can find points when engagement levels have a bigger effect on academic success by looking at them. This part is very important for making recommendations for teachers and politicians that are based on facts. Knowing how often students should do PE to obtain the best results might help with specific changes to the curriculum and interventions. In conclusion, this research elucidates the correlation between participation in physical education and academic performance, offering insights that enhance students' holistic development within the educational framework. Roopa D.R. (2023).

Instructional Materials. Physical Education is traditionally seen as a fundamental component of the educational process, designed to attain educational objectives through physical exercise experiences. It may also be seen as the educational phase focused on the individual's development and adaptation through a meticulously curated and effectively administered regimen of physical activities and associated experiences (Aderonmu 2018). From the beginning, it was clear that teaching physical education in secondary schools helps students grow physically, mentally, and socially, as well as learn basic skills.

It also helps keep you in shape, tone your muscles through exercise, enhance your breathing and circulation, control your weight, and help you recover from sickness and surgery. The advantages of physical education constituted a rationale for advocating its inclusion as a subject in Nigerian secondary schools. Abubakar, Y., Umar, M., Akitoeye, M. A. O., & Chom, E. J. (2018).

Using instructional materials to teach physical education typically helps students remember what they've learned, which makes them more interested in teachers who use real things like video games and other gadgets during lessons (Ajadi, M. T., & Kayode, F. E. (2022). Azongo and Olaitan (2019) also said that for teaching to be effective, the teacher must know the subject well, be able to pass that knowledge on to the students, and be good at using different teaching methods to reach the goals of the lesson. Some academics assert that educators must enhance their ability to assess students' aptitudes and skill levels, as well as their capability to stimulate curiosity and foster critical thinking and problem-solving skills.

This study corroborated the conclusion by indicating that students gain a more enriching experience when instructional resources are utilized frequently in the teaching-learning process. This suggests that teaching materials are important tools that help people learn and make it easier for them to gain knowledge when they are carefully chosen, easy to find, and well-monitored. Consequently, efficacy in the instruction and comprehension of physics is unattainable without the incorporation of educational resources. Michael, F. B., Uwaechia, F. C., Omowumi, O. E., Chinenye, E. C., & Temitope, O. F. (2024).

The word "motivation" comes from the Latin word "move," which means "moving." This is the first time the word has been used in English. Motivation is a reason why people act in a given way. From a managerial point of view, motivating employees is getting them to act in a way that is best for the organization. (Legault, 2016) Motivation researchers examine how behavior reinforces and facilitates the attainment of specific objectives; nonetheless, the study of motivation primarily investigates the "Event condition" that empowers and directs behavior (Steinmayr et al., 2019). Motivation is what makes people move. In general, motivation is what drives people to follow rules, stay in control, and keep going. (Gribanova, 2020). What makes a person's behavior stronger, in other words? What directs or guides these kinds of actions? What improved or kept the demeanor? This is known as motivation (Steinmayr et al., 2019). Siyuan et al. (2020) assert that the enduring inquiries regarding human conduct in the realm of motivation are: What prompts an individual to initiate, persist in, and conclude a treatment?

METHODOGY

Method



This study employed a Quasi-Experimental Method, a design that provides a baseline measurement (pretest) to compare against post-intervention.

Quasi-Experimental Method with one group pre-test and post-test research design is a single group's dependent variable was measured 2 times: once before and after exposing a non-random group of participants to a certain intervention or treatment. It's used to assess the impact of the motivational drivers by comparing the pretest and posttest scores. Thus, quasi-experimental research is research that resembles experimental research but is not true experimental research. Although the independent variable is manipulated, participants are not randomly assigned to conditions or orders of conditions (Cook & Campbell, 1979). The quasi-experimental method compares the pre-test and post-intervention results. Pre-test and post-test design is a form of quasi-experimental research that allows for an uncomplicated assessment of an intervention applied to a group of study participants.

Environment

The study was conducted at Can-asujan National High School, Carcar City, Cebu, where the learners were enrolled for the Academic Year 2025-2026. Can-asujan National High School was under the division of Carcar City. The school officially began operating as an independent institution on April 12, 1998, when Republic Act No. 8625 was enacted. This law separated the Valladolid National High School Extension in Barangay Can-asujan and converted it into an autonomous national high school. It was located at Can-asujan, Carcar City, Cebu, Philippines, 6019, with 4.7 kilometers from the national highway, which took 11 to 14 minutes to travel.

Participants

The participants of this study consisted of 49 Grade 9 Junior High School students from Can-asujan National High School under the Carcar City Division, Carcar City, Cebu. At present, the Grade 9 level was composed of a single class with a total enrollment of 49 students.

Table 1

Research Participants' Detailed Information

CATEGORY	FREQUENCY	PERCENTAGE
Male	19	38.95%
Female	30	61.05%
Total	49	100 %

In the mentioned number, it meant that only one section served as participants in this study. All 49 students were included in the study and were analyzed, regardless of gender. The learners were given a pre-test, post-test, and a survey questionnaire.

Informed Assent and Parental Consent. The researcher also provided an implied informed Assent and Parental Consent to the prospective participants to ensure that they voluntarily submitted themselves to participate in the study. Informed Assent was signed by the participants. Parental consent referred to the legal permission given by a parent or legal guardian for a minor child to participate in an activity or receive a service. This permission was necessary because minors, lacking legal capacity, could not provide consent themselves. The specifics of what constituted parental consent and the situations requiring it varied significantly by jurisdiction and context. Language was simplified as appropriate for the age group used as subjects. They were also informed that they could freely withdraw as soon as they wished.

Instrument

The tools utilized in this study included pre-test and post-test questionnaires, daily lesson log/lesson plan, table of specifications (TOS), and module. The instrument contained two major parts: Part I was the pre-test and Part II was the post-test questionnaire about the topic in the module used in teaching physical activity using intrinsic and extrinsic motivation. In the pre-test and post-test questionnaire, it was a multiple-choice test with thirty (30) items from the learning competencies of the lesson in physical activity of Grade 9 physical education subject specified in the Most Essential Learning Competencies (MELCS).



Inclusion and Exclusion. In this study, the inclusion criteria emphasized instruments and processes that directly facilitated the instruction and evaluation of Grade 9 Physical Education abilities delineated in the Most Essential Learning abilities (MELCs). Pre- and post-test questionnaires with thirty multiple-choice items pertaining to the physical activity lesson employing intrinsic and extrinsic motivation were among them. To ensure the information was accurate, they also included the module, the table of specifications (TOS), and the daily lesson record or lesson plan. Three trained physical education teachers also looked over the questionnaire to make sure it was valid and reliable as part of the preparation process. On the other hand, the exclusion criteria included topics that were left out on purpose to retain the focus and avoid bias. These did not contain resources from outside the module, test questions that had not been verified, other grade levels or courses outside of Grade 9 Physical Education, topics that were not in line with the MELCs, or alternative assessment formats like essays or performance activities. The study made sure that the tests measured the proper skills by making it clear what was and wasn't included. This made sure that everything was the same and that no extraneous factors could have changed the validity and dependability.

Rating Scales. The results were interpreted as follows: Very low 1.00-1.80, Low 1.81-2.60, Moderate 2.61-3.40 High 3.41-4.20, Very high 4.21 – 5.00.

Data Gathering Procedure

There were three distinct stages to the data collection process in this study: pre-data gathering, data collection itself, and analysis.

Pre-Data Gathering. The researcher submitted a letter to the Dean of the Graduate School of Education requesting permission to administer the survey. Before starting the study, the researcher looked over the protocol and met with a study representative to fill out an informed consent form that the University of the Visayas' Institutional Review Board had approved. The researcher sent a letter to the school administrator asking for permission to conduct the study and requesting information about the number of pupils in Physical Education. The researcher also sent a letter to the school administration and the people who took part in the study, asking for their permission to conduct the survey. The researcher reached out to all the teachers or advisors of the students who expressed interest in participating to improve this study and the implementation of behavior management measures, enabling communication with the students who served as respondents.

Actual Data Gathering. This study employed intrinsic and extrinsic motivational tactics as drivers for delivering physical education sessions. After getting permission, the researcher worked with the participants' subject teacher to carry out the study. During the remediation process, the classroom advisors were provided a summary of the study's content and goals so they could learn about the indicators and help the researcher explain the study's goals to their own advisory classes. The subject teacher told the students about the study plan, so they knew what was going on and could help the researcher. The researcher gave the pre-test initially to see how much the students knew about sports officiating when they were ready. After the pre-test, the researcher instructed one group of students utilizing intrinsic motivation tactics, while the other group was taught using extrinsic incentive strategies. The research occurred over a duration of fourteen (14) days. The pre-test was given to the chosen group on the first day, the intervention took place over the next seven days, and the post-test was given on the last two days. After the post-test, the researcher looked at the data, put them in order, and prepared for the next step.

Post Data Gathering. The last step of the post-data-gathering process was to write down the results. This step was the most important because it helped figure out if the study worked. The researcher asked the statistician for help in finding the frequency, percentage, mean, and standard deviation. The results and information collected were utilized to evaluate and contrast the motivating factors that were effective in teaching physical education, which enhanced students' academic performance. Once the data had been obtained, it was kept secret and was never shared with anyone who should not have known about it. It was kept confidential.

Data Analysis

The following descriptive procedures were applied to the data that were collected for the study.

Frequency Counts. This approach was used to identify and classify the participants and to compute their distribution and profile. This established the overall participant count for this research study.

Percentage. With this method, the frequencies of the participants were calculated in components per one hundred.



T-Test. An inferential statistic was used to assess the study's significant effectiveness and to determine whether the means of the pre-test and post-test scores differed significantly.

Mean. The results were used to assess the impact of two types of motivational drivers, intrinsic and extrinsic motivation.

Standard Deviation. The participants' survey distribution score was calculated using this method.

Raw Score. This determined the number of scores that were correct. This established how many points were correct. The individual participant's score was solely for a particular set of test questions.

Ethical Considerations

The study was performed following the Declaration of Helsinki principles. It was approved by the Research Ethics Committee of the University of Visayas with a Ref no: 20250286 on June 25, 2025. Students were participants who voluntarily participated in a true experimental task and questionnaires that were printed. Developing the Study. Before conducting the study, the researcher obtained permission from the Physical Education Department and arranged access to participants and the facility. A full orientation to the study, including aim, procedure, and confidentiality, was provided. They had also been introduced to the format of future training sessions, and they were able to withdraw at any time, and their responses will be confidential.

All participants were given information, and their informed consent was obtained before their inclusion in the study. The participants were encouraged to maintain a healthy lifestyle, including appropriate consumption of water and a balanced diet for this study period. Participants received both pretest and posttest procedures, which entailed participants completing the 10-meter shuttle run test as well as the engagement questionnaire. The researcher ensured the protocols adhered to ethical principles of respect, beneficence and justice. Subjects were asked to avoid doing any out-of-training-agility work during the entire period of the experiment to keep the results valid.

Participants were not paid, and individual data collection was kept confidential. The raw data was exclusively accessed by the researcher, stored securely, and subsequently erased after completion of the research. The authors declared no conflict of interest. Permission for the study to be carried out was granted by the University Ethics Board and by the President of BiPSU. Results of the studies were intended to be disseminated through publication and contribute to scholarly development in physical education research.

RESULTS AND DISCUSSIONS

This section is presenting the findings of the study and interpretation of the results based on the objectives of this research. This analysis focused on the comparison between the pre-test and post-test outcomes that aims to evaluate the effectiveness of the implemented motivational drivers particularly the intrinsic and extrinsic motivation.

Pretest and Posttest Analysis on the Intrinsic Motivation Strategies

This section presents the data obtained from the pretest and post-test given on the evaluation of intrinsic and extrinsic motivation on students' achievement in physical education as motivational drivers. The comparative analysis of pretest and posttest results allows researcher to determine the significance of change and validate the effectiveness of motivational drivers.

Table 2 shows the mean score for the pretest and post-test scores of the students. This result discussed the level of motivation before and after the test using the intrinsic strategy.

Table 2

Mean Pretest and Posttest Scores in Intrinsic Motivation

Test	Mean	SD	Interpretation
Pretest	16.48	3.74	High motivation before intervention
Posttest	24.94	4.83	Highly motivated after the intervention



Total	41.42	8.57	Very High
-------	-------	------	-----------

Note: n= 49. *Scale: Very low 1.00-1.80, Low 1.81-2.60, Moderate 2.61-3.40 High 3.41-4.20, Very high 4.21 – 5.00*

The pretest mean of 16.48 indicates a moderate level of intrinsic motivation among participants prior to the intervention. After the intervention, the posttest mean increased to 24.94, reflecting a higher level of intrinsic motivation. This substantial rise demonstrates that the intervention effectively enhanced students' internal drive toward physical education. The slight increase in standard deviation from 3.74 to 4.83 suggests some variation in how students responded, but overall, the intervention had a broadly positive effect. The researcher, in conjunction with these definitions, operationally defines intrinsic motivation as a person's inner desire to engage in activities or tasks for inherent satisfaction specifically oriented on two goals: to learn and to achieve Kruse, F., Büchel, S., & Brühwiler, C. (2024). Supported by Santos, L. (2019) someone who is intrinsically motivated, for example, will like working on a math problem because it is fun. An intrinsically motivated individual will address a problem because the challenge of discovering a solution offers a sense of satisfaction.

The rise in intrinsic motivation scores from pretest to posttest shows that the intervention worked to get pupils more interested in Physical Education. This means that well-thought-out teaching methods can make Physical Education programs more fun, give students more control over their learning, and get them more involved. The small increase in variability shows that most students did gain, but there are still disparities in how receptive they are, which shows that new techniques are needed. The results indicate that including motivational interventions into physical education curricula can enhance sustained involvement, elevate attainment, and foster long-term commitment to active lifestyles. Self-determination theory (SDT) has demonstrated efficacy as a robust paradigm for elucidating the development and impact of motivation in this environment. SDT's organismic integration theory distinguishes many levels of motivation on a continuum ranging from amotivation (absence of motivation) to intrinsic desire (for instance, kids cultivate a real delight or interest in physical education; Ryan, R. M., & Deci, E. L. (2020).

This proposes that carefully intended teaching approaches not only improve enjoyment but also authorize learners with better autonomy and participation in their enlightening experience. While the modest growth in variability designates that most learners profited, it also highlights determined inequalities in accessibility, directing to the need for differentiated and innovative approaches. The results suggest that embedding motivational interventions into Physical Education curricula can reinforce continuous involvement, uplift achievement, and nurture long-term commitment to vigorous lifestyles.

Pretest and Posttest Analysis on Extrinsic Motivation Strategies

(Provide a short introduction on extrinsic motivation in 1 paragraph)

Table 3 shows the mean score for the pretest and post test scores of the students. This result discussed the level of motivation before and after the test using extrinsic strategy.

Table 3

Mean Pretest and Posttest Scores in Extrinsic Motivation

Test	Mean	SD	Interpretation
Pretest	15.45	4.48	High extrinsic motivation prior to the intervention
Posttest	18.79	3.45	Highly motivated after the intervention
Total	34.24	7.93	Very High

Note: n=49. *Scale: Very low 1.00-1.80, Low 1.81-2.60, Moderate 2.61-3.40 High 3.41-4.20, Very high 4.21 – 5.00*

The pretest means of **15.45** indicates a **high level of extrinsic motivation** among participants prior to the intervention. After the intervention, the mean increased to **18.79**, reflecting a **higher level of extrinsic motivation**. This suggests that students became more responsive to external rewards, recognition, and structured incentives after the intervention. The standard deviation decreased from **4.48 to 3.45**, which implies that participants' posttest responses were more consistent compared to their pretest scores. This finding indicates that



the intervention not only enhanced extrinsic motivation but also produced a more uniform effect across the group. This result is consistent with literature suggesting that well-structured reward systems, teacher feedback, and recognition can enhance extrinsic motivation in students (Deci, Koestner, & Ryan, 1999; Ryan & Deci, 2020). Extrinsic motivation, on the other hand, doesn't mean that someone won't enjoy working on or complete a task. It just implies that the thought of getting a reward will keep them motivated even if the task at hand isn't very enjoyable Ryan, R. M., & Deci, E. L. (2020). For instance, a student who is motivated from the outside may hate an assignment, find it boring, or not care about the subject at all. But the chance of getting a good grade will keep the student motivated to work hard to finish the task. Ryan, R. M., & Deci, E. L. (2020). says that extrinsic incentive probably has to do with the idea of rewarding behavior. So, when you do a certain type of activity or act in a certain way, you get the result you want as a "reward."

The increase in extrinsic motivation scores from the pretest to the posttest suggests that the intervention successfully made students more responsive to external rewards, recognition, and structured incentives in Physical Education. The lower standard deviation also shows that the intervention had a more consistent effect on motivation across all individuals, which means it can be used in a wide range of situations. This research backs up the premise that carefully adding structured external motivators like praise, grades, or recognition to Physical Education lessons might make students more interested and successful. Ryan and Deci's Self-Determination Theory says that extrinsic motivation can have a positive effect on learning outcomes when it is internalized in supportive environments Ryan, R. M., & Deci, E. L. (2020).

In addition, these findings indicate that integrating carefully planned external motivators such as giving praise, grades, or recognition into Physical Education teachings can reinforce student attention and achievement. Thus, this study highlights the real-world value of compounding external reinforcement with autonomy-supportive instruction practices to maximize both fairness and efficiency in Physical Education curricula.

Compare the Mean Score of Intrinsic and Extrinsic Motivation Strategy

Comparison of mean scores between intrinsic and extrinsic motivation approaches of how different motivational drivers influence student achievement in Physical Education.

Table 4 shows the mean achievement scores of students taught in Physical Education applying an intrinsic motivational strategy and those taught applying an extrinsic motivational strategy.

Table 4

Mean Gain of Intrinsic and Extrinsic Motivation Strategy

Group	Mean	SD	Interpretation
Intrinsic	8.45	3.81	High and consistent improvement
Extrinsic	3.33	4.55	Higher and more variable improvement
Total	11.78	8.36	Very High

Note: n=49. Scale: Very low 1.00-1.80, Low 1.81-2.60, Moderate 2.61-3.40 High 3.41-4.20, Very high 4.21 – 5.00

The findings revealed that participants exhibited a markedly superior and more stable enhancement in intrinsic motivation it garnered the mean of 8.45 and standard deviation of 3.81 when compared with extrinsic motivation it ranges to 3.33 mean score and 4.55 standard deviation. The reduced standard deviation associated with intrinsic motivation indicates that the advancement was more consistent throughout the sample, thereby reflecting a generally effective impact of strategies that prioritized autonomy, competence, and internal gratification. Conversely, the elevated variability in the gains associated with extrinsic motivation suggests that externally motivated strategies, such as rewards or recognition, may have exerted differential influences on participants, resulting in less homogenous outcomes. Additionally, the moderate enhancement in extrinsic motivation was characterized by a greater variability, indicating that external rewards and recognition had a more pronounced effect on certain students compared to others. These findings are supported with Self-Determination Theory, which posits that intrinsic motivation fosters more sustainable and generalized improvements in behavior, while extrinsic motivation may produce short-term gains that vary across individuals Ryan, R. M., & Deci, E. L. (2020).



This is in line with Self-Determination Theory Ryan, R. M., & Deci, E. L. (2020).), which says that intrinsic motivation is better for everyone and lasts longer than extrinsic motivation. This is backed up by real-world evidence: Kruse, Büchel, and Brühwiler (2024) discovered that addressing students' psychological needs in physical education resulted in enhanced and more stable intrinsic motivation gains. In contrast, Işıkgöz, M. E. (2025). illustrated that intrinsic motivation was more closely linked to positive achievement emotions than extrinsic motivation, which exhibited weaker and more inconsistent effects.

The results suggested that approaches encouraging intrinsic motivation such as autonomy, competence, and internal satisfaction are more reliably effective in enhancing learner's' performance in Physical Education. The standard deviation has been reduced in intrinsic motivation gains. It specifies that these interventions shaped unchanging benefits across students, strengthening the importance of designing Physical Education programs that highlight satisfaction, mastery, and self-determination. In contrast, the better variability observed in extrinsic motivation outcomes suggests that rewards, recognition, and external incentives influence students unevenly, leading to less foreseeable results. This implicates the need for teachers to prioritize intrinsic motivational strategies while applying extrinsic motivators selectively and strategically.

Pretest and Posttest Scores of Intrinsic and Extrinsic Motivation Strategies

The significant mean gain on the comparison of the scores in Pre-test and Post-test of intrinsic and extrinsic motivation. This shows the positive impact of the motivational drivers for student achievement.

The statistical analysis reveals significant improvements in both intrinsic and extrinsic motivation strategies following the intervention. Participants demonstrated a notably higher gain in intrinsic motivation, with a mean increase of 8.45 and a narrow 95% confidence interval ranging from 7.05 to 9.85. This suggests a consistent and reliable effect, further supported by a high t-value of 12.348 and a p-value of .000, indicating strong statistical significance. Therefore, the null hypothesis was rejected. Significantly, extrinsic motivation showed a mean gain of 3.33, with a wider confidence interval of 1.72 to 4.95 and a t-value of 4.212, also statistically significant ($p = .000$) but less pronounced. These findings suggest that while both motivational strategies benefited from the intervention, intrinsic motivation was more substantially and consistently enhanced.

The findings marked enhancement in both intrinsic and extrinsic motivation signifies that the intervention successfully cultivated the motivational factors influencing students' academic performance in Physical Education. The more pronounced improvements in intrinsic motivation indicate that students are more inclined to maintain their involvement and success when driven by personal interest and internal gratification as opposed to relying solely on external incentives. This underscores the necessity of developing pedagogical approaches and educational experiences that promote intrinsic motivation, while concurrently integrating extrinsic reinforcements to bolster affirmative learning behaviors. Işıkgöz, M. E. (2025) found that students who are intrinsically motivated driven by personal interest and enjoyment experience significantly more positive achievement emotions, such as pride and satisfaction, compared to those motivated by external rewards. This aligns with Azid, M. B. B. A., Mazalan, N. S., Pa, W. A. M. W., Kamaruzaman, F. M., & Nazarudin, M. N. (2023) who emphasized that while extrinsic motivators like praise and recognition can enhance short-term performance, they lack the enduring impact of intrinsic drivers. Obviously, because human memory is imperfect, there is a constant need for educators to find effective and creative extrinsic motivational strategies to support the long-term preservation of knowledge in their students (Alexander, Wyatt-Smith & Du-Plessis, 2020). This is because students may choose to retain a given knowledge not because they enjoy them or find them satisfying, but to get something in return or avoid an adverse outcome.

Table 5

Pretest and Posttest Scores of Intrinsic and Extrinsic Motivation Strategies.

Group	Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig
				Lower	Upper			
Intrinsic	8.45	3.81	.000	7.05378	9.84944	12.348	30	.000
Extrinsic	3.33	4.55	.000	1.72137	4.94530	4.212	32	.000



Significant Level at 0.05

The noticeable augmentation in both intrinsic and extrinsic motivation validated that the intervention effectively refined the motivational factors prompting learners' academic performance in the lesson of Physical Education. The more marked enhancements in intrinsic motivation propose that learners are more likely to sustain their participation and achievement when determined by their own personal interest, autonomy, and internal fulfilment, rather than relying only on external incentives. This highlights the significance of designing educational strategies that prioritize intrinsic motivation by nurturing gratification, mastery, and self-determination. Similarly, the reliable increase in extrinsic motivation emphasizes the value of participating structured reinforcements such as giving praise, recognition, or grades to reinforce positive learning performances. Together, these findings suggest that balance strategies in teaching mostly combining autonomy and support the practices with well-planned external motivators, can increase student engagement, raise achievement, and encourage long-term assurance to active participation.

The research indicated that the implemented technique significantly enhanced both intrinsic and extrinsic motivation in Physical Education. Intrinsic motivation increased from the pretest, indicating a significant and sustained rise despite minor fluctuations in responses. Extrinsic motivation also improved; the more consistent results indicated reduced variation. Overall, the intervention improved both types of motivation. Intrinsic motivation showed the strongest and most consistent gains, highlighting the importance of using strategies that promote autonomy, competence, and enjoyment while still being supported by external rewards.

The comparison of average achievement scores showed that students who were taught using an intrinsic motivational technique demonstrated a far greater and more stable improvement. This indicated that strategies focused on independence, skill development, and internal satisfaction led to steady progress across the group. On the other hand, students who were taught using an extrinsic motivational technique obtained a lower mean and a higher standard deviation. This indicated that incentives and recognition had a less consistent effect and varied widely among participants. The results suggested that intrinsic motivation strategies were more effective and reliable in improving student progress in Physical Education than extrinsic approaches. The statistical analysis revealed a significant difference between pre-test and post-test scores following the intervention. Both intrinsic and extrinsic motivational strategies yielded improvements; however, intrinsic motivation had a more substantial and sustained impact. These findings led to the rejection of the null hypothesis and indicated that, although both strategies improved student performance, intrinsic motivation was more effective and consistent in fostering positive outcomes in Physical Education.

These results aligned with Self-Determination Theory (SDT) posited by Deci and Ryan (2000), which emphasized the importance of autonomy, competence, and relatedness in fostering sustained forms of motivation. The substantial enhancement in intrinsic motivation was particularly notable as it demonstrated the ability of Physical Education programs to extend beyond physical skill development and cultivate deeper psychological engagement. Students who were intrinsically motivated were more likely to perceive physical activity as enjoyable, meaningful, and valuable for their personal growth. This type of motivation was associated with greater persistence, improved performance, and a lifelong commitment to active lifestyles Deci, E. L., & Ryan, R. M. (2000). Although extrinsic motivation also improved, its comparatively modest enhancement suggested that external rewards or pressures served a supportive but secondary role. Prior research indicated that extrinsic motivators could effectively encourage initial participation; however, excessive reliance on these incentives could lead to reduced motivation once external rewards were removed Ryan, R. M., & Deci, E. L. (2020). Intrinsic motivation, in contrast, led to more sustained engagement over time.

These outcomes aligned with recent findings. Alhowimel, A., Alqahtani, B., Alotaibi, M., & Alghwiri, A. (2025). established that intrinsic motivation was a significant predictor of students' academic performance in Physical Education settings, while Li, H., Zhang, J., & Wang, Y. (2025). confirmed that teacher support strengthened intrinsic motivation and self-efficacy, resulting in higher engagement. Collectively, these studies reinforced the prioritization of intrinsic motivation as a key driver in Physical Education teaching practices to enhance students' academic outcomes.

Physical Education Officiating Modules



Module 1. *Educating Intrinsic Motivation Through Sports Officiating*

Rationale

Physical Education (PE) plays a vital role in shaping students' lifelong attitudes toward health, fitness, and overall well-being. Beyond physical development, PE cultivates essential life skills such as discipline, teamwork, resilience, leadership, and responsibility. However, many students participate in PE primarily for external rewards such as grades, recognition, or competition outcomes, which may limit long-term engagement and undermine the deeper educational purpose of physical activity.

This module is grounded in **Self-Determination Theory (SDT)**, which emphasizes the fulfillment of three basic psychological needs: **autonomy**, **competence**, and **relatedness** (Ryan & Deci, 2020). When these needs are satisfied, students are more likely to develop **intrinsic motivation**, experiencing physical activity as meaningful, enjoyable, and personally fulfilling. By connecting officiating roles to these motivational principles, students are encouraged to develop sustained participation and positive attitudes toward lifelong fitness.

This module integrates fitness development, motivation strategies, and sports officiating to create a holistic learning experience. Through officiating tasks such as refereeing, scorekeeping, and rule enforcement, students enhance physical skills while developing leadership, ethical decision-making, and communication skills. The module benefits students, educators, schools, and communities by fostering health, engagement, and social responsibility.

Module Overview

This module provides students with a comprehensive understanding of Physical Education through the integration of fitness training, motivational strategies, and basketball officiating. It promotes intrinsic motivation by allowing students meaningful roles in sports contexts while supporting extrinsic motivation through structured goals and feedback. Sports officiating is emphasized as a leadership experience that highlights fairness, accountability, teamwork, and respect for rules.

Learning Objectives

By the end of the module, students will be able to:

1. Foster intrinsic motivation through student-centered, engaging physical activities.
2. Support extrinsic motivation through goal-setting, performance tracking, and leadership roles.
3. Demonstrate basic sports officiating skills, including rule interpretation and ethical conduct.
4. Exhibit teamwork, sportsmanship, and effective communication in officiating roles.

Lesson 1: Sports Officiating and Intrinsic Motivation

Sports officiating involves managing games through the consistent application of rules and the maintenance of order and fairness. Officials function as neutral authorities whose decisions influence the quality and integrity of the competition. Beyond rule enforcement, officiating fosters leadership, discipline, and ethical responsibility.

According to SDT, officiating enhances intrinsic motivation when students experience autonomy (decision-making), competence (mastery of rules), and relatedness (collaboration with others). When students value officiating beyond external rewards, they develop self-confidence, emotional control, and a deeper appreciation of fair play.

Basketball Officials and Their Functions

Officials in Basketball

- Chief Referee
- Referees
- Timekeeper
- Scorekeeper
- Recorder

Key Responsibilities

- Enforcing rules and maintaining fair play
- Managing game time and records
- Communicating decisions clearly and ethically



Evaluation

Students respond to:

1. Skills of basketball
2. Basketball court dimensions
3. Basic basketball rules
4. Duties of basketball officials

Lesson Plan Outline (60 Minutes)

I. Objectives

- Explain the importance of officiating
- Demonstrate officiating skills
- Apply intrinsic motivation principles
- Reflect on personal growth

II. Subject Matter

- Sports officiating
- Intrinsic motivation
- Basketball officiating roles

III. Materials

- Visual aids
- Printed materials
- Videos and projector

IV. Activities

- Warm-up exercises
- Motivation video and reflection
- Lecture and discussion
- Application activity
- Essay-based evaluation

Module 2. “Whistle with Purpose”: Developing the Qualities of Basketball Officiating Through Intrinsic Motivation Rationale

Basketball officiating is not merely about enforcing rules but about embodying fairness, integrity, and respect for the game. This module emphasizes intrinsic motivation by linking officiating responsibilities to personal values and character development. Rooted in SDT, it helps learners understand officiating as a meaningful leadership role rather than a position of authority or recognition alone.

Module Overview

This module examines essential officiating qualities such as integrity, confidence, judgment, communication, fitness, and teamwork. Students reflect on how these characteristics align with their values and demonstrate officiating behaviors in simulated scenarios.

Learning Objectives

Students will:

1. Identify core officiating qualities
2. Relate officiating roles to personal values
3. Demonstrate officiating traits in simulations
4. Develop a personal officiating philosophy

Core Qualities of Officiating

Quality	Description	Intrinsic Motivation Link
Integrity	Fair decision-making	Ethical values
Confidence	Decisive calls	Sense of mastery



Communication	Clear signals	Social connection
Fitness	Game endurance	Self-discipline
Teamwork	Cooperation	Relatedness

Learning Activities

- “Why I Whistle” Reflection
- “Dress Me Up” Creative Activity
- Personal Officiating Philosophy Writing

Module 3. “Signal with Purpose”: Mastering Basketball Hand Gestures Through Values and Vision

Rationale

Basketball hand signals serve as the universal language of the game. Beyond technical communication, signaling reflects honesty, discipline, and respect. This module links technical skill development with ethical officiating and character formation.

Learning Objectives

Students will:

1. Identify and perform standard basketball signals
2. Explain the purpose of each signal
3. Reflect on ethics in officiating
4. Demonstrate confidence in non-verbal communication

Content Overview

The module covers **25 essential basketball referee hand signals**, including traveling, fouls, violations, timeouts, substitutions, and scoring signals. Students practice application through role-play and simulated games.

1. Traveling

When a player illegally moves one or both of their feet, a traveling violation is called.

The referee will put both arms in front of their face and move them in a circle to signal traveling.

<https://inspirationalbasketball.com/understanding-basketball-ref>

2. Double Dribble

A double dribble When a player dribbles the ball, picks it up, and then dribbles again, that's called a double dribble. The referee places both hands in front of them with their palms down and then moves them up and down to show that a double dribble has happened. <https://inspirationalbasketball.com/understanding-basketball-ref>

3. Carrying the Basketball

A carrying violation when a player put their hand under while dribbling, then continue dribbling is called carrying violation. The official will use one of their hands to show a carry by flipping it over from palm up to palm down many times.

<https://inspirationalbasketball.com/understanding-basketball-ref>

4. 3-Second Violation

Players are only allowable 3 seconds in the paint -- a 12x16 feet area closest to the basket.

If a player is in the paint for more than 3 seconds, the referee or official will call a 3-second violation. The referee or official will show three fingers, on the side the referee will point them down, and then put down their hand back and forth to sign this violation. <https://inspirationalbasketball.com/understanding-basketball-ref>

5. 5-Second Violation

A team has five seconds to throw the ball inbounds when they are taking it out.

If they take longer than five seconds, the referee will call a 5-second violation.

This is a simple signal, as the referee will use one of their hands and put five fingers in the air.



<https://inspirationalbasketball.com/understanding-basketball-ref>

6. 8-Second Violation

If the ball of the are in the backcourt, they must take the ball across within 8 seconds to the half court line.

If they take longer than the allotted 8 seconds, the referee or official will call a 8-second violation.

(many younger leagues use 10 seconds instead of 8)

The referee shows this violation by putting eight fingers in the air.

<https://inspirationalbasketball.com/understanding-basketball-ref>

7. 24-Second Violation

If playing in a league that uses a shot clock, teams will have 24 seconds to take a shot on each possession (some leagues use longer shot clocks).

If a team fails to shoot within this time, the referee will call a 24-second violation.

The referee will use one handed to tap the top of their shoulder on the same arm.

<https://inspirationalbasketball.com/understanding-basketball-ref>

8. Over-and-Back (Backcourt Violation)

When a team possesses the basketball in the front court, then a player with the ball goes into the backcourt without the defense touching it, an over-and-back violation occurs.

The referee will place their hand out with their palm down and move it back and forth from side to side like their hand is going over a line.

This is to signal that a player went over the half court line and an over-and-back occurred.

<https://inspirationalbasketball.com/understanding-basketball-ref>

9. Kicking

In basketball, a player may not intentionally kick the basketball.

If they do, the official will blow their whistle.

To signal a kick occurred, the referee will point at their foot.

<https://inspirationalbasketball.com/understanding-basketball-ref>

10. Out of Bounds

When the ball is out of bounds then it touches a line that outlines the court or anywhere outside of those lines.

This will also out of bounds if it touches by a player who is standing upright outside or on a line.

If the ball gets out of bounds, a referee will point to the basket of the team that will get back to whose ball of the team that will take possession. <https://inspirationalbasketball.com/understanding-basketball-ref>

11. Jump Ball

If the players from both teams possess the basketball, a jump ball is called and required.

The official or referee will show two thumbs up above their head to signal that a jump ball has been called.

<https://inspirationalbasketball.com/understanding-basketball-ref>

12. Blocking Foul

A blocking foul will occur if the defensive player does not have a legal guarding position and stops the dribbler's from moving forward a blocking foul occurs.

The referee's pits both hands on their hips, it means they are blocking.

<https://inspirationalbasketball.com/understanding-basketball-ref>

13. Charging Foul

When the defensive player is legally guarding position and the offensive or opponent player hits them off of their spot, a charging foul is called. They called it a player-control foul.

When the official signals a charging foul, he make a fist with one hand and "punch" the open palm of their other hand.

<https://inspirationalbasketball.com/understanding-basketball-ref>

14. Hand-Checking Foul

The Defensive players cannot use their hands to stop a ball handler from moving. If he does stop his opponent player from moving their hands, they will get a hand checking foul,

If the defender does limit the movement with their hands, a hand-checking foul is called.



The referee will show a chop one hand across the opposite wrist.

<https://inspirationalbasketball.com/understanding-basketball-ref>

15. Holding Foul

In playing basketball, no body is allowed to grab another player by the jersey or any of their body parts. When this happens, a holding foul is called.

The official will show his signal for a holding foul is making a fist point with one hand, holding that arm out, and then "grabbing" the wrist with their other hand. <https://inspirationalbasketball.com/understanding-basketball-ref>

16. Pushing Foul

In playing basketball, the players cannot push their opponent. A referee will call a foul if he observes it. These fouls happen many times if two players go for the same rebound. In fact, when a player did or commit an 'over the back' foul occurs, the referee will naturally see the referee call it a push.

The signal for pushing is putting two arms out and making a pushing motion with the hands <https://inspirationalbasketball.com/understanding-basketball-ref>

17. Elbow Foul

If a player became violent with their elbows and attaches with an opponent, a foul will be called.

Occasionally these fouls can be supposed flagrant and can consequence in two shots and the ball for the team that got hit by the elbow.

The ref's or official will signal this type of foul by swinging their elbow. <https://inspirationalbasketball.com/understanding-basketball-ref>

18. Intentional Foul

Over the sequence of the game, fouls happen accidentally or unintentional in a numerous time.

Nevertheless, if the referee deliberates a foul was done knowingly or with hateful intent, they will call an intentional foul. This intentional foul will result in two shots given for the offensive team and the ball. The signal for an intentional foul is putting both arms in the air and making an 'X' with them.

<https://inspirationalbasketball.com/understanding-basketball-ref>

19. Technical Foul

If referees or official feel like a coach or a player is not leading themselves appropriately or having unsportsmanlike behavior, he can call a technical foul.

This foul also results in two shots, plus the basketball.

The signal for a technical foul is taking both hands and making the letter 'T' with them.

<https://inspirationalbasketball.com/understanding-basketball-ref>

20. Substitution

If the teams will be going to exchange an on-court player with somebody on the seat, the coach will ask for a substitution. The referee will show a sign of X with his arms at the next dead ball.

<https://inspirationalbasketball.com/understanding-basketball-ref>

21. Start the Clock

In playing basketball, there are many of dead balls where the clock will be stopped. The clock doesn't start again until a player on the floor touches it. In its place of the timekeeper making a judgment of when to stop the clock, they look for a official signal to start. The ref will have their hand in the air until it's time to start the clock.

When that time has arisen, the ref or official will drop their arm down, and time will start again.

<https://inspirationalbasketball.com/understanding-basketball-ref>

22. Three-Point Attempt

IF a player tries a three-pointer, the official or ref's has a signal to show that.

His one arm straight up in the air to show his signal that three-point shot is being tries

<https://inspirationalbasketball.com/understanding-basketball-ref>

23. Three-Point Make

When the three-point shot is complete, the official will show other signs for that.

He will take both of their arms and place them straight into the air.

<https://inspirationalbasketball.com/understanding-basketball-ref>



24. No Basket

The time will expire if sometimes shots are taken that are directly after a foul.

The official will signal the shot does not count by wave and cross his arms out in front of them.

<https://inspirationalbasketball.com/understanding-basketball-ref>

25. Timeout

The other type of timeout is a full timeout.

The referee will show signal for this is stick both arms straight out together while to the side with fists being made.

<https://inspirationalbasketball.com/understanding-basketball-ref>

Assessment

- Performance tasks
- Observation checklists
- Reflection journals

Module 4. *Understanding Basic Fouls in Basketball Through Intrinsic Motivation*

Rationale

Fouls and violations protect player safety and ensure fair competition. Teaching these concepts through intrinsic motivation enables learners to appreciate the rules as tools for fairness and personal growth rather than constraints.

Learning Objectives

Students will:

1. Identify fouls and violations
2. Apply penalties correctly
3. Exhibit impartiality and confidence
4. Demonstrate empathy and sportsmanship

Content Overview

- Personal, technical, and flagrant fouls
- Basketball violations
- Penalty administration
- Game management skills

Assessment and Assignment

- Practical officiating simulation
- Reflection worksheet on decision-making and values

Plan and Implementation of Module

The implementation of this module is carefully structured to ensure that students not only acquire technical knowledge of basketball rules and fouls but also develop intrinsic motivation and values connected to fair play and ethical officiating. The plan is divided into interactive sessions that combine lectures, demonstrations, role-play, and peer-officiating activities, allowing learners to experience both the theoretical and practical aspects of officiating. By integrating reflection tasks, group discussions, and simulated game situations, the module ensures that students build confidence in decision-making, strengthen non-verbal communication skills, and connect officiating practices to personal growth and responsibility. This holistic approach guarantees that the module is not only skill-oriented but also values-driven, preparing students to become competent, motivated, and principled participants in sports.



MODULE 1-4

Module	Module Title	Objectives	Key Content / Focus	Implementation Strategies	Person Involved	Learning Activities	Assessment & Evaluation	Expected Outcomes
Module 1	"Move to Motivate": Enhancing Intrinsic Drive Through Physical Activity	1. Promote intrinsic motivation through purposeful movement.2. Develop positive attitudes toward physical activity.3. Encourage self-discipline and enjoyment in movement.	• Concept of intrinsic motivation• Physical activity as a motivational tool• Movement and enjoyment in PE	• Experiential learning• Play-based and learner-centered approach• Reflective discussion	• School Administration • School Head • MAPEH Department Chairman • Physical Education Teachers • MAPEH/PES Coordinator	• Dynamic warm-up games• Individual and group movement challenges• Reflection sharing on feelings and motivation	• Observation checklist• Reflection journal• Participation rubric	• Increased motivation to participate in PE• Positive perception of physical activity• Improved engagement and self-confidence
Module 2	"Whistle with Purpose": Developing the Qualities of Basketball Officiating Through Intrinsic Motivation	1. Identify qualities of an effective basketball official.2. Demonstrate confidence and fairness in officiating.3. Develop decision-making skills through intrinsic motivation.	• Roles and responsibilities of officials• Ethical behavior and fairness• Confidence and self-motivation	• Demonstration and modeling• Guided practice• Peer coaching	• School Administration • School Head • MAPEH Department Chairman • Physical Education Teachers • MAPEH/PES Coordinator	• Officiating drills• Simulated basketball games with officiating roles• Values clarification activity	• Performance rubric• Peer feedback• Self-assessment	• Improved officiating confidence• Fair and consistent decision-making• Enhanced sense of responsibility
Module 3	"Signal with Purpose": Mastering Basketball Hand Gestures Through Values and Vision	1. Perform correct basketball hand signals.2. Understand the meaning and importance of officiating signals.3. Connect values and vision with officiating roles.	• Standard basketball hand signals• Communication through signals• Values and leadership in officiating	• Demonstration• Drill-based mastery learning• Reflective teaching	• School Administration • School Head • MAPEH Department Chairman • Physical Education Teachers • MAPEH/PES Coordinator	• Signal drills and practice stations• Partner and group demonstrations• Video analysis of hand signals	• Skills checklist• Practical demonstration• Reflection worksheet	• Accurate execution of hand signals• Improved communication skills• Stronger value-based officiating mindset
Module 4	Understanding Basic Fouls in Basketball (With Intrinsic Motivation)	1. Identify and explain basic basketball fouls.2. Apply foul rules in game situations.3. Develop fairness and integrity in rule enforcement.	• Common basketball fouls• Game rules and interpretations• Sportsmanship and integrity	• Problem-based learning• Game-based instruction• Guided reflection	• School Administration • School Head • MAPEH Department Chairman • Physical Education Teachers • MAPEH/PES Coordinator	• Video-based foul analysis• Modified games focusing on foul recognition• Scenario-based discussions	• Written quiz• Game observation rubric• Reflection journal	• Better understanding of fouls• Improved rule application• Enhanced sportsmanship and ethical awareness



Findings

The findings of this study indicate that the implementation of motivational drivers significantly enhanced students' motivation and achievement in Physical Education. Both intrinsic and extrinsic motivation strategies produced statistically significant improvements between pretest and posttest measures, demonstrating the effectiveness of the intervention in strengthening students' engagement and performance. However, the magnitude, consistency, and sustainability of improvement differed notably between the two motivational approaches.

Results revealed a substantial increase in intrinsic motivation, as reflected by a higher mean gain score and a relatively lower standard deviation compared to extrinsic motivation. Students demonstrated stronger internal drive, greater enjoyment, and increased personal satisfaction in participating in Physical Education activities after the intervention. The consistent improvement observed across participants suggests that instructional strategies emphasizing autonomy, competence, and relatedness were effective in fostering stable and enduring motivational outcomes. These results align with Self-Determination Theory, which posits that intrinsic motivation leads to more sustained engagement and positive behavioral outcomes due to internal satisfaction rather than external pressure (Ryan & Deci, 2020). The findings further support previous research indicating that addressing students' psychological needs in educational settings results in enhanced motivation, persistence, and achievement (Kruse et al., 2024; Işıköz, 2025).

Extrinsic motivation likewise showed significant improvement following the intervention, indicating that structured rewards, recognition, and external feedback successfully increased students' responsiveness and participation in Physical Education. The reduction in standard deviation from pretest to posttest suggests that the intervention produced a more uniform motivational effect among students. Nevertheless, the comparatively smaller mean gain and greater variability imply that extrinsic motivational strategies were less consistent in promoting long-term engagement. These findings affirm prior evidence that while extrinsic motivators are effective in prompting immediate effort and compliance, their influence varies among individuals and may be less durable without internalization (Deci et al., 1999; Ryan & Deci, 2020).

Overall, the comparative analysis demonstrated that intrinsic motivation strategies were more effective and reliable than extrinsic strategies in enhancing student achievement in Physical Education. The significantly higher mean gain and stronger statistical results for intrinsic motivation led to the rejection of the null hypothesis and confirmed that motivation driven by personal interest, enjoyment, and self-determination produces greater and more consistent outcomes. While extrinsic motivation remains valuable as a supplementary tool to reinforce positive behaviors and initial engagement, the findings underscore the importance of prioritizing intrinsic motivational strategies in Physical Education instruction. A balanced pedagogical approach—combining autonomy-supportive teaching with thoughtfully designed external reinforcement—emerges as the most effective framework for fostering sustained student engagement, improved achievement, and long-term commitment to active and healthy lifestyles.

Conclusions

The study confirmed that the applied strategy was effective in enhancing both intrinsic and extrinsic motivation among students in Physical Education. The pre-test and post-test results revealed clear improvements, with intrinsic motivation showing a substantial and stable increase, while extrinsic motivation also rose but with less magnitude. When comparing achievement scores, students taught through intrinsic motivational strategies demonstrated superior and more consistent gains than those taught through extrinsic strategies, underscoring the stronger impact of approaches that emphasize autonomy, competence, and internal gratification.

Furthermore, statistical analysis established a significant difference between the pre-test and post-test scores, leading to the rejection of the null hypothesis. This indicates that the intervention produced meaningful improvements in student performance. Overall, the findings highlight that while both intrinsic and extrinsic strategies can enhance motivation, intrinsic approaches yield more reliable and sustained outcomes. Thus, Physical Education programs should prioritize fostering intrinsic motivation, complemented by carefully structured extrinsic reinforcements, to maximize student engagement, achievement, and long-term commitment to active lifestyles. These findings provide robust support for Self-Determination Theory (SDT), which asserts that motivation is more enduring when individuals' requirements for autonomy, competence, and relatedness are satisfied. The study further substantiates the critical influence of teachers on student motivation. Teacher support and autonomy-enhancing



behaviors were identified as essential factors, corroborating current literature that regards educators as pivotal players in the execution of effective motivational techniques within physical education contexts.

Recommendations

Based on the findings of this study, the following recommendations are proposed to improve Physical Education instruction, policy development, and future research.

Educational Practice

Physical Education teachers should prioritize instructional strategies that promote intrinsic motivation by supporting students' autonomy, competence, and relatedness. This may include allowing students to choose activities, set personal goals, and receive feedback that emphasizes effort and skill improvement rather than performance alone. A positive and supportive learning environment should also be fostered to increase enjoyment and sustained engagement (Ryan & Deci, 2020).

School administrators are encouraged to support these practices by providing professional development opportunities focused on motivation-based teaching strategies and by allocating adequate resources for diverse and meaningful physical activities.

Curriculum and Policy Development

Motivational strategies should be integrated into the Physical Education curriculum through student-centered activities, cooperative learning, and reflective practices that promote lifelong physical activity. Schools should adopt policies that emphasize intrinsic motivation while allowing the balanced use of extrinsic rewards—such as praise and recognition—as supportive tools rather than primary motivators (Işıkgöz, 2025; Ryan & Deci, 2020).

Professional Development

Ongoing training for Physical Education teachers is recommended to strengthen the effective application of evidence-based motivational strategies. Professional development should focus on balancing intrinsic and extrinsic motivation to enhance student engagement and achievement (Fernández-Espínola et al., 2020).

Further Research

Future studies should conduct longitudinal research to examine the long-term effects of motivational strategies on student achievement and physical activity behaviors. Research across different cultural and educational contexts is also recommended to assess the generalizability of intrinsic motivation strategies. Additionally, studies evaluating teacher training programs and the combined effects of intrinsic and extrinsic motivation would further inform effective practice (Kruse et al., 2024; Ryan & Deci, 2020).

REFERENCES

- Ajadi, M. T., & Kayode, F. E. (2022). Influence of teaching resources on physical education teachers' effectiveness in Kwara State, Nigeria. *International Journal of Educational Innovation and Research*, 1(1), 11-18.
- Abubakar, Y., Umar, M., Akitoye, M. A. O., & Chom, E. J. (2018). Strategies for resuscitating secondary school. Physical Education and sports for sustainable sports development in Nigeria; The role expectation of stakeholders. *Journal of Nigeria Association for Physical, Health Education Sports and Dance*, 8(1), 145-150.
- Alexander, C., Wyatt-Smith, C., & Du Plessis, A. (2020). The role of motivations and perceptions on the retention of in-service teachers. *Teaching and Teacher Education*, 96: 103186.
- Alhowimel, A., Alqahtani, B., Alotaibi, M., & Alghwiri, A. (2025). The mediating role of intrinsic motivation in the relationship between extracurricular physical activity and academic achievement among Saudi PE students. *Frontiers in Psychology*, 16, 1420286. <https://doi.org/10.3389/fpsyg.2025.1420286>



- Azid, M. B. B. A., Mazalan, N. S., Pa, W. A. M. W., Kamaruzaman, F. M., & Nazarudin, M. N. (2023). Intrinsic and Extrinsic Motivation in Sports. *International Journal of Academic Research in Progressive Education and Development*, 12(3), 270–275.
- Barbosa, A., Whiting, S., Simmonds, P., Scotini Moreno, R., Mendes, R., & Breda, J. (2020). Physical activity and academic achievement: an umbrella review. *International Journal of Environmental Research and Public Health*, 17(16), 5972. Retrieved on: 07th December 2023, from: <https://www.mdpi.com/1660-4601/17/16/5972/pdf>
- Dweck, C. S., & Yeager, D. S. (2019). Mindsets: A view from two eras. *Perspectives on Psychological Science*, 14(3), 481–496.
- Hattie, J. (2020). *Visible Learning: The sequel*. Routledge.
- Capuyan, V. E., et al. (2024). Extrinsic and Intrinsic Motivation and Academic Performance of Pupils at Quezon District Public Elementary Schools. *Cognizance Journal of Multidisciplinary Studies*, 4(5), 54–66.
- Capuyan, V.E. et al, (2024). *Cognizance Journal of Multidisciplinary Studies*, Vol.4, Issue.5, May 2024, pg. 54-66
- Cherry Kendra. (2019). Intrinsic Motivation: How Your Behavior Is Driven by Internal Rewards. Retrieve from <https://www.verywellmind.com/what-is-intrinsic-motivation-2795385/05.02>
- Cherry Kendra. (2020a). What Is the Instinct Theory of Motivation? How Instincts Motivate Behavior, Retrieved from <https://www.verywellmind.com/instinct-theory-of-motivation-2795383>. 04.02.2021.
- Cherry Kendra. (2020b). Are Actions Motivated by a Desire for Rewards? Retrieved from <https://www.verywellmind.com/the-incentive-theory-of-motivation-2795382>. 04.02.2021.
- Cherry Kendra. (2021). What Is Extrinsic Motivation? Retrieve from <https://www.verywellmind.com/what-is-extrinsic-motivation-2795164>. 05.02.2022.
- Cocca, A., Carbajal Baca, J. E., Hernández Cruz, G., & Cocca, M. (2020). Does a MultipleSport Intervention based on the TGfU pedagogical model for Physical Education increase physical fitness in primary school children?. *International Journal of Environmental Research and Public Health*, 17(15), 5532. Retrieved on: 07th December 2023, from: <https://www.mdpi.com/1660-4601/17/15/5532/pdf>
- Deci, E. L., & Ryan, R. M. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. <https://doi.org/10.1037/0003-066X.55.1.68>
- Department of Education- Instructional Materials in Physical Education Learners Material in grade 9 <https://www.studocu.com/ph/document/pangasinan-state-university/business-administration/module-3-basketball/61689676>
- Dorado, A. (2023). Ecological Factors in Learning: Perspective for Learners' Motivation and Development in TLE. *Psychology and Education: A Multidisciplinary Journal*, 11(10), 1-1.
- Estevan, I., Bardid, F., Utesch, T., Menescardi, C., Barnett, L. M., & Castillo, I. (2021). Examining early adolescents' motivation for physical education: Associations with actual and perceived motor competence. *Physical Education and Sport Pedagogy*, 26(4), 359-374. Retrieved on: 07th December 2023, from: https://strathprints.strath.ac.uk/73557/7/Estevan_etal_PESP_2020_Examining_early_adolescents_motivation_for_physical_education.pdf
- Fernández-Espínola, C., Almagro, B. J., Tamayo-Fajardo, J. A., & Sáenz-López, P. (2020). Complementing the self-determination theory with the need for novelty: motivation and intention to be physically active in physical education students. *Frontiers in Psychology*, 11, 1535.
- Foglesong, M. (2021). Fitness-Academic Achievement Link: The Relationship between Fitness Components and Academic Achievement (Doctoral dissertation, Grand Canyon University). Retrieved on: 07th December 2023, from: https://search.proquest.com/openview/b15e86784bc3562aba3a6fa10c3bd6e5/1?pqorigsite=gscholar&cb_l=18750&diss=y
- Galikyan, I., & Admiraal, W. (2019). Students' engagement in asynchronous online



discussion: The relationship between cognitive presence, learner prominence, and academic performance. The Internet and Higher Education, 43, 100692. Retrieved on: 07th December 2023, from: <https://www.sciencedirect.com/science/article/pii/S1096751619304105>

- Gray, J. A., & DiLoreto, M. (2016). The effects of student engagement, student satisfaction, and perceived learning in online learning environments. *International Journal of Educational Leadership Preparation*, 11(1).
- Gopalan Valarmathie, Abubakar Juliana, Zulkifli Abdul Nasir, Alwi Asmidah & Che Mat Krugman Paul. (2021). Understanding How and When to Use Extrinsic Rewards for Yourself and Others. Retrieve from <https://www.masterclass.com/articles/what-is-extrinsic-motivation-understanding-how-and-when-to-use-extrinsic-rewards-for-yourself-and-others>. 06.02.2022.
- Hulleman, C. S., Kosovich, J. J., Barron, K. E., & Daniel, D. B. (2017). Making connections: replicating and extending the utility value intervention in the classroom. *Journal of Educational Psychology*, 109(3), 387.
- Işıkgöz, M. E. (2025). Intrinsic vs. extrinsic motivation in high school physical education: Which fuels adolescent achievement emotions better? PLOS ONE, 20(6), e0327393. <https://doi.org/10.1371/journal.pone.0327393>
- Kruse, F., Büchel, S., & Brühwiler, C. (2024). Longitudinal effects of basic psychological need support on the development of intrinsic motivation and perceived competence in physical education: A multilevel study. *Frontiers in Psychology*, 15, 1393966. (doi.org in Bing)
- Li, H., Zhang, J., & Wang, Y. (2025). Teacher support, learning motivation, and self-efficacy: Pathways to sport participation among Chinese college students. *Frontiers in Psychology*, 16, 1592753. <https://doi.org/10.3389/fpsyg.2025.1592753>
- Meadows-Fernandez Rochaun. (2018). What Is Extrinsic Motivation and Is It Effective? Retrieve from <https://www.healthline.com/health/extrinsic-motivation>. 05.02.2022
- Michael, F. B., Uwaechia, F. C., Omowumi, O. E., Chinenye, E. C., & Temitope, O. F. (2024). Impact Of Inadequate Instructional Materials On The Effective Teaching And Learning Of Physics In Bwari Area Council Of Nigeria Federal Capital. *Abuja Implication For Preparing Future Engineers*.
- Murayama, K., & Jach, H. (2024). A critique of motivation constructs to explain higher-order behavior: We should unpack the black box. *Behavioral and Brain Sciences*, 1-53. <https://doi.org/10.1017/S0140525X24000025>
- Naz, S., Shah, S. A., & Qayum, A. (2020). Gender Differences In Motivation And Academic Achievement: A Study Of the University Students of KP, Pakistan.
- Pereira, M., Marques, M. C., Neiva, H. P., & Daniel, A. (2021). *Intrinsic and Extrinsic Motivation in Physical Education Class and the Differences between Two Educational Pathways*. *International Journal of Physical Education, Fitness and Sports*, 2(1), 38. <https://doi.org/10.34256/ijpefs2138>
- Quigley, A., et al. (2020). Metacognition and self-regulated learning. Education Endowment Foundation. Global Regional Review, V(I), 67-75. [https://doi.org/10.31703/grr.2020\(V-I\).09](https://doi.org/10.31703/grr.2020(V-I).09)
- Ronquillo-Elvina, F., & Quirap, E. A. (2024). Motivational Factors and Academic Performance Among Learners in Tagoloan District, Misamis Oriental. *European Modern Studies Journal*, 8(1), 175-193.
- Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford publications.
- Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, 61, 101860. <https://doi.org/10.1016/j.cedpsych.2020>
- Roopa D.R. (2023). The Impact of Physical Education on Academic Achievement: A Comprehensive Analysis, Ijfans International Journal of Food and Nutritional Sciences
- Ruzinoor. (2017). A review of the motivation theories in learning. AIP Conference Proceedings. 1891. 020043. 10.1063/1.5005376.



- Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Press.
- Santos-Longhurst Adrienne. (2019). Intrinsic Motivation: How to Pick Up Healthy Motivation Techniques. Retrieved from [https://www.healthline.com/health/intrinsic motivation/](https://www.healthline.com/health/intrinsic-motivation/) 05.02.2022
- Siyuan Miao, Jaehoon Rhee & Jun In. (2020). How Much Does Extrinsic Motivation or Intrinsic Motivation Affect Job Engagement or Turnover Intention? A Comparison Study in China. *Sustainability* 12, 3630; pp 1-18
- Sabarun, Laela Hikmah Nurbatra, Zaitun Qamariah, Hesty Widiastuty, & Aisyah Hafshah Saffura el-Muslimah. (2023). The Relationship among Intrinsic/Extrinsic Motivation and Interest Toward L2 Writing Performance at Higher Education. *Elementary Education Online*, 19(2), 60–Retrieved from <https://ilkogretim-online.org/index.php/pub/article/view/6419>
- Valdazan E. Capuyan E. (2024), *Cognizance Journal of Multidisciplinary Studies*, Vol.4, Issue.5, May 2024, pg. 54-66 nmhi
- Yarin, I.E., Elias, J., Surichaqui, A.A, Sulca, R.E., and Pozo, F. (2022). Relationship between Motivation and Academic Performance in Peruvian Undergraduate Students in the Subject Mathematic. *Hindawi Education Research International*, 2022, 1-11. <https://doi.org/10.1155/2022/3667076>