

Pedagogical Strategies And The Development Of Motor Skills In Physical Education Among College Students In The Province Of Batangas

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Abstract

The study aimed to examine the pedagogical strategies utilized in Physical Education and their relationship to the development of motor skills among college students in the Province of Batangas.

The study sought to determine the extent of utilization of pedagogical strategies in terms of motivation, instructional, and evaluation strategies, the level of motor skill development of students in locomotor, non-locomotor, and manipulative skills, a significant relationship between the utilization of strategies and the level of motor skill development of students, the challenges encountered by Physical Education teachers in utilizing pedagogical strategies, and the pedagogical framework of activities could be proposed to enhance motor skill learning.

A descriptive research design was utilized in the study. Data were collected from Physical Education teachers through survey questionnaire and unstructured interview. Statistical tools such as frequency, percentage, mean, standard deviation, and correlation analysis were used to analyze and interpret the gathered data.

The findings revealed that motivation, instructional, and evaluation strategies were all highly utilized by teachers, with instructional strategies ranking highest. Students demonstrated a highly developed level of motor skills across locomotor, non-locomotor, and manipulative skills. A significant relationship was found between the utilization of pedagogical strategies and the level of motor skill development. Teachers frequently encountered challenges such as large class sizes, limited space, varying student abilities, and environmental constraints. Based on these findings, a pedagogical framework of activities was proposed.

The study concluded that the utilization of pedagogical strategies significantly relates to the motor skill development of students. It emphasized the need for continuous implementation of structured, adaptive and learner-centered teaching approaches, as well as the development of a responsive pedagogical framework to address existing challenges and improve the overall quality of Physical Education instruction.

Keywords: *Pedagogical Strategies, Motor Skill Development, Physical Education, and Pedagogical Framework of Activities.*

INTRODUCTION

Education is not complete without Physical Education, which plays an important role in shaping the holistic development of the students. Beyond its benefits to mental, social and emotional growth, Physical Education is vital in promoting physical fitness, enhancing motor skills and encouraging healthy habits that last a lifetime.

In higher education, Physical Education offers structured opportunities for students to learn and improve motor skills abilities that allow people to move efficiently and in coordination. These skills, whether fundamental or specialized, are essential not only in sports but also in everyday life. However, motor skills do not develop on their own; they require systematic teaching, effective strategies, and regular practice. One of the goals of general education, as highlighted by the Commission on Higher Education (CHED), is to improve the quality of life of Filipinos, and Physical Education directly supports this goal. Physical Education is a subject that extends beyond the classroom. It helps students build discipline since physical activities demand effort and perseverance. While individuals who cannot participate in strenuous activities can still live meaningful lives, those who maintain fitness and health are often more prepared to contribute positively to society (CMO 39, s. 2021). The importance of PE is further recognized by UNESCO, which considers it a fundamental right, equal in importance to access to food, shelter, and healthcare.

Despite this, physical inactivity remains a growing global concern. Reports show that one in four adults and most adolescents do not engage in enough physical activity, and these numbers increase as societies become more modernized. In the Philippines, where about 30 percent of the population is composed of children and youth, insufficient activity among the younger generation poses a serious public health issue (Cagas et al., 2022).

CHED underscores the role of Physical Education in promoting lifelong fitness and well-rounded growth. College Physical Education courses aim not only strengthen physical fitness but also to improve motor competence and build positive attitudes toward active living.

However, the success of these goals depends heavily on how teachers deliver instruction.

In Batangas, a growing province in Southern Luzon with many universities and colleges, Physical Education teachers face challenges such as large class sizes, limited facilities, and diverse student needs. These conditions call for flexible and effective teaching strategies that can minimize learning outcomes. Research also shows that some students struggle with basic sports skills because they lack prior practice and structured learning opportunities. This highlights the need for sufficient class time, effective instruction, and targeted activities that build strong foundations in motor skills.

While Physical Education is widely recognized as important for students' overall development, but there are still few local studies that look closely at the use of different pedagogical strategies to motor skill development among college student in Batangas. Most research discusses pedagogy in general, without comparing the impact of approaches. In addition, little is known about how factors such as teacher delivery, class size, and limited facilities influence the success of these strategies in local colleges. This shows the need for studies that not only identify effective strategies for motor skill learning but also consider how these can be applied within the specific context of Batangas.

Useful teaching strategies in Physical Education depends on the strategies used by teachers. Strategies may include the methods and techniques they apply to help students learn

and perform better. The way teachers choose and use these strategies can greatly affect how students learn and improve their motor skills.

College students in some colleges and universities face several challenges in developing their motor skills in Physical Education. These include limited facilities, lack of equipment, and not enough time to practice. Some teaching methods may not fill all learning styles, and students' motivation or confidence can also affect their performance. Differences in skill levels, health issues, and limited teacher training add to the problem. Other factors like financial limitations, cultural attitudes, also make skill development harder. These issues highlight the need to improve PE programs and use effective teaching strategies that help all students learn and grow.

Given these realities, these challenges led the researcher to conduct the study. The researcher has observed how students struggle to perform basic skills such as sport-specific skills like proper bending while dribbling in basketball, and exercises in Pathfit 1 including push-ups, lunges and etc. due to limitations in teaching methods, resources, and learning conditions.

By exploring the use of different teaching strategies to motor skill development, the study aims to fill this gap by identifying helpful approaches use by Physical Education teachers improve their instruction and better support students' learning. Ultimately, this research will seek to contribute to enhancing the quality of Physical Education programs in Batangas, promoting not only skill improvement but also students' overall physical growth and active participation in sports and fitness activities.

RELATED LITERATURE

Pedagogical strategies focus on using varied teaching approaches such as active learning, cooperative activities, and timely feedback to encourage students to participate actively and engage more deeply in the learning process (Lam et al., 2024).

Effective pedagogical strategies combined sound psychological principles with the thoughtful use of digital tools to make teaching more adaptive, engaging, and meaningful for students, ultimately enhancing their overall learning experience (Chye and Chua, 2023).

Motivation strategies encompass the methods employed by teachers to inspire students', maintain their engagement, and sustain their interest in the learning process. According to Radil et al., (2023), they define these strategies as pedagogical approaches designed to stimulate curiosity, enhance participation, and reinforce students' motivation to learn. Motivation is critical element in education, as it directly influences learners' effort, persistence, and academic performance. To foster these outcomes, teachers must establish learning environments that are meaningful, rewarding, and aligned with students' personal goals and experiences.

Instructional strategies refer to the structured methods teachers employ to present content, guide the learning process, and facilitate students understanding. These strategies enable educators to design lessons that are responsive to students' diverse learning styles, abilities, and goals, ensuring that instruction is both inclusive and effective. As mentioned by Zhang et al., (2024), it highlighted that structured, teacher-led programs, as opposed to unstructured free play alone, are more likely to generate significant improvements in the development of fundamental motor skills.

Evaluation strategies are the approaches teachers use to measure students' learning, progress, and achievement. These strategies help determine if learning objectives have been met

and highlights areas where improvement is needed. As Pastore (2023) explained, one important aspect of a teacher's assessment literacy is the ability to design and interpret assessments, which ensures that evaluation methods accurately reflect student learning. There are many ways to assess students' performance, ranging from classroom-based assessments to broader institutional practices. The development of motor skills plays an important role in their physical, mental, and social growth. As explained by Beach et al., (2023) motor skills development is understood by combining learning and motor development, while considering changes across the life span and teaching methods that help learners gain skills.

Locomotor Skills these are the movements that allows our body to travel from one place to another usually in any direction. As defined by Vagnetti et al., (2025) it is identified as the building blocks for children's or students' motor development. In addition, Madu et al., (2025) showed that this skill is separable skill category whose mastery expect during play sessions a greater overall physical activity.

Non-Locomotor Skills, also known as stability skills, are movements performed without moving from one place to another. As supported by Sutapa et al., (2021), these are axial or stability movements that include actions such as bending, twisting, stretching, and balancing. These skills focus on balance, posture, and controlled body movements while staying in one position or within a small space. Common examples are bending, stretching, twisting, turning, pushing, pulling, swaying, and balancing.

Manipulative Skills are important for developing coordination and control because they require learners to handle and interact with external objects, including items used in daily life. According to Liu et al., (2023), manipulative or object-control skills are core fundamental movement skills that build hand-eye coordination. Likewise, engaging in structured play and activities that focus on manipulative skills supports the development of learners' control, coordination, and movement accuracy (Aquino et al., 2024).

Teaching Physical Education comes with different challenges for teachers. Some of the most common ones include limited time, large class sizes, differences in students' skill levels, and the availability of facilities. Physical Education teachers face many challenges, such as adjusting to changes in the curriculum, using digital technologies, and dealing with policies and social factors that affect their teaching (Stidder, 2024).

In both Philippines and international college settings, Physical Education teachers often face the challenge of wide differences in students' previous motor experiences and skill levels. Learners bring varied motor experiences to the classroom, which requires differentiated instructional approaches to effectively build skills and foster participation (Ballecer et al., 2023).

Likewise, Philippine universities and schools described large practical classes where instructors focus on supervision and inclusive participation, since individualized technical coaching is not feasible on a large scale, also instructor often adjust their teaching methods to focus on active supervision and encourage peer participation, especially when providing individualized coaching is not feasible (Aguinaldo, 2021; Carbone, 2023). In addition to this, teachers are urged to look beyond conventional individual coaching and adopt instructional

strategies that support learner diversity while promoting effective supervision in group activities (Carandang, 2023).

To improve motor skill learning in Physical Education, incorporating skill-based stations or circuit training is a useful method. Specifically, school-based circuit training offers structured and repeated practice across different stations, which enhances muscular endurance and related skills among primary students (Stojanovic et al., 2023). Moreover, evidenced from high-quality reviews shows that structured, teacher-led activities, including circuit or station approaches, are among the most effective school strategies for improving both fitness and skill outcomes (Neil-Sztramko et al., 2021).

According to Wang et al., (2023), blending traditional drills with technology-driven learning allows PE teachers to address diverse learning styles and maintain student engagement. Blended lessons combining face-to-face drills with video or online components enhance skill learning and student attitudes by scaffolding practice, showing multiple representations of skills, and giving learners control over pace and repetition. Teachers and students find exergaming, feedback apps, and instructional videos acceptable and motivating, supporting the use of technology alongside drills in local PE classrooms (Manlapaz, 2023).

RESEARCH QUESTIONS

The study aimed to determine the pedagogical strategies commonly employed by the Physical Education teachers and the development of motor skills in Physical Education among college students in the province of Batangas.

Specifically, the study sought answers to the following questions:

1. What is the extent of utilization of pedagogical strategies in the development of motor skills as assessed by the teachers in terms of:
 - 1.1 motivation strategies;
 - 1.2 instructional strategies and
 - 1.3 evaluation strategies?
2. How may the level of the development of motor skills among college students be assessed by the respondents with reference to:
 - 2.1 locomotor skills;
 - 2.2 non-locomotor skills and
 - 2.3 manipulative skills?
3. Is there a significant relationship between the assessment on the extent of utilization of the strategies and on the level of motor skills development of the students?
4. What are the challenges encountered by PE teachers in utilizing different pedagogical strategies?
5. What pedagogical framework of activities may be proposed to enhance the teaching and learning of motor skills in PE?

HYPOTHESIS OF THE STUDY

There is a significant relationship between the extent of utilization of pedagogical strategies and the level of motor skills development of college students.

METHODOLOGY

This study used a descriptive research design, as it is considered the most suitable approach. This research combines qualitative and quantitative data to provide a more complete understanding of research problems and supported designs aligned with research goals.

The quantitative gathering of data conducted first using a researcher-made questionnaire to gather numerical data on the pedagogical strategies employed by Physical Education teachers. This was followed by a qualitative gathering of data using unstructured interviews to obtain in-depth explanations and to further explain and support the quantitative finding. The combination of quantitative and qualitative data provided a more comprehensive understanding of the study.

SUBJECT OF THE STUDY

The research involved PE teachers from different colleges and universities within Batangas Province only. The participants are PE teachers teaching Physical Education classes in the province of Batangas.

Through Slovin's formula with margin of error of 5%, out of 137 PE teachers, 102 were the respondents. Then purposive sampling employed in selecting the interview participants. Ten (10) P.E. teachers who were not part of 102 respondents were asked to participate in the unstructured interview.

The accessibility and permission constraints limited the inclusion of some schools in Batangas. Some institutions were unavailable or unable to grant approval for participation, and coordinating with every school within given research timeline was not feasible. Therefore, only schools that were accessible and granted permission were included in the study.

DATA GATHERING INSTRUMENTS

The researcher used both a questionnaire and interviews as the main instruments for data collection. A researcher-made questionnaire was created specifically for this study to ensure that its items align closely with the research objectives and variables. Additionally, interviews are conducted to gather deeper insights and clarify participants' responses, providing a more comprehensive understanding of collected data.

DATA GATHERING PROCEDURE

The researcher prepared a letter for the validation of the questionnaire, which approved by the dean of graduate school and adviser. The researcher requested permission to distribute the questionnaire.

After seeking the permission, some agreements, suggestions and amendments were made regarding the distribution of the questionnaire.

The researcher sought approval from the respondents and asked the respondents to answer the questionnaire.

Subsequently, the researcher gathered the questionnaires, after the collection and analysis of the quantitative data, selected respondents were invited to participate in the unstructured interviews.

Then the researcher started tallying and tabulating the data gathered. After, the data were tallied and tabulated; they were subjected to statistical tests.

DATA ANALYSIS PLAN

To be able to analyze and understand the data the following statistical tools will be gathered.

Weighted Mean. This was used to determine the teacher assessment about level of development of motor skills of college students in each criterion based on the four-scale option on which 4 was the highest and 1 was the lowest value.

Standard Deviation. This method was used to determine the variability of scores in assessing the level of motor skill development of college students in terms of locomotor, non-locomotor, and manipulative skills.

Frequency. This method was used to determine the number of respondents with same challenges encountered in developing motor skills of college students.

Ranking. Refers to the data transformation in which numerical or ordinal values are replaced by their rank when the data are sorted. This was used to determine the most challenges encountered of PE teachers in developing motor skills of college students.

Pearson Correlation Coefficient (r). This method was used to determine if there is a significant relationship between the assessment of the pedagogical strategies of PE teachers and on the motor skill development of college students.

RESULTS

1. Extent of utilization of pedagogical strategies in the development of motor skills as assessed by the teachers in terms of motivation strategies.

Table 1 presents the extent of utilization of commonly utilized strategies in the development of motor skills in terms of motivation strategies. The results indicate that all indicators were interpreted as “Highly Utilized”, with a composite mean of 3.782 (SD = 0.3029). This finding suggested that motivation strategies are consistently implemented in facilitating the development of motor skills. The overall high rating implies that teachers recognize the importance of motivation in encouraging learners to actively participate in motor skills activities and to sustain engagement throughout the learning process. Students’ motivation plays a key role in how actively they participate and how well they perform in physical education, as it shapes their willingness to engage and put effort into activities (Vallerand, 2022).

Table 1. Utilization of Commonly Utilized Strategies in the Development of Motor Skills as assessed by the teachers in terms of Motivation Strategies

Indicators	Mean	SD	Interpretation	Rank
1. Positive reinforcement (praise or encouragement) is provided during motor skill activities.	3.79	.452	Highly Utilized	6
2. Clear and achievable goals are established to motivate learners.	3.87	.414	Highly Utilized	2.5
3. Engaging warm-up activities are used to sustain interest.	3.86	.373	Highly Utilized	4
4. Activities are connected to real-life situations to enhance motivation.	3.69	.526	Highly Utilized	8
5. Opportunities for learners to choose or suggest activities that match their interests and personal goals are provided.	3.64	.577	Highly Utilized	9.5
6. Recognition of learner achievements is consistently practiced.	3.72	.534	Highly Utilized	7
7. Group tasks are used to promote teamwork and motivation.	3.92	.270	Highly Utilized	1
8. A supportive learning environment is maintained to encourage participation.	3.87	.363	Highly Utilized	2.5
9. Motivational cues (e.g., challenges or rewards) are implemented to increase enthusiasm.	3.64	.559	Highly Utilized	9.5
10. Self-confidence and personal satisfaction are promoted during motor skill performance.	3.82	.383	Highly Utilized	5
Composite Mean	3.782	.3029	Highly Utilized	

Legend: 3.50-4.00 Highly Utilized; 2.50-3.49 Moderately Utilized; 1.50-2.49 Slightly Utilized; 1.00-1.49 Least Utilized

2. Extent of utilization of commonly utilized strategies in the development of motor skills as assessed by the teachers in terms of instructional strategies.

Table 2 presents the extent of utilization of commonly utilized strategies in the development of motor skills in terms instructional strategies.

The results indicate that all indicators were interpreted as “Highly Utilized”, with a composite mean of 3.787 (SD = 0.2964). This finding suggested that instructional strategies supporting motor skill development are consistently implemented in teaching practices. The overall high rating implies that teachers apply a variety of instructional approaches to guide learners in acquiring, practicing, and refining motor skills during physical education activities. Teachers apply a variety of instructional approaches to guide learners in acquiring and refining motor skills (Casey and MacPhail, 2022).

Table 2. Utilization of Commonly Utilized Strategies in the Development of Motor Skills as assessed by the teachers in terms of Instructional Strategies

Indicators	Mean	SD	Interpretation	Rank
1. Clear demonstrations of motor skills are provided before performance.	3.83	.400	Highly Utilized	2
2. Complex motor tasks are broken into simpler, manageable steps.	3.75	.432	Highly Utilized	9
3. Visual aids or models are used to support skill understanding.	3.69	.545	Highly Utilized	10
4. Guided practice is provided prior to independent performance.	3.81	.439	Highly Utilized	3
5. Activities are adjusted based on learner skill levels.	3.79	.430	Highly Utilized	4.5
6. Verbal cues or reminders are used to refine movement execution.	3.78	.459	Highly Utilized	6.5
7. Progressive drills are incorporated to enhance mastery.	3.85	.383	Highly Utilized	1
8. Peer teaching or partner work is utilized to reinforce learning.	3.79	.430	Highly Utilized	4.5
9. Activity variations are introduced to maintain learner interest.	3.77	.465	Highly Utilized	8
10. Sufficient practice time is allotted to support motor skill development.	3.78	.459	Highly Utilized	6.5
Composite Mean	3.787	.2964	Highly Utilized	

Legend: 3.50-4.00 Highly Utilized; 2.50-3.49 Moderately Utilized; 1.50-2.49 Slightly Utilized; 1.00-1.49 Least Utilized

3. Extent of utilization of commonly utilized strategies in the development of motor skills as assessed by the teachers in terms of evaluation strategies.

Table 3 presents the extent of utilization of commonly utilized strategies in the development of motor skills in terms of evaluation strategies. The results indicate that the indicators were interpreted as “Highly Utilized”, suggesting that evaluation practices are consistently implemented in assessing learners’ motor skill performance. The findings imply that teachers employ various assessment strategies to monitor learners’ progress, identify strengths and weaknesses, and ensure that instructional objectives related to motor skill development are achieved. Aligned with this, teachers employ various assessment strategies to monitor learners’ progress (Hay and Penney, 2022).

Table 3. Utilization of Commonly Utilized Strategies in the Development of Motor Skills as assessed by the teachers in terms of Evaluation Strategies

Indicators	Mean	SD	Interpretation	Rank
1. Performance-based assessments are used during motor skill activities.	3.90	.299	Highly Utilized	2
2. Immediate feedback is provided to enhance performance.	3.67	.569	Highly Utilized	10

3. Checklists or rubrics are utilized to evaluate motor skill execution.	3.92	.270	Highly Utilized	1
4. Both individual and group performance assessments are conducted.	3.88	.324	Highly Utilized	3
5. Regular assessments of motor skills are implemented throughout the course.	3.77	.486	Highly Utilized	5
6. Observations are used to identify learner strengths and weaknesses.	3.78	.500	Highly Utilized	4
7. Opportunities for learner self-reflection are provided.	3.68	.548	Highly Utilized	9
8. Skill tests or performance tasks are administered to measure progress.	3.77	.486	Highly Utilized	5
9. Improvement over time is monitored to track development.	3.70	.541	Highly Utilized	8
10. Records of learner performance outcomes are maintained for accurate evaluation.	3.77	.486	Highly Utilized	5
Composite Mean	3.785	.3087	Highly Utilized	

Legend: 3.50-4.00 Highly Utilized; 2.50-3.49 Moderately Utilized; 1.50-2.49 Slightly Utilized; 1.00-1.49 Least Utilized

4. Level of the development of motor skills among college students be assessed by the respondents with reference to locomotor skills.

Table 4 presents the level of motor skill development among college students in terms of locomotor skills. The results indicate that all indicators were interpreted as “Highly Develop”, with a composite mean of 3.718 (SD = 0.4026). This finding suggested that college students demonstrate a strong level of proficiency in performing locomotor movements. The high composite mean implies that the students have developed the fundamental abilities necessary to execute movements such as running, hopping, and skipping effectively, which are essential components of physical activity and sports participation. Students have developed fundamental locomotor skills like running, hopping and skipping (Bardid et al., 2022; Barnett et al., 2023).

Table 4. Level of Motor Skill Development Among College Students be assessed by the respondents with reference to Locomotor Skills

Indicators	Mean	SD	Interpretation	Rank
1. Basic locomotor movements such as running, hopping, and skipping are performed effectively.	3.75	.476	Highly Developed	2
2. Coordination of locomotor movements has improved through physical education activities.	3.69	.487	Highly Developed	8.5
3. Locomotor skills are executed with rhythm, timing, and control.	3.72	.515	Highly Developed	6
4. Endurance in locomotor activities has increased through consistent practice.	3.73	.470	Highly Developed	4.5

5. Different locomotor skills can be combined smoothly in movement sequences.	3.74	.506	Highly Developed	3
6. Locomotor movements are adjusted appropriately based on available space and situations.	3.73	.529	Highly Developed	4.5
7. Speed and agility in performing locomotor skills have shown improvement.	3.66	.572	Highly Developed	10
8. Proper posture is maintained while engaging in locomotor movements.	3.69	.526	Highly Developed	8.5
9. Locomotor activities are performed safely without losing balance.	3.70	.541	Highly Developed	7
10. Developed locomotor skills support effective participation in games and sports.	3.79	.474	Highly Developed	1
Composite Mean	3.718	.4026	Highly Developed	

Legend: 3.50-4.00 Highly Developed; 2.50-3.49 Moderately Developed; 1.50-2.49 Slightly Developed; 1.00-1.49 Least Developed

5. Level of the development of motor skills among college students be assessed by the respondents with reference to non-locomotor skills.

Table 5 presents the level of motor skill development among college students in terms of non-locomotor skills. The results indicate that all indicators were interpreted as “Highly Developed,” with a composite mean of 3.685 (SD = 0.3996). This finding suggested that college students demonstrate a strong level of proficiency in performing non-locomotor movements, which involve stability, control, and body coordination without significant displacement from one place to another. College students demonstrate proficiency in non-locomotor movements (Logan et al., 2022).

Table 5. Level of Motor Skill Development Among College Students be assessed by the respondents with reference to Non-Locomotor Skills

Indicators	Mean	SD	Interpretation	Rank
1. Balance and stability during stationary activities are consistently maintained.	3.66	.497	Highly Developed	7.5
2. Flexibility in bending, stretching, and twisting has improved through physical education participation.	3.67	.533	Highly Developed	6
3. Non-locomotor positions such as balancing or twisting can be sustained for longer periods.	3.58	.571	Highly Developed	10
4. Posture and body alignment have improved as a result of non-locomotor training.	3.68	.530	Highly Developed	5
5. Transitions between different non-locomotor movements are performed smoothly.	3.66	.497	Highly Developed	7.5
6. Control in turning, swaying, and pushing motions has shown noticeable improvement.	3.71	.479	Highly Developed	4

7. Non-locomotor skills are applied effectively in warm-up and cool-down activities.	3.80	.423	Highly Developed	1
8. Coordination between upper and lower body is evident during non-locomotor tasks.	3.78	.437	Highly Developed	2
9. Static holds (e.g., planks, balances) are performed with stability and control.	3.59	.586	Highly Developed	9
10. Engagement in non-locomotor activities has enhanced overall focus and body control.	3.74	.465	Highly Developed	3
Composite Mean	3.685	.3996	Highly Developed	

Legend: 3.50-4.00 Highly Developed; 2.50-3.49 Moderately Developed; 1.50-2.49 Slightly Developed; 1.00-1.49 Least Developed

6. Level of the development of motor skills among college students be assessed by the respondents with reference to manipulative skills.

Table 6 presents the level of motor skill development among college students in terms of manipulative skills. The results indicate that all indicators were interpreted as “Highly Developed,” with a composite mean of 3.608 (SD = 0.5267). This finding suggested that college students demonstrate a strong level of competence in performing manipulative skills, which involve controlling objects through movements such as throwing, catching, striking, and dribbling. The high composite mean indicates that students have developed the ability to coordinate body movements with objects effectively, which is an essential component of participation in many sports and physical activities. As emphasized by Palmer et al., 2022; Bolger et al., 2023) Students can coordinate body movements with objects effectively.

Table 6. Level of Motor Skill Development Among College Students be assessed by the respondents with reference to Manipulative Skills

Indicators	Mean	SD	Interpretation	Rank
1. Balance and stability during stationary activities are consistently maintained.	3.66	.497	Highly Developed	7.5
2. Flexibility in bending, stretching, and twisting has improved through physical education participation.	3.67	.533	Highly Developed	6
3. Non-locomotor positions such as balancing or twisting can be sustained for longer periods.	3.58	.571	Highly Developed	10
4. Posture and body alignment have improved as a result of non-locomotor training.	3.68	.530	Highly Developed	5
5. Transitions between different non-locomotor movements are performed smoothly.	3.66	.497	Highly Developed	7.5
6. Control in turning, swaying, and pushing motions has shown noticeable improvement.	3.71	.479	Highly Developed	4
7. Non-locomotor skills are applied effectively in warm-up and cool-down activities.	3.80	.423	Highly Developed	1

8. Coordination between upper and lower body is evident during non-locomotor tasks.	3.78	.437	Highly Developed	2
9. Static holds (e.g., planks, balances) are performed with stability and control.	3.59	.586	Highly Developed	9
10. Engagement in non-locomotor activities has enhanced overall focus and body control.	3.74	.465	Highly Developed	3
Composite Mean	3.685	.3996	Highly Developed	

Legend: 3.50-4.00 Highly Developed; 2.50-3.49 Moderately Developed; 1.50-2.49 Slightly Developed; 1.00-1.49 Least Developed

7. Relationship between the assessment on the extent of utilization of the strategies and on the level of motor skills development of the students.

Table 7 presents the relationship between the extent of utilization of motivation, instructional, and evaluation strategies and the level of motor skills development of the students in terms of locomotor, non-locomotor, and manipulative skills. The relationships were analyzed using Pearson correlation coefficient. The results reveal that all computed p-values are .000, which are less than the 0.05 level of significance. This indicates that all relationships are statistically significant. Therefore, the extent of utilization of teaching strategies is significantly related to the level of motor skills development of the students. This finding aligned with the work of Rudd et al., and Robinson et al., who both emphasized that structured teaching strategies significantly influence the acquisition and refinement of fundamental motor skills among learners.

Table 7. Relationship Between the assessment on the Extent of Utilization of the Strategies and on the Level of Motor Skills Development of the Students

	r-value	p-value	Interpretation
Motivation Strategies			
Locomotor Skills	.743*	.000	Significant
Non-Locomotor Skill	.613**	.000	Significant
Manipulative Skills	.602**	.000	Significant
Instructional Strategies			
Locomotor Skills	.675*	.000	Significant
Non-Locomotor Skill	.571**	.000	Significant
Manipulative Skills	.670*	.000	Significant
Evaluation Strategies			
Locomotor Skills	.761**	.000	Significant
Non-Locomotor Skill	.649*	.000	Significant
Manipulative Skills	.674**	.000	Significant

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

8. Challenges encountered by PE teachers in utilizing different pedagogical strategies.

Table 8 presents the challenges encountered by physical education (PE) teachers in utilizing different pedagogical strategies in teaching motor skills. The results show that all

indicators were interpreted as “Often,” with a composite mean of 2.938 (SD = 0.7473). This finding indicates that PE teachers frequently encounter various challenges in implementing pedagogical strategies during physical education instruction. The overall result suggested that several environmental, instructional, and learner-related factors may influence the effectiveness of teaching strategies used in developing motor skills among students. As pointed out by Ward et al., 2022; Dyson et al., 2023, environmental, instructional and learner-related factors influence teaching effectiveness.

Table 8. Challenges Encountered by PE Teachers in Utilizing Different Pedagogical Strategies

Indicators	Mean	SD	Interpretation	Rank
1. Limited facilities and equipment hinder effective physical education instruction.	3.01	.838	Often	5
2. Large class sizes reduce opportunities for individualized guidance during motor skill activities.	3.05	.860	Often	1
3. Time constraints prevent adequate coverage and practice of essential motor skills.	2.91	.913	Often	6.5
4. Differences in learners’ motivation levels make it challenging to implement effective teaching strategies.	2.91	.846	Often	6.5
5. Evaluating motor skills is difficult due to variations in individual performance.	2.80	.923	Often	9
6. Weather and environmental conditions negatively affect outdoor physical education activities.	3.03	1.009	Often	3.5
7. Inadequate space limits the organization of movement-based activities.	3.04	.922	Often	2
8. Safety concerns restrict the range of motor skill activities that can be practiced.	2.86	.955	Often	8
9. Differences in learners’ physical abilities create challenges in instruction.	3.03	.861	Often	3.5
10. Limited access to updated teaching materials and professional development reduces instructional quality.	2.74	1.043	Often	10
Composite Mean	2.938	.7473	Often	

Legend: 3.50-4.00 Very Often; 2.50-3.49 Often; 1.50-2.49 Rare; 1.00-1.49 Very Rare

DISCUSSION

The findings revealed that Physical Education teachers highly utilized motivation, instructional, and evaluation strategies in teaching motor skills, with instructional strategies being the most frequently applied. The results also showed that college students demonstrated a highly developed level of locomotor, non-locomotor, and manipulative skills. Furthermore, a significant

relationship was found between the extent of utilization of pedagogical strategies and the level of students' motor skill development.

However, teachers often encountered challenges such as large class sizes, limited space, and differences in students' physical abilities. These findings are consistent with existing studies which emphasize that effective instructional strategies, structured practice, and continuous assessment significantly improve students' motor skill development and participation in Physical Education classes (Zhou et al., 2021; Bardid et al., 2022; Robinson et al., 2023).

CONCLUSIONS

Based on the findings of the study, it can be concluded that Physical education teachers extensively utilize a variety of pedagogical strategies to facilitate motor skill development among college students in the Province of Batangas.

1. Self-assessment of teachers on the extent of utilization of pedagogical strategies in the development of motor skills showed that these strategies were highly utilized.
2. The teacher's assessment on the level of motor skills development among college students was highly developed.
3. There was a significant relationship between the extent of utilization of pedagogical strategies and the level of motor skills development of students.
4. Physical Education teachers often encountered several challenges in utilizing pedagogical strategies such as large class sizes, inadequate space, unfavorable weather and environmental conditions, and differences in learners' physical abilities.
5. The proposed output was important because it provided teachers with structured and practical activities that could improve instructional delivery, address existing challenges, and further develop student's motor skills in Physical Education.

RECOMMENDATIONS

Based on the findings and conclusions of the study, the following recommendations are hereby offered:

1. Physical Education teachers may continue using motivation, instructional, and evaluation strategies to improve student's motor skills.
2. Students may be given regular and varied activities to enhance locomotor, non-locomotor, and manipulative skills.
3. School administrators may provide trainings and seminars on updated pedagogical strategies for PE teachers.
4. Institutions may improve facilities, maximize available space, and provide alternative activities during unfavorable weather conditions.
5. Physical Education teachers may apply differentiated instruction to address differences in learner's physical abilities.
6. The proposed pedagogical framework of activities may be implemented and evaluated for continuous improvement.
7. Future researchers may conduct similar studies in other setting to validate and expand findings.

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