

"Adapting Physical Education for Remote Learning: Challenges and Opportunities in Mapúa Malayan Colleges Laguna"

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Abstract

This study explored how Physical Education (PE) was adapted to an online format at Mapúa Malayan Colleges Laguna, focusing on the challenges and opportunities that came with this transition. With 408 students participating in the research, the lack of proper facilities emerged as the biggest hurdle, making it difficult for many to fully engage in PE activities at home. Limited space, absence of equipment, and lack of motivation were among the key issues students faced.

Despite these challenges, the shift to online PE also opened new possibilities. Virtual fitness programs, video-guided exercises, and self-paced learning allowed students to stay active in ways that suited their home environments. The study highlighted the importance of creative teaching strategies, such as interactive workout sessions and digital assessments, to keep students engaged. Ultimately, while the absence of proper facilities posed difficulties, the findings showed that with the right support, PE could still be effectively delivered online, ensuring students' physical well-being even in a remote setup.

Keywords: Remote Physical Education, Lack of Facilities, Online Learning

1. Nature and Scope of the Problem Investigated

This study seeks the potential evolution of Physical Education (PE) in the context of online learning, specifically whether Virtual Physical Education (VPE) can be a feasible format that effectively encourages family involvement and flexibility. With digital technologies becoming more integrated into the school setting, the traditional model of PE, which has so far depended on face-to-face instruction, is under serious threat. The emergence of online learning platforms, especially in the backdrop of global crises like the COVID-19 pandemic, has necessitated the exploration of alternative means of delivering PE that are convenient and effective. This study sought to evaluate the capacity of online PE to offer a strong and flexible physical education experience to students, considering its capacity to build long-term fitness routines and its ability to engage families in the process.

1.1. Research Problem and Objectives

When the COVID-19 pandemic forced a sudden shift to online learning, it created major challenges for hands-on subjects like Physical Education (PE). At Mapúa Malayan Colleges Laguna, PE classes had to move to virtual platforms, pushing both students and instructors to find new ways to teach and stay active. This study looks at the difficulties students faced in this transition—such as the lack of proper space, equipment, and motivation—which

made it harder to fully participate in PE activities at home. At the same time, it explores how digital tools like virtual fitness programs and video-guided exercises helped students stay engaged and physically active.

By understanding both the struggles and creative solutions in online PE, this study hopes to shed light on how PE can still be effective in a remote learning setup.

1. Explore how limited space, lack of equipment, and low motivation affected their participation in PE activities.
2. Did the students find that strategies like alternative equipment (e.g., household items) or motivational prompts were helpful?
3. Effectiveness of digital tools in helping students' stay engaged and improve their fitness levels.

1.2. Research Framework

This study's conceptual framework looks at how the challenges of moving Physical Education (PE) online interact with the new opportunities it creates. It explores the different factors that affect how students engage with virtual PE and investigates ways to make it work better.

Using an Input-Process-Output (IPO) Model, the framework breaks down the situation into three parts: the challenges (inputs) that affect online PE, the teaching strategies (process) used to adapt to these challenges, and the results (outputs) of these efforts. Ultimately, it shows how digital tools and innovative teaching methods can turn online PE into an engaging and effective experience for students.

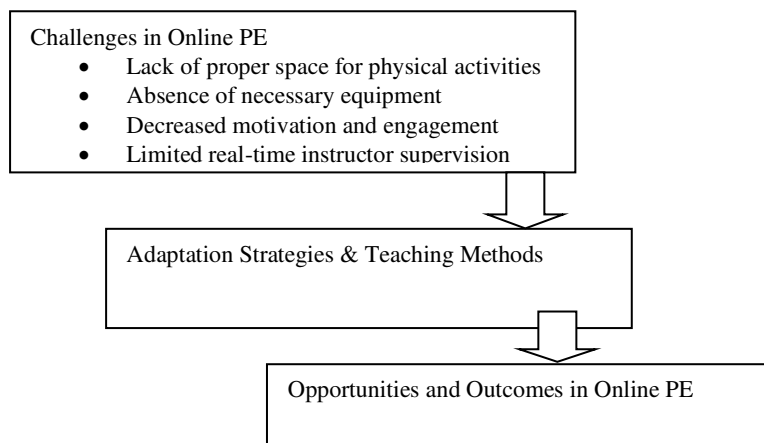


Fig. 1. research conceptual paradigm

1.3. Research Significance

This study is important because it looks at how Physical Education (PE) has adapted to online learning, highlighting both the challenges and opportunities that come with it. By understanding the experiences of students at Mapúa Malayan Colleges Laguna, it offers insights into how virtual PE can be improved to keep students engaged and active, even from home. Many students struggle with issues like limited space, lack of equipment, and staying motivated, and this study sheds light on these difficulties while also exploring ways to overcome them. For PE instructors, it provides practical ideas on making online classes more interactive and enjoyable through digital tools, creative teaching methods, and flexible workout routines. Schools can also use these findings to create better policies and support systems for online PE, ensuring that students continue to benefit from physical activity, no matter the learning setup. Lastly, this research can serve as a stepping stone for future studies, helping to explore new ways to enhance online PE, boost student participation, and make better use of technology in physical education.

1.4. Philosophical Lens

Pragmatism was used in the study. As online Physical Education (PE) necessitates students and instructors to adjust hurriedly, a pragmatic perspective is concerned with using flexible and effective teaching practices that suit various home circumstances. Rather than being based on inflexible traditional methods, this view appreciates problem-solving and creativity to keep students physically active and interested.

Simultaneously, Constructivism is key to informing this research. Constructivism is a philosophy that assumes that learning occurs optimally when learners are engaged and construct meaning by experience. For online PE, this implies that self-directed learning, video instructional exercise, and interactive digital resources can aid learners in constructing physical skills that are relevant and meaningful to them.

With the incorporation of these perspectives, this study not only examines the issue of online PE but also explains how innovative teaching practice can make virtual physical education an efficient and meaningful learning experience for students.

1.5. Scope and Limitations

This study looks at how Physical Education (PE) was adapted to online learning at Mapúa Malayan Colleges Laguna, focusing on the challenges students faced, like limited space, lack of equipment, and

low motivation, as well as the opportunities offered by virtual workouts and self-paced learning. It explores how digital tools and creative teaching strategies helped keep students engaged. However, the study is limited to students from one school, so the findings may not apply to other institutions with different resources or teaching styles. It also does not deeply explore factors like internet issues, fitness levels, or home environments that may affect participation. Despite these limitations, the study provides useful insights into making online PE more effective and engaging for students.

1.6. Review of Pertinent Literature

The shift of Physical Education (PE) into an online mode has been a big challenge for teachers and students alike. Different studies have considered the effect of online PE on students' engagement, participation, and overall effectiveness. This review offers important themes concerning the adjustment of PE in an online environment, such as the challenges of physical activity online, the application of digital tools, and innovative teaching methods that facilitate the participation of students.

The biggest challenge for online PE is the lack of adequate facilities and equipment. Varea and González-Calvo (2021) contend that most students do not have good space at home to practice physical exercises, few sporting facilities, and no teacher supervision. The challenge is also increased by lower motivation, as shown in a study by da Silva et al. (2022), where it is clear that students struggle to stay motivated without classmate interactions and official physical spaces. The learning process online has also been accompanied by greater sedentary behavior, which negatively affects the physical health of students (Dunton et al., 2020).

Despite these constraints, online PE has introduced new ways for students to stay active. Virtual exercise classes and video-guided exercises are effective substitutes for traditional in-school classes (Ng & Bu, 2022). These digital tools enable flexible and student-initiated learning, which provides students with autonomy to engage in physical activity that is appropriate for their own timetables and home environments (Casey et al., 2021). Furthermore, studies show that gamification and interactive exercise sessions, such as those with fitness apps and wearable technology, increase student enjoyment and engagement (Sun, 2020).

To ensure student participation, lecturers have utilized a number of innovative pedagogical strategies. Online testing, immediate feedback, and interactive virtual training have been reported to increase student participation in online PE (Kirk, 2021). Utilization of social media platforms and online forums has also been reported to increase peer-to-peer interaction, which is critical in ensuring student participation (Goodyear et al., 2021). Research also reports the utilization of personalized fitness plans to address students' unique needs and fitness levels (Bailey et al., 2021).

2. Research Design

The present research utilized descriptive research design in exploring how Physical Education (PE) was

adapted for online studies at Mapúa Malayan Colleges Laguna. It narrates the issues the students faced, such as limited space, inadequate equipment, and lowered motivation, and discusses the benefits of virtual exercise, video-assisted exercise, and self-learning.

A mixed-methods design is utilized, integrating both qualitative and quantitative research in harmony. Surveys are utilized to obtain data on students' experience, levels of participation, and the success of online PE sessions. At the same time, open-ended questions encourage the students to report their own experience and provide suggestions for improvement.

This research design provides a clear indication of online physical education implementation, indicating what worked, what did not, and how it can be improved to gain student engagement and activity in an online study setting.

2.1. Research Locale

This study was conducted at Mapúa Malayan Colleges Laguna (MMCL), a private tertiary school in Cabuyao, Laguna, Philippines. Famous for its high-quality academic programs, especially in engineering, business, and information technology, MMCL also boasts an equally well-crafted Physical Education (PE) course as part of its general education curriculum.

2.2. Population and Sampling Design

This study focuses on students enrolled in Physical Education (PE) courses at Mapúa Malayan Colleges Laguna (MMCL) during the shift to online learning. These students come from different academic programs and year levels, giving a well-rounded view of their experiences with virtual PE.

A total of 408 students participated in the study, representing a diverse group that provides valuable insights into how online PE was conducted and how it can be improved to better support student engagement and physical activity.

2.3. Research Instrument

This study uses a survey questionnaire to gather insights into students' experiences with online Physical Education (PE) at Mapúa Malayan Colleges Laguna. The survey includes both multiple-choice and open-ended questions to understand the challenges students faced and the opportunities available in virtual PE. It is conducted through Google Forms for easy access and convenience. To ensure the questions are clear and relevant, PE instructors and academic experts review the survey before it is shared with students. The responses help identify ways to improve online PE, making it more engaging and effective for students.

2.4. Data Gathering Procedure

In order to gain a better insight into students' experience with online Physical Education (PE) at Mapúa Malayan Colleges Laguna (MMCL), this research gathered information using a formal survey questionnaire. The survey was conducted in order to determine the difficulties faced by students, the measures that enabled them to remain active, and students' general perception of online PE.

Research Questions	Data Source	Interpretation
1. Challenges in Remote Physical Education	Survey responses from students	Identifies common difficulties such as limited space, lack of equipment, and low motivation.
2. Did you find that strategies like alternative equipment (e.g., household items) or motivational prompts were helpful?	Survey responses	Evaluates the effectiveness of using alternative equipment at home.
3. Effectiveness of digital tools in helping students' stay engaged and improve their fitness levels.	Survey responses	Measures student satisfaction and engagement with digital tools.

3. Results and Discussion

This section reveals the major findings of the research, both the problems and possibilities that students experienced when taking online Physical Education (PE) in Mapúa Malayan Colleges Laguna (MMCL). The survey data gathered show the experiences of students, levels of engagement, and areas where they need to improve.

Table 2. Challenges in Remote Physical Education

Research Questions	Mean	SD
1. To what extent did the following factors impact your ability to participate fully in remote PE classes in terms of limited space.	3.59	1.15
2. To what extent did the following factors impact your ability to participate fully in remote PE classes in terms of lack of equipment.	3.40	1.20
3. To what extent did the following factors impact your ability to participate fully in remote PE classes in terms of difficulty staying motivated.	3.46	1.16
4. To what extent did the following factors impact your ability to participate fully in remote PE classes in terms of lack of direct supervision.	3.38	1.22
TOTAL	3.46	1.18

The table indicates the top issues that students experienced in online Physical Education (PE) classes. The mean scores indicate the degree to which each problem impacted their participation, and the standard deviation (SD) indicates how the responses varied from student to student.

The most serious issue was insufficient space (mean = 3.59), which hindered most students from having sufficient space to exercise properly. Insufficient motivation (mean = 3.46) and insufficient equipment (mean = 3.40) were also significant issues, which made it more difficult for students to be active. Insufficient direct supervision (mean = 3.38) was also an issue, as some students could not remain responsible or use the correct exercise techniques without the supervision of an instructor.

The mean value of 3.46 indicates that the students found online PE very difficult to extremely difficult due to these issues. The SD values of 1.15 to 1.22 indicate that although such issues were prevalent, there were students who found it more challenging than others.

Table 3. To what extent did the following factors impact your ability to participate fully in remote PE classes in terms of lack of equipment.

	Frequency	Percentage
1. Very Unhelpful	6	1.47
2. Unhelpful	15	3.68
3. Neutral	152	37.25
4. Helpful	170	41.67
5. Very Helpful	65	15.93
TOTAL	408	100.00

The findings indicate that although the lack of equipment was a problem, the majority of the students were able to get around it using household items or bodyweight exercises. The high percentage of "Neutral" and "Helpful" responses indicates that although the participating students were successful, further support in the form of provision of teaching in the use of equipment substitutes and modified training programs would be likely to enhance participation levels in online PE courses.

Table 4. Effectiveness of digital tools in helping students' stay engaged and improve their fitness levels.

	Frequency	Percentage
1. Very Ineffective	14	3.43
2. Ineffective	17	4.17
3. Neutral	124	30.39
4. Effective	195	47.79
5. Very Effective	58	14.22
TOTAL	408	100.00

The majority of the students, at more than 60% when combining the "Effective" and "Very Effective" categories, found digital tools effective, affirming that technology plays a crucial role in making remote PE classes enjoyable and accessible. But the 30.39% neutral answer does indicate that there is still room for improvement, maybe in the form of personalized workout routines, better instructional guidance, or more interaction with teachers. And the low rate of students who considered digital tools ineffective also indicates the need to address issues like internet connectivity, technical issues, or insufficient hands-on training. Overall, while technology has provided excellent assistance, optimization of engagement tactics and the implementation of customized solutions would further heighten the impact of online PE classes.

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