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Improving Learning Performance in Physical Education through Video-Based Presentations (VBP) Approach

Carla Jobelle Culajara

Sta. Catalina National High School, Department of Education, Philippines

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Abstract

Background: Technology plays a pivotal role in the learning and teaching process. Technology has become a powerful tool for enhancing students' performance in Physical Education. The study aims to assess the effect of video-based presentations on students' physical education learning performance.

Objectives: The study aims to assess the effects of video-based presentations as an intervention tool in enhancing students' performance. Specifically, this is to answer the following objectives: (1) mean scores in the pre-test and post-test, (2) significant difference between before and after intervention, and (3) student's experiences in using video-based presentations in the learning performance in physical education.

Methods: The researcher used a sequential mixed-method research design with a one-group pre-test and post-test design, which was participated by 52 students in one of the secondary schools in the Philippines and five students in the focus group discussion. Purposive sampling was used to choose the participants to assess the effect of the video-based presentations. JASP Software was used to analyze the data.

Results: Based on the result, the study shows that before the intervention, students needed more knowledge and more participation in the discussion. However, utilizing the intervention indicates that the video-based presentation significantly affects students' learning performance, which shows that the video-based presentation has a positive impact on the students' learning performance. Moreover, two themes emerged in the focus group discussion: independent learning and flexible instruction.

Conclusion: As education becomes man's equalizer, students must adopt 21st-century skills, and through the intervention used, this will pave the way for developing their capabilities and skills in the education trends. This implies that with the progressive world facing the ever-changing education landscape, teachers must have the desire to build their technological capabilities by upskilling and retooling their innovativeness and creativity in delivering instructions.

Keywords: intervention, physical education, technology integration, video-based presentation.

*Correspondence: carlajobelle.culajara@deped.gov.ph
Carla Jobelle Culajara
Sta. Catalina National High School, Department of Education, Philippines

INTRODUCTION

Technology plays a pivotal role in the teaching and learning process. It tremendously affects the student's Physical education achievement and enhances their participation. As to the study of Ardies et al. (2015), integrating technology into learning shows a progression toward academic success. Nowadays, technology plays an essential part in student learning (Parker et al., 2019). Teachers employ various online and digital programs to convey instructions, so students are pleased with their learning because of the innovative ideas and educational resources used. According to the study by Rehmat & Bailey (2014), incorporating technology improves learning and teaching. Thus, video-based presentations serve as an avenue for facilitating teaching and learning in physical education. This method was an effective tool in adapting to the social-emotional aspect of the students as they were confined at home for two years because of the pandemic. This was strengthened in the study of Gramley Land (2020), that technology has become rampant in the student's learning process as mobile devices and gadgets become their avenue in learning. Similarly, as we move forward to the 21st century, it is necessary to develop our capabilities and skills to enhance our technological capabilities. Furthermore, incorporating technology enhances and modifies the teaching pedagogies (Ruggiero & Mong, 2015).

The teacher created the video and can accomplish the learning competencies and curriculum goals. They use video-based presentations where online and digital platforms serve as an avenue of their learning. Schools are implementing new teaching methods, such as Video-Based Learning (VBL), to move away from old methods (Albó et al., 2019). Video-based learning refers to making available material using video to present instructions to the students (Prayudha, 2021). As a result, using this intervention to encourage students to seek out learning and performances in digital content may be produced, and the desired outcome can then be achieved. A video-based presentation depicting the required recommended practice teaching practices through lessons and content (Wong & Tan, 2021). Video-based learning is an excellent tool for teachers' assessment and essential in the context of their learning and development (Sablić et al., 2021).

As to the delivery of instructions, teachers must be innovative, flexible, and adaptable to the trends in educational delivery (Culajara, 2022). Technology helps in physical education instruction, learning, and evaluation (O'Loughlin et al., 2013). As

reiterated by Aquino (2022), video-based should address the diverse world of the students, and this was strengthened by Khan (2016), that researchers now recognize video-based as a tool for enhancing learning and teaching activities. With the study's objective, Giannakos et al. (2014), creating and designing a video-based presentation is a crucial task that needs careful preparation and precise execution of the content and its creativity to the students' eyes. Teachers changed how they taught classes as they adapted to new learning and teaching methods. As a result, only some have the resources to achieve this. Nevertheless, the school wants to deliver quality services and increase student involvement in learning by using video-based learning. This study adheres to shed light that adaptation to the rapid change happening in our educational system, being flexible, constructivist, and transformational should go hand in hand in attaining the addressed goals in the curriculum and meeting the demands of the students through the intervention conducted through the use of Video-Based Presentations (VBP) in the teaching and learning.

The study aims to assess the effects of video-based presentations as an intervention tool in enhancing students' performance. Specifically, this is to answer the following objectives: (1) the mean scores in the pre-test and post-test, (2) the significant difference between before and after intervention, and (3) students' experiences in using video-based presentations in learning performance in physical education.

Related Literature

The teaching and learning process adapts to the changing environment by utilizing accessible gadgets and adapting to 21st-century abilities. With the study, the challenges and areas of improvement will be known so that the students can access each change in incorporating ICT in the learning process. As a result, video-based presentations can supplement training in physical education. The study by Wyant & Baek (2019) believes that ICT integration is a critical component of innovative and creative learning and teaching. The potential of digital technology must be realized for students to become engaged thinkers, active learners, knowledge innovators, and global citizens capable of actively participating in society and the economy. This will enhance teaching, learning, and assessment. Its great integration contributes to meeting the educational needs of learners by providing inventive solutions to a wide range of learning queries (Nur Salina et al., 2020).

As Nowels & Hewit (2018) emphasized, videos can be a helpful learning tool in physical education (PE) to improve instruction and students' knowledge of physical tasks. This was supported by the study of Moemennasab et al. (2002), which found that incorporating technology into the teaching and learning process, such as using video presentations, digital applications, and online media, is an alternate method.

It takes time and effort to learn how to use various online tools for video-based instruction (Lee & Chang, 2020). Video-based learning is a well-known instructional strategy (Urquiza-Fuentes et al., 2015). Education is critical to one's personal development. Learning has a significant impact on a student's abilities and knowledge. After two years of confinement at home, facing modules and online classes, in-person or face-to-face classes became surreal in the students' lives.

Integrating interactive elements into videos is a current trend in additional features in educational learning (Kleftodimos & Evangelidis, 2016). Likewise, Yuh-Tyng Chen (2012) stated that students commonly used video-based learning for easy access and convenience, which Grunt et al. (2020) supported. Video-based learning is now incredibly popular for teaching students essential motor movements in physical education. As Ketut et al. (2019) emphasized, creating innovative solutions while using opportunities given by recent technological advancements may be used to enhance students' performance. This implies that embracing change by utilizing and integrating technology into the teaching and learning process substantially impacts one's ability and discovery of talents and skills. Upskilling students' learning outcomes means improving learning performance.

METHOD

Study Design and Participants

The researcher employed a sequential explanatory mixed-method research design where the study employed quantitative and qualitative design. In quantitative research design, a one-group pretest-posttest design was utilized to determine the level of performance of Grade 10 students using video-based presentations through a pre-test and post-test. Purposive sampling was used to choose the respondents, who included 52 students and five students in the focus group discussion. To assess the effects of video-based presentations on physical education performance, the researcher used qualitative research design employing a phenomenological approach using focus group discussion, which reiterates that it should be used to look for patterns and averages, make predictions,

test causal linkages, and extrapolate results to larger groups (Zientek et al., 2016). In the qualitative part, P1 to P5 were the codes assigned to the participants in the focus group discussion to understand the students' experiences integrating video-based presentations in learning performance in physical education.

Research Instruments

The research instrument consisted of 30-item test questions where the content was based on video-based presentations. The teacher prepared video-based presentations addressing the objectives and attaining the addressed goals in the curriculum, which the experts also validated. Moreover, in the qualitative part, the researcher asked the participants an open-ended question, which the experts validated. An interview guide was used to acquire an in-depth understanding of the student's learning experiences in utilizing video-based presentations in their learning performance. As reiterated by Williams & Moser (2019), codes and themes were transcribed to distinguish the students' experiences and acquire a deep understanding of the phenomena.

Data Analysis

The study adheres to procedures in conducting the study. The researcher asked permission from the School Heads to conduct the study and to ask permission from the respondents through a consent form to be signed by their parents. A pretest was conducted in the first week of the Third Quarter in Physical Education, where continuous learning and delivery of instruction were conducted within the second to seventh week using video-based presentations. The teacher-researcher personalized the video-based presentations (VBP). In the eight weeks of the intervention, the posttest was delivered to the students to assess their understanding and learning through the conducted intervention. JASP Software was used to analyze and interpret the mean scores of the students in the pretest and posttest.

The study was conducted to determine the effect of video-based presentations on students' learning performance in physical education through an eight-week intervention where video-based presentations (VBP) were used as learning materials and supplementary materials in teaching and learning delivery. Thus, a focus group discussion was also used to understand the students' learning experiences deeply. The researcher used a code for the participants. In the qualitative part, the researcher used focus group discussion (FGD) and provided open-ended questions to understand the effects of the video-based presentations.

RESULTS AND DISCUSSION

Previous research has investigated design concepts and instructional approaches to improve student video-based learning (Yoon et al., 2021). The video-based presentation was an effective tool for enhancing students' learning performance.

Table 1. Mean, variance, and sample size of the level of performance of the students in the pretest and posttest

	Pretest	**Posttest**
Mean	5.54	6.13
Variance	1.94	2.35
Sample size	52	52

Table 1 shows that the before and after utilization of intervention tremendously affects the student's learning performance. This shows that the students in the pre-test result show that there is minimal knowledge of the topic to be discussed, with a mean of 5.54. However, the post-test result got a mean of 6.13, which means that students have an increased score in the learning performance with the integration of video-based presentation.

As a knowledge transfer process, it is always progressing at a pace corresponding to the development of current technologies (Murthykumar et al., 2015). As Quennerstedt (2019) investigated, learning in physical education depends on the cultures and needs to be acquired. Thus, video and interactive technologies are becoming increasingly prevalent in educational settings (Giannakos et al., 2014). Because it is a flexible technique adapted to meet their specific needs, video-based can be used by individuals who want to include project-based or flipped classroom approaches into their teaching (Praetorius et al., 2017). Similarly, Gordillo et al. (2022) stated that video-based learning has a tremendous impact on students' learning. With the study of Koekoek et al. (2018), the tremendous development of digital technology has increased the opportunities and potential of its application in physical education programs.

Learning has been important in PE studies (Armstrong et al., 2011). They learned that students acquire adaptability and flexibility in using available digital platforms and devices through video-based presentations. Moreover, as González-Calvo, Barba-Martín, Bores-García, & Hortigüela-Alcalá (2022), the most often assessed skill is social learning, particularly focused on engagement, social environment, and teacher-student connection. This also means that the study's results presented readiness and active engagement through

video. Thus, mean scores in the pre-test and post-test show that students acquire different knowledge and skills through video-based presentations. This implies that the pre-test and post-test results show that students' learning performance has a different result than the score when the video-based presentation was utilized. This would be a useful tool and an avenue of learning that must be adapted and incorporated into physical education.

Table 2. Paired T-Test Result of the pretest and posttest

Variables	*Computed Value*	*Critical Value*	*Decision*	*Impression at 0.05 Level of Significance*
Pretest and Posttest Result	0.59	0.29	Reject Ho	With Significant Difference

In the globalized digital era, adopting and integrating technology, particularly video-based presentations, into the teaching and learning environment provides teachers and students extra opportunities to communicate more effectively. Schools are under increasing pressure to use ICT to teach students the knowledge and skills they need to prosper in the digital world.

Learning is most effective when students interact with videos (Dodson et al., 2018). As shown in Table 2, the computed value is greater than the t-value, implying that the null hypothesis is rejected. There is sufficient evidence to conclude that there is a significant difference between the posttest and the pretest. This finding suggests that the video-based presentation better impacted the learners' performance. Students thought video-recorded presentations integrated into the learning environment improved learning outcomes and enriched classroom teaching. As Pal & Patra (2020) reiterated, video-based learning strongly affects students' perspectives and practical use of learning. Through video-based presentations, students acquire more knowledge, understanding, and skills in the videos, which was strengthened by Nadeak & Naibaho (2020). Learning nowadays needs video-based learning to grasp in-depth knowledge of the content. Video courses and material in physical education are effective tools to promote physical and health education reform in universities (Yang et al., 2015).

According to the study by Zhang (2021), the most valuable and efficient uses of digital video and self-modeling in physical education are video presentations that improve students' motor abilities. Physical educators are realizing the advantages of integrating video to complement the delivery of instruction (Laughlin et al., 2019). With the teachers' initiatives in delivering instruction, video-based presentations make it possible to unlock

the students' inherent capabilities through analyzing and understanding the videos and make it possible to adapt to the 21st-century skills needed for the educational system.

Table 3. Thematic Analysis Results of the Learning experiences using Video-Based Presentations

Responses	***Themes***
P1: Using video-based presentations is tremendously helpful in understanding the course, especially because our institution has a flexible learning mode. We can view video lessons produced by the teacher on our own time utilizing this intervention, and we will have greater focus using the videos because of the examples offered and addressed in the video.	*Independent learning*
P2: The video-based presentation was wonderful because we were in a flexible learning mode again because the timetable had to be adjusted owing to the extremely high heat index. Because the class has limited time when there is a face-to-face session, the prepared lesson via video is an excellent way for us to better understand the lesson. That is why video-based presentations are a significant aid in understanding our lesson.	
P3: My experiences with using video-based presentations to understand the lesson greatly contributed to my own understanding; I was given the chance to fully understand the lesson through my independent time of learning, and I was given the opportunity to be active in my flexible learning schedule because I knew I had a lesson to watch through a video prepared by the teacher.	
P4: The usage of video-based presentations improves the presentation because of the visual effects and contents that give the lesson; it also offers dynamic learning since it may reflect the learning styles of different students, such as myself. It is handy and flexible to utilize video based since I can view it at my own pace and move back and forth when I don't instantly understand the lesson.	*Flexible instruction*

P5: I can learn on my own schedule, and I am responsible for completing the lesson using the topic teacher's prepared video. It's a more engaging lesson because we're given interactive assignments in the video instead of just a talk.	

Table 3 shows that the study revelead two themes emerged: independent learning and flexible instruction. Technology plays a crucial role in students' learning. As education changes, students must be offered a wide range of educational services and be able to grasp understanding using video-based presentations to move forward to the new possibilities of learning. Video-based presentations are some of the strategies and approaches used by teachers in delivering instruction. With this approach, students can develop their technological capabilities and skills to adapt to the 21st-century skills they need to acquire in the modern world of teaching and learning. With the intervention conducted, students' responses showed positive responses in their experiences using the video-based presentations in their learning performance in physical education. Video-based instruction in education is an undeniable trend among teachers and students in the teaching and learning process. As mentioned by P1:

"…Using video-based presentations is tremendously helpful in understanding the course, especially because our institution has a flexible learning mode. We can view video lessons produced by the teacher on our own time utilizing this intervention, and we will have greater focus using the videos because of the examples offered and addressed in the video…"

Reaching every student in every manner of learning indicates that education is the ultimate goal. It is critical that delivering instruction using video-based presentations and teacher education work in tandem. Along with the changes teachers and students confront, they adapt to and overcome contemporary techniques and approaches for innovation and inquiry. There are numerous lessons to be gained in the quickly changing ICT environment of the new educational standard. Added by P2:

"…The video-based presentation was wonderful because we were in a flexible learning mode again because the timetable had to be adjusted owing to the extremely high heat index. Because the class has limited time when there is a face-to-face session, the prepared lesson via video is an excellent way for us to better understand the lesson. That is why video-based presentations are a significant aid in understanding our lesson…"

Nowadays, technology plays a critical role in student learning. Teachers use different online and digital applications to convey instructions, and students feel satisfied with their learning due to their creative minds and exposure to video-based presentations.

As to the study of Zhang (2021) argues that technology should be reviewed in classrooms and used in professional development constantly because it will remain a component of our educational system. Technology continues to evolve at a quick pace, and as a result, education must also keep up. Digital improvements have provided more options for students to participate inside and outside the learning environment (Zhao, Sintonen, & Kyanäslahti, 2015). As mentioned by P3:

"…My experiences with using video-based presentations to understand the lesson greatly contributed to my own understanding; I was given the chance to fully understand the lesson through my independent time of learning, and I was given the opportunity to be active in my flexible learning schedule because I knew I had a lesson to watch through a video prepared by the teacher…"

Furthermore, employing technology and video-based presentations to increase physical education learning was a motivating factor (Sargeant & Berkner, 2015). Technology to improve the educational experience has become commonplace in all areas of learning, implying that video-based presentations play an important role in the student's life. The research objectives were to deepen practices, create collaboration by identifying the effect of video-based presentations by students, and deepen practices to consider new methods and empower students to be the drivers of their learning in the new educational paradigm. Technologies have invaded almost every business, and ICT-based media significantly impacts learning. PE encompasses a wide variety of people whose lives are influenced by educational methods. Physical education (PE), like other educational courses, is growing in terms of information and skills adopted. In order to have effective instructional strategies that include ICT, information and communication technology (ICT) should be integrated into regular classes (Kretschmann, 2015). As shared by P4:

"…The usage of video-based presentations improves the presentation because of the visual effects and contents that give the lesson; it also offers dynamic learning since it may reflect the learning styles of different students, such as myself. It is handy and flexible to utilize video-based since I can view it at my own pace and move back and forth when I don't instantly understand the lesson."

Moreover, technology-integrated instructional techniques not only improve the quality of teaching but also allow students to grow their abilities, increase their motivation, and expand their knowledge and information more effectively (Khalil & Elkhider, 2016). Students must adapt to change through ICT, and learning environments should assess students' learning based on assessment results and provide feedback to assist students in learning more successfully. Furthermore, ICT integration is a trend in which students must

develop 21st-century abilities and embrace the ICT integration culture in the classroom. Added by P5:

"…I can learn on my own schedule, and I am responsible for completing the lesson using the topic teacher's prepared video. It's a more engaging lesson because we're given interactive assignments in the video instead of just a talk."

Technology explores how the e-learning model is applied to account for e-learning technology acceptance in academic settings (Hew et al., 2020). This research focuses on the relationship between students' use of e-learning and academic accomplishment. Their findings show that integrating ICT, such as video-based and digital applications, improves student academic achievement.

CONCLUSION

Based on the findings, the study substantially affects students' learning performance using video-based presentations. This means that technological integration dramatically affects student learning performance and achievement. In response to the changes in the ever-changing educational landscape, the innovativeness and creativity of each teacher in delivering instructions is a big reason for adapting to new trends in the educational system. Thus, video-based presentations are ideal for delivering instructions and creating broad learning in the different concepts in Physical education.

The study's findings show that video-based presentation is an avenue for developing and upskilling the instruction delivery method to adapt to 21st-century skills. An innovative approach should emphasize 21st-century skills. Becoming technology-capable and skilled could be beneficial to the teaching and learning process. As progression is a never-ending tool in delivering instruction, adopting video-based presentations could be timely, relevant, and beneficial to the student's study habits, as watching videos could be offered as self-paced learning. The teaching and learning process requires time and effort as we attain the addressed goals in the curriculum. Teachers must have the passion and commitment to outgrow their personal and professional development to address the needs of the students by valuing diversity and offering a wide range of activities. Students should be given equal learning opportunities to offer accessible, functional, and convenient video-based presentations. This study aims to give baseline information to future researchers in bridging gaps in delivering instructions in Physical education and designing tools that would offer diverse activities to students' learning.

CONFLICT OF INTEREST

The author officially certifies that there are no conflicts of interest with any party with respect to this research.

AUTHOR'S CONTRIBUTION

Carla Jobelle Culajara wrote the full work and presented excellent and informative research related to this study.

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