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Use of Video-Based Instruction With Code-Switching To Improve Students' Attitudes And Performance

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ABSTRACT

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In a world of extraordinary technological progress, teachers use a variety of ways to provide effective physical education classes. It demanded a transition from traditional to advanced digital learning. This study examined the effect of video-based instruction with code-switching on students' performance and attitudes in Physical Education. The research utilized a quasi-experimental pretest-posttest design with two groups of 78 senior high school students in Bukidnon, Philippines. The data were analyzed using the mean, standard deviation, and analysis of covariance (ANCOVA). The data showed that the performance of the experimental group, who received video-based instruction with code-switching, improved significantly more than the control group from the pre-test to the post-test. However, there was no significant difference in post-test scores in students' attitudes towards the subject

between those who received Video-Based Instruction with Code-Switching and those who did not. Consequently, the language used (code-switching) is an effective tool for instruction for improving student performance and attitudes. This paper may serve as a wake-up call for the Department of Education to advocate using local language in all K–-12 programs, not just at the primary levels, given that education is essential for building a better nation. PE teachers should take note of these consequences while creating lessons that support learning and cater to the requirements and interests of diverse students.

INTRODUCTION

Teachers use several approaches to give excellent physical education classes in a world of remarkable technological innovation. It commanded a shift from traditional instruction to advanced digital learning. The advancement of technology in physical education instruction has benefited many teachers by providing more readily available instructional materials. While the debate on educationally beneficial outcomes for students in Physical Education has encompassed a variety of learning domains (affective, fitness, and social effects), student performance remains at the forefront of research interests. Nonetheless, cognitive (knowledge) and motor performance (skills) circumstances help students enhance their performance (Giannakos et al., 2016).

The use of video and other multimedia technologies in teaching is expanding. Many learning environments in practice today integrate video advantages (Giannakos et al., 2016). Today, video plays an essential part in education through its incorporation into traditional classes, as the primary content delivery method in classes, particularly online classes, and as the basis for many blended learning programs. As a result, education is moving away from traditional instructional approaches like video-based instruction (VBI) and toward a more modern approach to instruction (Beheshti, 2018.).

When a teacher shows skills to students while they observe and engage, this is one of the most traditional methods of teaching Physical Education. Our culture has increasingly embraced technology, and the educational sector is no exception, as it can potentially improve the teaching-learning process. Video-based instruction as a tool in education has gone a long way in recent decades, providing distinct benefits in the classroom.

Capilitan (2017) mentioned in his study that the teacher's most important role is to support the students in acquiring knowledge for the future. The teacher can support the student's learning process and preserve their

customs and culture by using code-switching or their local language. He even elaborated that integrating advanced technology (such as video lessons) in the classroom creates a wide range of brand-new learning opportunities that still need to be fully utilized. Moreover, students nowadays usually own multimedia gadgets like Android cell phones that help them to improve and master at home by transferring the teacher's instructional videos to their smartphones or other portable media devices.

However, as Dekker (2017) points out, learning is increasingly viewed as a social activity impacted by sociohistorical narratives rather than solely cognitive. When identities are maintained, learning is enabled, and vice versa. When students do not understand the language, the learning gaps are evident. In this sense, code-switching sociolinguistic theories investigate code-switching as a social language behavior that reflects a speech community's linguistic, social, and cultural norms. Sociolinguistics is a broad theory that operates at both the macro and micro levels (Siddiq et al., 2020), especially in the context of the educational institution.

Moreover, code-switching refers to the act of using words or phrases from multiple languages or variations of the same language to fit into the current context of the speech event. Code-switching in the classroom has numerous variations and benefits for both teachers and students. This study refers to the language used in the video-based instruction where the researcher used the students' first language (Cebuano) interchangeably with the English language.

As observed in one of the big schools in the Division of Bukidnon, some Physical Education and Health students need help understanding the dance literature and patterns presented to them in texts or books. They are not motivated to learn the subject and are not engaged in it, thus contributing to poor performance levels and negative attitudes towards the subject. Also, a few students felt like they were forced to perform the different performance tasks expected of them to perform.

Physical education aims to "develop physically literate individuals who have the knowledge, skills, and confidence to enjoy a lifetime of healthful physical activity" (America, S. H. A. P. E et al., 2014, p. 1). To achieve this, students in a physical education class should acquire the motor skills required to participate in a variety of physical activities, be given regular opportunities to engage in physical activity, and be able to articulate the importance of engaging in regular physical activity (America, S. H. A. P. E et al., 2014), but how can a PE teacher perform those if the students are not interested in the subject?

Likewise, it reflected on their performance for the first three-quarters of the importance of intervention and innovation of the physical education and

health subject teacher, especially in the context of performance tasks. One way to improve learners' understanding and motivation is using Video-Based Instruction with Code-Switching (VBICS) that uses Mother Tongue-Based Multilingual Education where the teacher switches the medium of instruction to the mother tongue or the first language (L1) of students. To improve the performance level of the students in Physical Education and Health, the researcher developed an instructional video lesson using code-switching. Moreover, before successfully learning additional languages, learners must establish a solid foundation in their mother tongue, which is the language they understand the best. It is the inspiration of the Department of Education (DepEd) to utilize the Mother Tongue-Based Multilingual Education (MTB-MLE) component of the Enhanced Basic Education Program. Education must be conducted in their first language to help students better understand fundamental ideas (Department of Education, 2016).

According to Hu et al. (2022), traditional teaching techniques limit the growth of physical education (PE) in many ways, and one of the essential contents of current teaching methods is to learn and employ modern teaching technology and methods. As a result, the Lecture, Discussion, and Demonstration Method must create learning models to assist students in better understanding complex concepts (Deng & Yu, 2014).

According to research by UNESCO (2023), mother tongue education is essential for inclusivity and high-quality learning. It also enhances learning outcomes and academic achievement. It is especially important in primary education to eliminate knowledge gaps and accelerate learning and comprehension. Most importantly, mother tongue-based multilingual education allows all students to participate fully in society. It promotes respect and understanding among people and aids in preserving the rich cultural and historical legacy of every language spoken today.

The researcher hoped that the outcomes of this study would be helpful in teaching and learning, employing video-based instruction with code-switching to enhance students' performance in physical education, serving as a starting point for enhancing specialized teaching strategies.

FRAMEWORK

This research is anchored in Roxana Moreno and Richard Mayer's (1999) Cognitive Theory of Multimedia Learning and Sociolinguistic theory of code-switching. The cognitive theory of multimedia learning suggests that deeper learning can occur when information is presented in both text and images rather than text alone. Additionally, this theory of Multimedia Learning assumes that

there are two channels for learning: auditory and visual. Both leads are utilized to process information into working memory.

Moreover, Mayer (2014) defined multimedia-learning theory as the best strategy for incorporating multimedia tools such as videos and PowerPoints into the classroom by incorporating visual and auditory representations of material at the same time. Mayer proposed that training be delivered in various formats that integrate visual and auditory modes, such as through a combination of words and pictures.

On the other hand, code-switching sociolinguistic theory investigates code-switching as a social language behavior that reflects a speech community's linguistic, social, and cultural norms. Sociolinguistics is a broad theory that operates at both the macro and micro levels (Siddiq et al., 2020).

Additionally, code-switching allows teachers to take advantage of learners' entering behavior based on their first language to impart fresh learning experiences in the target language, gradually guiding them from the familiar to the unknown. The teacher expands on their prior understanding of the subject by recalling past information and using familiar phrases in their first language that correspond to and convey the ideas in the target language. This method works best in rural settings where students are more in tune with nature and local ways of doing things (Ezeh et al., 2022).

Similarly, Ezeh et al. (2022) stated that for a greater grasp of the subject matter, a more efficient technique of transferring knowledge in a new language is for the teacher to express the newly acquired concept in their mother tongue, using equivalent phrases and imagery that capture the learning tasks.

In this study, the researcher assumed that the performance level of students depends on whether they are exposed to Video-Based Instruction with Code-Switching, that the performance level of students varies according to their exposure to different teaching approaches, that students who are exposed to video-based instruction with code-switching and other teaching approaches have the same levels of students' learning outcomes; and finally, that students who are exposed to video-based instruction with code-switching and other teaching approaches have the same level of performance in Physical Education and Health.

METHODOLOGY

Research Design

This study used a quasi-experimental design to determine the effect of students' attitudes and performance in physical education and health. The study included two intact classes as control and experimental groups. The experimental group used video-based instruction with code-switching as an intervention technique. In contrast, the control group was exposed to traditional lecture and demonstration instruction rather than video-based instruction.

Respondents

The participants of the study were officially enrolled in the Grade 12 STEM strand for the S.Y. 2022-2023. One section was classified as the control group and experienced Non-Video-Based Instruction. The experimental group, on the other hand, used Video-Based Instruction with Code-Switching. The experimental group comprised 39 students, and the control group had 39 students.

Instrumentation

Two research instruments were used in the study. The first instrument was a survey questionnaire adapted from previous research. The questionnaire had 17 items being prepared using a 5-point Likert-type scale, including Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, and Strongly Disagree, with a corresponding range score of 5 to 1, where 5 is the highest and 1 is the lowest. The instrument underwent reliability testing with a Cronbach's alpha of .790, which was described as reliable. The second instrument used was a researcher-made assessment rubric that was content-validated by experts and anchored on the K-12 Basic Education Curriculum and the World DanceSport Federation (WDSF) criteria.

Data Gathering

The researcher followed the university protocol to ensure the quality and orderly collection of data for the study. The researcher obtained permission from the University Research and Ethics Board, as well as permission from the dean and the school principal. The informed consent form was presented to the participants, and the data gathered was kept fully private following the Data

Privacy Act of 2012. Participation was voluntary, and participants were free to refuse or withdraw from the study at any moment. Their withdrawal would not affect their academic performance, and the researcher's contact information was also given to the participants in case they needed it. After securing everything, the two instruments were employed, and all the data had been collected, tabulated, analyzed, and interpreted.

Statistical Treatment

For the analysis and interpretation of data, the mean and standard deviation were used to answer problem one and problem three and to explain the mean average of the participant's score to see if there is progress, as well as the difference between the pre-test and post-test scores of participants from the experimental and control groups, and analysis of covariance (ANCOVA) to answer problems two and four to determine the significant difference in post-test scores between students who are exposed to video-based instruction with code-switching and those who are not.

RESULTS AND DISCUSSION

Problem 1. What is the student's performance level in Physical Education and Health when exposed to Video-Based Instruction with Code-Switching and Non-Video-Based Instruction in terms of Pre-test, and Post-test?

Table 1
Students' Performance Level in Physical Education and Health when Exposed to Non-Video-Based Instruction in Terms of Pre-test and Post-test

Type of Performance	N	Mean	SD	Interpretation
Pre-test	39	14.02	2.14	Meets Expectation
Post-test	35	15.74	1.63	Meets Expectation

As depicted in Table 1, students obtained a pre-test score of M=14.02, SD=2.14, interpreted as meets expectation, and a post-test score of M=15.74, SD=1.63 interpreted as meets expectation. The data revealed that students exposed to non-video-based instruction obtained only a small increase in their level of performance in Physical Education and Health. Despite an increase in students' performance levels during the post-test, the results revealed that students exposed to non-video-based instruction performed poorly and did not exceed expectations. This finding supports the claim of Baxtiyorovich (2023)

that during the early stages of learning, the method of lecture and demonstration are used more frequently. Furthermore, sports training approaches such as conventional, repetitive, and variable exercise play an important influence in teaching Physical Education. The unique longitudinal evaluation provides a more significant opportunity to discover new logical rules, a suggestion to future specialists on this subject.

Correspondingly, traditional teaching methods, often known as conventional teaching methods, are still widely employed in schools. Teachers in conventional teaching methods ask students to repeat and memorize the content of the study and what they teach in the classroom, and students recite the lessons one by one when their turn comes. Others listen and wait their time. Students complete the entire class in this manner. The lesson is then memorized by the students, and based on this recitation, teachers assign homework, written tests, or oral tests (Digital Class Educational World, 2023).

On the other hand, Joshi (2020) supported the idea that traditional learning has existed since the beginning. It is the first and foremost method of learning recognized by educators for conveying knowledge, and it has several features that set it apart. It allows teachers and students to communicate and form bonds. It also assures learners' moral development, stimulates social connection, and instills social acceptance. Similarly, it balances physical and mental well-being through a suitable mix of activities and offers learners hands-on experience, allowing them to apply their knowledge. However, Baxtiyorovich (2023) confirmed that as physical education evolved, so did teaching strategies. When one thinks that teaching physical education may only impact youngsters' proper growth and development of their motor and functional abilities, selecting effective techniques is a serious difficulty. Teachers' constant research and absorption of new concepts inform their teaching styles and approaches.

As a result, data revealed that traditional education has many shortcomings that could lead to challenges that did not exist when designed. The traditional teaching method is no longer sufficient in today's technologically driven environment. In other words, the traditional teaching method is that it is one-size-fits-all. It cannot offer students a personalized learning experience. They must follow the same pattern and learning style regardless of their interests. It is the most common reason students find regular schooling boring and uninspiring.

Table 2
Students' Performance Level in Physical Education and Health when Exposed to Video-Based Instruction with Code Switching in Terms of Pre-test and Post-test

Type of Performance	N	Mean	SD	Interpretation
Pre-test	39	14.05	1.86	Meets Expectation
Post-test	39	16.67	2.08	Exceeds Expectation

Table 2 shows that students obtained a pre-test score of M=14.05, SD=1.86, interpreted as meets expectation, and a post-test score of M=16.67, SD=2.08, interpreted as exceeds expectation. The data implied that students exposed to video-based instruction with code-switching increased their performance in Physical Education and Health. These findings support the claim of Beheshti et al. (2018) that instructional videos can encourage critical thinking and problem-solving. It helps students develop their organizational and research skills and their knowledge of problem-solving and collaborative working (Beheshti et al., 2018).

According to Musa et al. (2021), video teaching in dance classes is made possible by developing widely used information and communication technology. The teaching and learning process also incorporates a variety of learning styles, including teacher-centered learning, student-centered learning, material-based learning, and problem-based learning.

The table shows that the post-test mean score obtained by the participants is 16.67 (2.08), interpreted as an "exceeds expectations" level of performance. It implies that right after the intervention, students' performance exceeds expectations. It established that video-based instruction with code-switching effectively increases students' performance in Physical Education and Health. A higher-level cognitive ability, including oral and auditory communication skills in humans, is called language development. It builds a solid foundation for learning that will last throughout one's life (Watson, 2017).

Likewise, video-based instruction with code-switching helps students learn a school subject since they are conversant in multiple languages. Using speech in the teaching-learning process can inspire students to participate in class actively. If the topic is presented in their familiar language, especially during classroom instruction, the students can explicitly understand it. According to Racca and Lasaten (2016), students' English proficiency can aid their academic performance.

As a result, video-based instruction with code-switching has been demonstrated to increase student performance significantly, is an effective way to enhance the quality of instruction and has a wide range of impacts.

Problem 2. Is there a significant difference in the performance level of students who will be exposed to Video-Based Instruction with Code-Switching and Non-Video-Based Instruction in terms of post-tests?

Table 3

Significant Difference in the Students' Performance level in Physical Education and Health when exposed to Video-Based Instruction with Code-Switching and Non-Video-Based Instruction

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	171.372(a)	2	85.68	57.716	.000	.606
Intercept	59.363	1	59.36	39.986	.000	.348
Pre-test	154.757	1	154.75	104.241	.000	.582
Group	15.966	1	15.96	10.754	.002	.125
Error	111.346	75	1.485			
Total	20766.000	78				
Corrected Total	282.718	77				

Estimated Marginal Means of Non-Video-Based Instruction = 15.75

Estimated Marginal Means of Video-Based Instruction with Code Switching = 16.66

As shown in Table 3, the probability value ($p<.05$) is lower than the alpha value of 0.05; thus, the null hypothesis was rejected. It means there was a significant difference in the post-test scores [$F(1,75)=10.75$, $p=0.002$] between the students exposed to Video-Based Instruction with Code-Switching and Non-Video-Based Instruction. The partial Eta Squared value of .125 implied a small effect (0.2 – small effect, 0.5 – moderate effect, 0.8 – large effect) of the Video-Based Instruction with Code-Switching on the student's performance in PE and Health. Furthermore, when the effect of the pre-test was statistically removed, students exposed to the Video-Based Instruction with Code-Switching gained the most performance in PE and Health, as indicated in the estimated marginal means of 16.66 and further implied that Video-Based Instruction with Code-Switching was a significantly more effective intervention in improving the student's performance in PE and Health as compared to Non-Video-Based Instruction.

This finding confirms Harvey's (2023) claim that 79% of students said they watched videos to understand a subject through practical applications in a

survey of 1,673 students. The 2021 Training Industry Report shows that 88% of organizations use video broadcasting, webcasting, or virtual classrooms to train their employees (Suzanne, 2022).

Similarly, video-based instruction alongside code-switching during a discussion is recognized as usual in several cultures worldwide, according to a study by Gamotin (2021). According to Zidouni (2016), code-switching is used to explain important points and ensure comprehension, and it may be a valuable approach for transmitting ideas and creating chances. The technique of "code-switching," or speaking in two different languages simultaneously, has created much interest in foreign language teaching and learning (Rasouli & Simin, 2016).

According to research, video-based instruction has benefited during the last few decades. There are numerous methods of using videos to influence teaching and learning. According to Ozdamli and Ozdal (2018), it may persuade teachers to implement a flipped classroom technique where students first study the course material at their own pace before learning the intricacies in greater depth during class time.

Furthermore, the PE and health students exposed to video-based instruction with code-switching had an estimated marginal means score of 16.66, which is greater than the PE and health students exposed to non-video-based instruction, which had an estimated marginal means score of 15.75. As a result, video-based instruction (VBI) with code-switching is extremely important in improving the students' performance in PE and health, especially in the topic of ballroom dance - Cha Cha Cha.

Problem 3. What is the level of students' attitudes toward PE and Health when exposed to Video-Based Instruction with Code-Switching and Non-Video-Based Instruction in terms of pre-test and post-test?

Table 4

Level of Students' Attitudes toward Physical Education and Health when exposed to Non-video-based instruction during the Pre-test

Indicators	Mean	SD	Description	Interpretation
1. I like to perform physical exercise daily.	3.28	.646	Undecided	Moderately Positive
2. PE and Health Subject is engaging.	3.58	.548	Agree	Positive
3. Being an athlete makes me feel comfortable.	3.56	.940	Agree	Positive

4. Participating in physical activity can improve my health.	3.87	.695	Agree	Positive
5. I can't wait for my next PE and Health Class.	3.58	.677	Agree	Positive
6. I enjoy practicing my skills to enhance them.	3.76	.667	Agree	Positive
7. I can quickly learn a dance.	3.48	.601	Undecided	Moderately Positive
8. I am not afraid to dance alone.	3.28	.793	Undecided	Moderately Positive
9. I like to dance with males and females.	3.53	.755	Agree	Positive
10. I can study well even if I engage in physical activity.	3.56	.718	Agree	Positive
11. PE and Health are an important subjects.	3.89	.753	Agree	Positive
12. The knowledge I acquired in PE and Health class is beneficial to my physical health.	3.69	.694	Agree	Positive
13. PE and Health ideas will be learned more in school than at home.	3.61	.747	Agree	Positive
14. My PE and Health classes are very interesting to me.	3.69	.694	Agree	Positive
15. I share the lessons learned in PE and Health subjects with my family.	3.46	.822	Undecided	Moderately Positive
16. The terminologies used by my teacher in PE and Health are easy to understand.	3.79	.86	Agree	Positive
17. PE and Health subjects are important to me in preparation for college.	4.17	.790	Agree	Positive
Overall Mean	3.63	0.729	Agree	Positive

In Table 4, students obtained the highest mean score of M=4.17, SD=.790 for item number 17, "PE and Health subject is important to me in preparation for college," followed by item number 11, "PE and Health is an important subject" with a mean score of M=3.89, SD=.753, and item number 4 "Participating in physical activity can improve my health" with a mean of M=3.87, SD=.695. On the one hand, students got the lowest mean score of M=3.28, SD=.793 for item number 8, "I am not afraid to dance alone," followed by item number 15 "I share the lessons learned in PE and Health subject with my family" with a mean of M=3.46, SD=.822 and item number 7 "I can quickly learn a dance" with a mean of M=3.48, SD=.601. The overall mean score is M=3.63, SD=.72 described as agree and interpreted as positive. The data further implied that the students exposed to non-video-based instruction had a positive attitude during the pre-test.

According to indicator 7, students earned the highest attitude toward PE and Health for item 17, "PE and Health subject is important to me in preparation for college," with a mean of 4.17. This finding supports the claims of Zhang et al. (2020) that teaching strategies are structured sequences designed to elicit a specific type of thought or action to achieve specific learning goals.

Similarly, further research is being done to investigate students' attitudes toward the subject before administering the intervention (Hafeez, 2021). Hence, studies have shown that students can learn more effectively in a suitable learning environment, curriculum development, implementation, and assessment (Zulfiqar, 2016) as a result of item 13: "Physical education and health ideas will be learned more effectively in school than at home" with a mean of 3.61.

Furthermore, a trained and knowledgeable instructor is better equipped to teach students and successfully apply various approaches to learning (Ajmal & Hafeez, 2021). Wuryaningsih et al. (2019) claimed that when teachers use diverse teaching methods and strategies based on students' acquired abilities, students achieve superior academic achievements. Their motivation improves because the subject interests them, as evidenced by the result of item 14, "My PE and Health classes are very interesting to me," with a mean of 3.69. The results show that the overall mean score is 3.63, regarded as "positive." It means that the students in this group had a positive attitude about PE and health before intervention.

On the other hand, based on the lowest level of attitude for PE and Health, items 1, "I like to perform physical exercise daily," and 8, "I am not afraid to dance alone," received a mean of 3.28 regarded as "moderately positive." would state Hu et al. (2022) claim that traditional teaching approaches limit the progress of physical education (PE) in many ways. One of the essential contents of current teaching methods is to learn and employ modern teaching technology

and methods for students to enjoy participating in physical activities.

Therefore, the teaching method involves many strategies to deliver a lecture to students per stated instructional objectives. According to Omar et al. (2020), the primary goals of teaching are to assist learners in acquiring, retaining, and applying information, building habits, developing attitudes, and increasing the store of information and comprehension of fundamental rules and concepts of subject matter.

Table 5

Level of Students' Attitudes toward Physical Education and Health when exposed to Non-video-based instruction during the Post-test

Indicators	Mean	SD	Description	Interpretation
1. I like to perform physical exercise daily.	3.79	.767	Agree	Positive
2. PE and Health Subject is engaging.	4.02	.627	Agree	Positive
3. Being an athlete makes me feel comfortable.	4.00	.917	Agree	Positive
4. Participating in physical activity can improve my health.	4.15	.812	Agree	Positive
5. I can't wait for my next PE and Health Class.	3.82	.756	Agree	Positive
6. I enjoy practicing my skills to enhance them.	3.92	.702	Agree	Positive
7. I can quickly learn a dance.	3.82	.756	Agree	Positive
8. I am not afraid to dance alone.	3.64	.931	Agree	Positive
9. I like to dance with males and females.	3.92	.739	Agree	Positive
10. I can study well even if I engage in physical activity.	3.97	.668	Agree	Positive
11. PE and Health is an important subject.	4.28	.759	Agree	Positive
12. The knowledge I acquired in PE and Health class is beneficial to my physical health.	4.21	.614	Agree	Positive

13. PE and Health ideas will be learned more in school than at home.	4.25	.594	Agree	Positive
14. My PE and Health classes are very interesting to me.	3.97	.627	Agree	Positive
15. I share the lessons learned in PE and Health subject with my family.	3.74	.909	Agree	Positive
16. The terminologies used by my teacher in PE and Health are easy to understand.	4.20	.800	Agree	Positive
17. PE and Health subjects are important to me in preparation for college.	4.43	.640	Agree	Positive
Overall Mean	4.01	0.742	Agree	Positive

In Table 5, students obtained the highest mean score of M=4.43, SD=.640 for item number 17, "PE and Health subject is important to me in preparation for college," followed by item number 11, "PE and Health is an important subject" with a mean score of M=4.28, SD=.759, and item number 12 "The knowledge I acquire in PE and Health class is beneficial to my physical health" with a mean of M=4.21, SD=.614.

On the one hand, students got the lowest mean score of M=3.64, SD=.931 for item number 8, "I am not afraid to dance alone," followed by item number 15 "I share the lessons learned in PE and Health subject with my family" with a mean score of M=3.74, SD=.909, and item number 1 "I like to perform physical exercise daily" with a mean score of M=3.79, SD=.767. The overall mean score is M=4.01, SD=.74, described as agree and interpreted as positive. The results also revealed that students improved their attitude toward the subject after exposure to non-video-based instruction. This finding supports the claim that student-centered activities and student-centered teaching are other terms for active learning activities. The lecture, inquiry, and demonstration methods are three teaching strategies that enhance active learning (Asmawati & Malkan, 2020).

Consequently, the students in the control group exposed to non-video-based instruction obtained an overall mean of 4.01 with an SD of 0.74, interpreted as positive. The students liked PE and Health subjects because it is important in preparation for college. Based on the results in the table, students obtained the highest attitude towards PE and Health for item 17, "PE and Health

subject is important to me in preparation for college," with a mean of 4.43. The result infers the study of Gooblar (2019) that telling (lecture technique of teaching) is an effective method for learners since the teacher gives all the material in full. However, it can be made even more efficient by employing information technology tools (Fulford & Mahon, 2018).

In addition, the discussion method is an approach used by groups for cooperative learning to achieve the desired educational objectives (Benjamin & Wakhungu, 2014). The discussion is an activity in which the teacher divides the class into small groups of learners for active and cooperative learning on a specific topic or real-life challenge. It is the procedure by which students can communicate with one another and the instructor. The discussion teaching approach is a learner-centered strategy in which students actively contribute their thoughts (Yusuf et al., 2016).

On the contrary, Farah and Ayoubi. (2020) conducted a quantitative study on elementary and secondary school students to analyze the various teaching methods, such as lecture, discussion, demonstration, and inquiry approaches. The research concluded that the demonstration method of instruction was the most appropriate strategy for elementary and secondary school students. This strategy improves learners' critical thinking skills and cognitive domains. The authors also concluded that the lecture-teaching approach could have been more accurate.

Meanwhile, researcher Vrbik et al. (2017) determined that the demonstration teaching method is the best way to improve and train students' learning and physical skills. According to certain studies by Polizzotto and Tamari (2015), the demonstration method of instruction positively impacts students and enhances their cooperative learning level. This teaching style is used alongside other teaching methods to engage learners and the learning process.

Table 6

Level of Students' Attitudes toward Physical Education and Health when exposed to Video-based instruction with Code Switching in terms of Pre-test

Indicators	Mean	SD	Description	Interpretation
1. I like to perform physical exercise daily.	3.71	.759	Agree	Positive
2. PE and Health Subjects are engaging.	3.56	.680	Agree	Positive
3. I like to perform physical exercise daily.	3.28	.793	Undecided	Moderately Positive

4. Participating in physical activity can improve my health.	3.87	.863	Agree	Positive
5. I can't wait for my next PE and Health Class.	3.58	.637	Agree	Positive
6. I enjoy practicing my skills to enhance them.	3.64	.777	Agree	Positive
7. I can quickly learn a dance.	3.41	.715	Undecided	Moderately Positive
8. I am not afraid to dance alone.	3.10	.882	Undecided	Moderately Positive
9. I like to dance with males and females.	3.56	.820	Agree	Positive
10. I can study well even if I engage in physical activity.	3.35	.742	Undecided	Moderately Positive
11. PE and Health is an important subject.	3.84	.629	Agree	Positive
12. The knowledge I acquired in PE and Health class is beneficial to my physical health.	3.87	.731	Agree	Positive
13. PE and Health ideas will be learned more in school than at home.	3.53	.822	Agree	Positive
14. My PE and Health classes are very interesting to me.	3.43	.787	Undecided	Moderately Positive
15. I share the lessons learned in PE and Health subjects with my family.	3.30	.766	Undecided	Moderately Positive
16. The terminologies used by my teacher in PE and Health are easy to understand.	3.56	.640	Agree	Positive
17. PE and Health subjects are important to me in preparation for college.	3.94	.759	Agree	Positive
Overall Mean	3.56	0.753	Agree	Positive

Table 6 presents the Level of Students' Attitudes toward PE and Health when exposed to Video-Based Instruction with Code-Switching during the Pre-test. As shown in the table, students obtained the highest mean score of M=3.94,

SD=.759 for item number 17, "PE and Health subject is important to me in preparation for college" followed by item number 12 "The knowledge I acquire in PE and Health class is beneficial to my physical health" with a mean score of M=3.87, SD=.731, and item number 11 "PE and Health is an important subject" with a mean score of M=3.84, SD=.629. On the one hand, students got the lowest mean score of M=3.10, SD=.882 for item number 8, "I am not afraid to dance alone," followed by 3 "I like to perform physical exercise daily" with a mean of M=3.28, SD=.793, and item number 15 "I share the lessons learned in PE and Health subject with my family" with a mean of M=3.30, SD=.766. The overall mean score is M=3.56, SD=.75, which is described as agreeable and interpreted as positive. The data further implied that the students exposed to video-based instruction with code-switching had a positive attitude during the pre-test.

It implies that before their exposure to video-based instruction with code-switching, students already have a positive attitude toward PE and Health. This finding supports the claim of Beheshti et al. (2018) that various research has explored the VBI technique. As a result, this teaching method is gaining popularity both within and outside of the classroom. Many educational organizations now use video-based instructions in the classroom as a teaching tool or as the primary form of self-study to improve the learning process.

Furthermore, the overall mean is 3.56, indicating that the experimental group views PE and health positively. This result assisted teachers in making this critical curricular decision. Giannakos et al. (2016) stressed the importance of videos as excellent instructional materials; nevertheless, they evaluate how they will affect the entire learning process before employing them. Students obtained the highest attitude toward PE and Health for item 17, "PE and Health subject is important to me in preparation for college," with a mean of 3.94.

On the contrary, Gabbianelli (2020) mentioned the potential drawbacks of VBI, which include the following: if the videos are not fun/engaging, students may not pay attention because some educational videos are just as dull as textbooks, so you have to make sure you are using the right ones if you want to keep your students engaged; and if you teach one thing, and there is a contradiction or different opinion in the videos you are showing, this can cause some confusion for students who are watching the videos.

However, instructional videos can promote critical thinking and problem-solving by teaching students how to effectively communicate a subject through images, sound, and organization. It helps students develop organizational and research abilities, problem-solving, and collaborative working knowledge (Beheshti et al., 2018).

As a result, today's students should be "digital natives," meaning they are more comfortable using technology to help them with their studies than at any earlier age. They ought to understand this multimedia strategy and perceive technology use as a form of enjoyable activity. According to Albó et al. (2016), VBI is the instructional process of obtaining information, knowledge, and skills, as well as the ethical support of video resources, and it has been advantageous in recent decades.

Table 7

Level of Students' Attitudes toward Physical Education and Health when exposed to Video-based instruction with Code Switching in terms of Post-test

Indicators	Mean	SD	Description	Interpretation
1.I like to perform physical exercise daily.	4.25	.677	Agree	Positive
2. PE and Health Subjects are engaging.	4.17	.790	Agree	Positive
3. Being an athlete makes me feel comfortable.	3.41	.992	Undecided	Moderately Positive
4. Participating in physical activity can improve my health.	4.35	.777	Agree	Positive
5. I can't wait for my next PE and Health Class.	3.97	.810	Agree	Positive
6. I enjoy practicing my skills to enhance them.	4.20	.731	Agree	Positive
7. I can quickly learn a dance.	3.93	.793	Agree	Positive
8. I am not afraid to dance alone.	3.97	1.01	Agree	Positive
9. I like to dance with males and females.	3.97	.873	Agree	Positive
10. I can study well even if I engage in physical activity.	4.00	.794	Agree	Positive
11. PE and health are important subjects.	4.38	.747	Agree	Positive
12. The knowledge I acquired in PE and Health class is beneficial to my physical health.	4.33	.700	Agree	Positive
13. PE and Health ideas will be learned more in school than at home.	4.00	.945	Agree	Positive
14. My PE and Health classes are very interesting to me.	4.10	.640	Agree	Positive

15. I share the lessons learned in PE and Health subjects with my family.	3.79	1.03	Agree	Positive
16. The terminologies used by my teacher in PE and Health are easy to understand.	3.94	.825	Agree	Positive
17. PE and Health subjects are important to me in preparation for college.	4.46	.822	Agree	Positive
Overall Mean	4.07	0.821	Agree	Positive

Table 7 presents the Level of Students' Attitudes toward PE and Health when exposed to Video-Based Instruction with Code-Switching during the Post-test. As shown in the table, students obtained the highest mean score of M=4.46, SD=.822 for item number 17, "PE and Health subject is important to me in preparation for college," followed by item number 11 "PE and Health is an important subject" with a mean score of M=4.38, SD=.747, and item number 4 "Participating in physical activity can improve my health" with a mean score of M=4.35, SD=.777. On the one hand, students got the lowest mean score of M=3.41, SD=.992 for item number 3, "Being an athlete makes me feel comfortable," followed by item number 15 "I share the lessons learned in PE and Health subject with my family" with a mean of M=3.79, SD=1.03 and item number 7 "I can quickly learn a dance" with a mean of M=3.93, SD=.793. The overall mean score is M=4.07, SD=.82, described as agree and interpreted as positive. The data further implied that the students exposed to video-based instruction with code-switching had a positive attitude during the post-test. This finding supports the claim of Kok et al. (2020) that students can become more physically fit by using multimedia, such as digital videos.

Marín-Suelves et al. (2023) claim that following the Sustainable Development Goals, physical education is seen as an essential subject for the development of healthy behaviors and well-being, as seen in the result of item number 11: "PE and Health is an important subject " (see Table 7) with a mean score of 4.38. Furthermore, the impact of technology on all parts of life is now undeniable. Education is no exception, and digitalization has unquestionably accelerated.

In addition, students can use video recordings of their movement abilities to examine, assess, and, if necessary, adjust their performances in subsequent trials. For example, Potdevin et al. (2018) discovered that using a movement style self-assessment, video feedback, and the teacher's accompanying vocal instructions aided in learning a manipulative skill in a PE environment and decreased demotivation throughout the learning program.

Furthermore, students' attitudes toward PE and health after being

exposed to video-based instruction with code-switching indicate that students agreed that participating in physical activity could improve their health, as evidenced by the result of item number 4, "Participating in physical activity can improve my health" with a mean of 4.35. According to Marín-Suelves et al. (2023), the general response has been to capitalize on the technological potential that digital devices and resources can provide to generate delocalized training actions and create hybrid or online training spaces that allow learning processes to continue.

As a result, this scenario has been defined by the inclusion of technology in the training process that has become both mandatory and urgent and has resulted in the creation of various educational responses on the part of teachers in various disciplines, depending on issues such as the subject area, educational stage, personal characteristics of each teacher, methodological and digital skills, or policies prescribed by public administrations or educational. On the other hand, physical education is a particularly relevant subject to examine, both in terms of curricular content and the methods and resources usually employed to implement it (Díaz Barahona, 2019).

Problem 4. Is there a significant difference in the level of attitudes of students toward PE and health who will be exposed to video-based instruction with code-switching and non-video-based instruction in terms of post-test?

Table 8

Significant Difference in the Level of Students' Attitudes toward Physical Education and Health Exposed to Video-based instruction with Code-Switching and Non-Video-Based Instruction in terms of Post-Test

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	4.133(a)	2	2.067	14.901	.000	.284
Intercept	2.686	1	2.686	19.366	.000	.205
Pre-test	4.048	1	4.048	29.182	.000	.280
Group	.242	1	.242	1.745	.190	.023
Error	10.402	75	.139			
Total	1289.979	78				
Corrected Total	14.536	77				

Estimated Marginal Means of Non-Video-Based Instruction = 3.98

Estimated Marginal Means of Video-Based Instruction with Code Switching = 4.10

Table 8 shows that the probability value (p>.05) is greater than the alpha value of 0.05; thus, the null hypothesis was accepted. It means that there was no significant difference in the post-test scores [F(1,75)=1.74, p=0.19] between the students exposed to Video-Based Instruction with Code-Switching and Non-Video-Based Instruction. The partial Eta Squared value of .023 implied a very small effect (0.2 – small effect, 0.5 – moderate effect, 0.8 – large effect) of the Video-Based Instruction with Code-Switching on the students' attitudes in Physical Education and Health.

Furthermore, when the effect of the pre-test was statistically removed, students exposed to the Video-Based Instruction with Code-Switching gained the most attitude in Physical Education and Health, as indicated in the estimated marginal means of 4.10. The data further implied that both Video-Based Instruction with Code-Switching and Non-video-based instruction effectively improved the students' attitude toward Physical Education and Health. This data supports the claim made by Folounrunso and Sunday (2017), Kiker et al. (2020), and Sivarajah et al. (2019) that multiple approaches to teaching have been presented in the literature.

Similarly, Hafeez (2021) remarked that each teaching approach has its own implementation needs. A teaching style that works well in one place may not work well in another. A study was done to analyze the effects of teacher training on students' academic performance and interest using diverse teaching approaches. The lecture, discussion, inquiry, and demonstration teaching methods were utilized to measure secondary school student's academic performance in a computer course for pre-test and post-test against each teaching method.

Leading students in effective discussions about complicated subjects is a challenging question to answer in the classroom (Sivarajah et al., 2019). The teacher's role is vital in the teaching-learning process. A teacher must be a skilled leader to guide the discussion and learners in the classroom. During the lesson, students may ask questions or make remarks. A skilled leader can address all the learners' inquiries. The teacher may utilize a variety of instruments to facilitate the discussion session in the discussion teaching approach. A projector, a computer laptop for presentation, and video-based learning materials are examples of tools (Amalia, 2017).

Tou et al. (2020) state that learning and implementing modern teaching materials is a crucial component of modern teaching strategies, as traditional teaching approaches hinder the advancement of physical education (PE) in many ways. It is necessary to refresh educational thought at appropriate intervals, revise the educational concept, and actively explore and develop new teaching methods to ensure the adaptability, scientific rigor, and originality of teaching methods (Akhtar, 2021).

Likewise, instructional videos can encourage critical thinking and problem-solving by teaching students how to effectively communicate a subject using images, sound, and organization. It helps students develop their organizational and research skills and their knowledge of problem-solving and collaborative working (Beheshti et al., 2018).

Therefore, participants exposed to video-based instruction with code-switching and non-video-based instruction were shown to be effective and contributed to students' attitudes toward PE and Health. As a result, it has improved teaching quality and impacted a wide range of functions. Teaching is passing on knowledge and information to students to help them understand the scientific process (Sivarajah et al., 2019). A teacher serves as a facilitator in the teaching-learning process (Obidike, 2017).

CONCLUSION

When exposed to non-video-based instruction, the student's performance in PE and Health was interpreted as "meets expectations" all throughout the pre-test and post-test. In comparison, when exposed to video-based instruction with code-switching, the student's performance level was interpreted as "meets expectations" in the pre-test and then "exceeds expectations" during the post-test. The findings showed that students exposed to video-based instruction with code-switching exceeded their performance expectations. This means that video-based instruction with code-switching was more effective than non-video-based instruction. Indeed, Sweller's Theory of Cognitive Load was right in mentioning that by incorporating video-based instruction into the classroom, students may follow the steps from beginning to end.

The mean post-test performance of students exposed to Non-Video-Based Instruction and Video-Based Instruction with Code-Switching while removing the pre-test differed statistically significantly. When the effect of the pre-test is statistically removed, students exposed to video-based instruction with code-switching performed exceedingly well in Physical Education and Health, as shown by the estimated marginal means. As a result, video-based instruction with code-switching was a more effective intervention in improving students' Physical Education and Health performance.

The level of students' attitude towards Physical Education and Health, when exposed to non-video-based instruction, was interpreted as "positive" during the pre-test and post-test. As well as students who were exposed to video-based instruction with code-switching obtained a "positive" attitude. This implied that both groups of students who received the intervention gained a positive attitude

toward Physical Education and Health.

There was no significant difference in the post-test scores between the students exposed to Video-based Instruction with Code-Switching and Non-Video-Based Instruction. When the effect of the pre-test was statistically removed, students exposed to Video-Based Instruction with Code-Switching gained the most attitude in Physical Education and Health, as indicated in the estimated marginal mean. Therefore, both Video-Based Instruction with Code-Switching and Non-Video-Based Instruction were effective interventions in improving the students' attitude toward Physical Education and Health.

TRANSLATIONAL RESEARCH

To improve and maximize the potential of learning in Physical Education and Health, the outcomes of this study could be translated into an educational guide to encourage future academics to conduct additional research on the impact of video-based instruction with code-switching alongside non-video-based education.

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