

Research Paper

# Effectiveness of Self-Made E-Learning Videos for Dual Sports in Enhancing The Performance of Bachelor of Physical Education Students

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#### **Abstract**

This study aimed to determine the effectiveness of self-made e-learning videos in enhancing the dual sport footwork performance of Bachelor of Physical Education students at Laguna State Polytechnic University. This study employed a pre-experimental – single-group pretest, post-test research design. The participants were purposively selected and are taking dual sports courses. Their performances were evaluated by determining the pretest and posttest mean scores and the significant differences of the variables and describing the learners' satisfaction rate on the effectiveness of e-learning videos. Based on the findings, there was a significant difference in the participants' pretest and posttest mean scores, which means that using e-video in PE sports courses enhanced their performance. The e-learning videos influence students' understanding of the basic footwork for dual sports and with high satisfaction with the learnings acquired from the videos. It was concluded that Self-made e-learning videos are effective, efficient, and useful alternative learning material for teaching dual sport footwork. It is encouraged that e-videos for dual sports courses could be adopted across the BPED LSPU system, and the use of e-learning videos may replicate in other education courses in other universities. In addition, there is a need to develop strategies to enhance the effectiveness of the e-learning course.

**Keywords** E-Learning Videos, Effectiveness, Physical Education, Performance

## INTRODUCTION

Physical education is an important part of a student's education because it helps them to stay healthy and learn teamwork skills. In addition, physical education can help students maintain a healthy weight and develop lifelong physical activity habits. Schools need to provide physical education classes so that all students have the opportunity to benefit from these positive outcomes. Physical education classes allow students to be active and participate in enjoyable activities. When students are engaged in physical activity, they are more likely to continue being physically active throughout their lives. In addition, physical activity has been shown to affect academic performance positively. Physical education classes can also help students develop teamwork skills. Working together in team sports can teach students how to cooperate with others and how to resolve conflicts. These skills are important in all aspects of life, including the workplace. In addition, participating in physical activity can help students to develop social skills and make friends (Llego, 2022).

Physical education in the Philippines is based on Republic Act No. 5708, otherwise known as "The Schools Physical Education and Sports Development Act of 1969." It stipulates in Section 2 that the "Department of Education shall undertake an integrated physical education and sports development program in all schools in the Philippines in accordance with the following guiding principles: (1) The goal of physical education is to instill in young citizens a proper appreciation of the importance of physical development hand in hand with the mental development in individual and social activities; (2) The sports and other activities in a physical education program should

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provide opportunities for the athletic development of children and youth who have the competitive spirit as well as grace, coordination, stamina and strength; (3) A well-rounded physical education program must be addressed to physical growth, social training, and personal, discipline for all pupils and students, as well as superior athletic achievement for those who are psychologically inclined and physically gifted; and (4) An integrated program for sports development in the schools requires effective organizational planning and administration with provisions for adequate training facilities and sustained stable financing."

In relation to the above act, Article XIV Section 19 of the 1987 Constitution of the Republic of the Philippines stipulates that "the State shall promote physical education and encourage sports programs, league competitions, and amateur sports, including training for international competitions, to foster self-discipline, teamwork, and excellence for the development of a healthy and alert citizenry; and All educational institutions shall undertake regular sports activities throughout the country in cooperation with athletic clubs and other sectors."

In response to the aforementioned constitutions, the Commission on Higher Education (CHED) promulgated the CHED Memorandum Order No. 80, s. 2017 which establishes the policies, standards, and guidelines for the Bachelor of Physical Education (BPEd) course in the country. It is stated that Physical Education (PE) is described as a curricular discipline that promotes an understanding of the centrality of movement in daily life, physical activity and sports participation as significant cultural and health practices. Thus, it empowers learners to be reflective, self-regulated and self-directed throughout their lives.

The success of the implementation of the aforementioned legislation related to Physical Education is yet to be achieved. Despite the detailed and comprehensive policies and guidelines, PE in the Philippines remains at a declining rate, as it receives low priority from the government budget (Fabian, 2016). The problem was further aggravated by the onset of the COVID-19 pandemic. Due to mobility constraints, schools were forced to resort to remote learning regardless of their digital capacity to employ such an online learning platform. The difficulty of adapting to elearning platforms was experienced, especially in the public education sector. Among the issues faced, among others, include (1) students' lack of access to the internet; (2) lack of necessary gadgets required for online learning; and (3) teachers' poor technical capacity to handle online classes (Gutierrez, 2021; Arambuyatan et al., 2007). These issues and problems encountered in the e-learning platform were further doubly felt by the students and teachers in the Physical Education courses.

Furthermore, based on the study of Apriyanto and Adi (2021), the habits of students have changed because of the pandemic. Students are more often helped by parents with activities at home. Habit changes such as students do not live in school dormitories but in school-respective homes. During online activities, most of the students do not experience significant impacts both physically and psychologically. Learners tend to be more interested in a mix of learning both online and offline. Students also have a deep level of interest use of certain online media used by educators. Learners also have an interest in the approach to using online learning methods.

As a result, the goal of PE to provide for multiple and a variety of engagements inclusive of all contexts and learners is impeded. In fact, recreational physical activities (e.g., exercise, sports, dance, adventure) and organized sports (e.g. intramurals, extramurals, high-level or elite performance) are halted. Hence, the major concern of PE educators is ensuring the quality and development of physical literacy and physical activity habits among students.

Even before the pandemic, the use of audio-visual and multimedia presentations was already being capitalized for the ample benefits it offers. Among the benefits of video-based learning include its cost-effectiveness, increased coaching performance, and mastery learning (Ningthoujam, 2016). It also employs a creative and interactive instructional strategy that helps

improve learner performance since they are given enough time to process and understand the lesson at their own pace. Athmika (2021) identified seven benefits of using videos in e-learning, namely, (1) facilitating thinking and problem-solving; (2) demonstrating procedures to assist in mastery learning; (3) appealing to visual learners; (4) communicating abstract concepts using animations; (5) accessibility on multiple devices; (6) demonstrating 'how-to' and 'how-not-to' effectively, and (7) reducing training costs and time.

Given the situation brought about by the pandemic, adopting the audio-visual method of teaching became the most convenient and appropriate approach used by teachers since video lessons can be paused, repeated, and played in slow motion (Athmika, 2021). Learners have also expressed that following instructional videos are the most effective method in terms of learning PE and sports (Yu and Jee, 2021). Hence, the best means to improve teaching and learning is through the use of both demonstration and instructional materials in teaching the athletes in PE (Ningthoujam, 2016).

The significance of video-based electronic learning (e-learning) in physical education classes has been highlighted by the onset of the COVID-19 pandemic. Due to the limitations brought by the pandemic, PE teachers resort to delivering their lessons using instructional videos (Aguinaldo, 2021). Clearly, technology makes teaching dual sports via E-learning videos possible (Go, 2020; Ying and Kohl, 2006). In fact, there is empirical evidence that the utilization of technology can improve PE and sports performance (Fabian, 2016). While e-learning has several disadvantages (i.e., high cost of technological infrastructure, lack of personal interaction, questionable effectiveness to learning), it can still be used to boost learning.

However, while there was successful evidence of using video-based e-learning (i.e., the Philippine Sports Institute's (PSI) Sports Education and Training Program created online video lectures to assist its learners), especially in dual sports, there remain doubts regarding the effectiveness of its utilization (Philippine News Agency, 2021). According to Aguinaldo (2021), traditional PE teachers are in doubt about the effectiveness of using instructional videos in delivering their lessons. Based on teachers' own perceptions, the students could not do their performance tasks correctly because of the lack of immediate feedback and opportunity to correct their students. Hence, the teachers' fear of being unable to help students achieve self-mastery, competence, and self-confidence in terms of developing and demonstrating skills in their field of expertise, which is the major goal of PE as stipulated in Republic Act No. 5708, Article XIV Section 19 of the 1987 Constitution, and CMO No. 18, s. 2017.

Relative to this, there is a need to explore the effectiveness of the video-based e-learning system of the country through the conduct of research. There is a call for research that would inform educators regarding the creation of new standards and teaching approaches that adapt to the changing times (Go, 2020). Therefore, it is important for the education sector to rethink and enhance its technical capacity for online learning in order to benefit from its advantages and alleviate its disadvantages.

Against the above backdrop, an assessment of the effectiveness of using e-learning videos for teaching dual sports is necessary. Specifically, BPE college students are among the learners who have been utilizing pre-recorded videos in studying specific sports amid the pandemic. In this context, they have valuable knowledge and experience regarding the usefulness and effectiveness of the learning method. Since the effectiveness of e-learning videos remain debatable and questionable, this study attempted to find answers through the experience of 2nd and 3rd-year BPEd students in utilizing pre-recorded videos in learning dual sports.

This study would build upon some established research theories that provide theoretical answers as to how self-made e-learning videos facilitate learning and mastery among students. Among the relevant theories to this study are: (1) Media richness theory; (2) Media naturalness

theory; and (3) Technology Acceptance Model.

According to Media Richness Theory, the type of media used determines the success of a certain communication transaction. Daft and Lengel (1984) presented a four-scale level of media richness in terms of their capacity to provide feedback, variety of channels, personality of the source, and variety of language. The theory states that communication media have different capacities in terms of carrying rich information and facilitating understanding. Based on the theory, written or text-based media are preferred in communicating unambiguous data (i.e., memos, bulletins, emails, text messages regarding schedules), while face-to-face communication, a medium with high richness, was preferred for conveying messages that contain unclear information and are open to different interpretations. Hence, choosing the appropriate media for a specific purpose of communication is a must (Bergin, n.d.) since proper media choice is believed to lead to better task performance (Guo et al., 2001).

Further, Davis' (1989) Technology Acceptance Model (TAM) explains that the users' intention to use a certain technology is influenced by the usefulness and ease of use of a certain technology. According to Davis (1989), perceived usefulness is "the degree to which a person believes that using a particular system would enhance his or her performance". Perceived ease of use, on the other hand, meant "the degree to which a person believes that using a particular system would be free of effort". In the case of student learning, learners' ability to use and explore a certain technology affects their performance and understanding of the subject matter (Ping and Liu, 2020). In summary, the learners' skills, capabilities, and performance are influenced by the appropriateness of the media used in lesson delivery and their perceived ease of use and usefulness of the technology/media employed.

This research study aimed to determine the performance of the BPEd students using self-made e-learning videos. The figure shows the two types of variables, the independent and dependent variables.

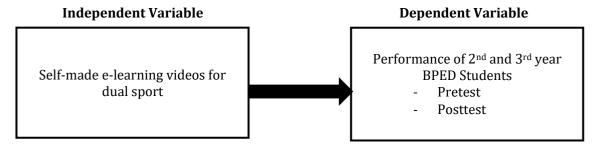


Figure 1. Research Paradigm

As shown in Figure 1, the research paradigm, the content of self-made e-learning videos, influences the students' performance in dual sports. The effectiveness of the learning videos will be determined by the difference between the pre-test and post-test results of the learners. The framework assumes that there is knowledge and skill gained from the students upon watching and studying the videos sent to them.

The purpose of the study was to determine the effectiveness of self-made e-learning videos to enhance the performance of BPEd students. Specifically, it sought to answer the following questions: 1) What is the participant's profile in terms of sex, age and type of devices used in online learning, frequency of playing dual sports?; 2) What is the level of performance of participants in dual sport in their pretest mean score?; 3) What is the level of performance of participants in dual sport in their posttest mean score?; and 4) Is there a significant difference in the pretest and

posttest mean score in the performance of the participants?

#### LITERATURE REVIEW

E-Learning is still relatively new in the Philippines, and it is still in its infancy. There is slow adoption of this kind of learning in the country because of high expenses and the predisposition of Filipinos to retain the status quo instead of making improvements in learning systems (Arambuyatan et al., 2007). However, due to the pandemic, the students were encouraged to be totally immersed in E-Learning because of mobility constraints. There are benefits and downsides to this case, and it radically revolutionized the school system of the country. Education experts are concerned that, in places where schools have been closed for an extended period of time, such as the Philippines, the pandemic has resulted in a "lost generation" of students, buffeted by the limitations of remote learning and overworked parents attempting to serve as surrogate to subjects that they are not actually used to handling. It resulted in difficulties for parents, teachers, as well as for students. Some students were unable to obtain high-quality gadgets that met their requirements since high-quality phones are currently too pricey. Students in the country's lower classes were having difficulty catching up on lectures through online classes, which pushed them to refrain from taking online classes completely (Gutierrez, 2021).

In the field of sports and exercise, e-learning is becoming more popular. E-learning courses and sports are diametrically opposed to many physical education teachers, who believe they can never be combined. Many physical education instructors, on the other hand, are learning that teaching sports and fitness online may be done successfully. The concept of employing the internet to educate and learn has been mocked at times (Ying & Kohl, 2006).

In the Philippines, the introduction of online classes for physical education (PE) has had major obstacles for the instructors owing to the subject's unique nature: the significance of completing physical motions, restricted space, time, training, etc. Online practical courses (OPC) in physical education are not simple to teach or learn for educators and students, respectively. PE demands movement to assist in enhancing individual health and physical skills, alleviate stress, and overcome mental limits, which the students need, especially during this time of pandemic (Aguinaldo, 2021). This new standard strangled all of the teachers' unique teaching approaches. Since the first day, most students have had to rely on a trial and error approach to build successful ways and find the ideal means for delivering their courses and physical activities. This left teachers unprepared and unable to cope, pushing them to attempt new ways (Do, 2020). One good feature of the epidemic is that the changes it brought have forced educators to accept that online education is a realistic alternative vital for future education. In physical education, the phrase "life-long learning" has a long history. Students that utilize e-learning have complete control over their learning activities, necessitating a high degree of self-learning. The capacity of a learner to organize, adapt, manage, reflect, and assess their own learning activities is referred to as self-learning (Guan, 2012).

Dual sports footwork does not need face-to-face interaction to master. The fundamental footwork may be learned in a small room or in your own home. The most crucial thing is mental synchronization and proper physical movement. The NSCCC, which is a component of the Philippine Sports Institute's (PSI) Sports Education and Training Program, enables coaches to continue learning and enhancing their abilities as part of the country's unified national grassroots sports program; they conduct lectures for badminton and volleyball online to elevate the learning experience of the participants in the midst of pandemic (Philippine News Agency, 2021).

Based on the empirical study of Lee, Chung, and Yang (2020) investigate whether virtual reality-based badminton instruction in physical education may increase learning outcomes at the teaching site. The findings showed that virtual reality-based badminton teaching in physical

education can be effective for learning badminton aspects, but it still requires improvements in various areas, such as repeated practice and understanding of essentials, posture adjustment and mastering the knack, teamwork support, and prompting learning. Teachers may also have trouble moving about, playing with, and learning the system. They determined that virtual reality-based badminton training in physical education can successfully boost learning. However, teachers should still focus on the design and implementation of teaching and comprehend the students' perception of the curriculum in physical education to tackle the issues of virtual reality-based badminton instruction. The Philippines may implement this kind of technique of teaching for the students. However, it is highly demanding for the whole staff, students, and the institutions.

Video-assisted learning is a growing strategic teaching approach in many modern classrooms. Educational videos are now more accessible than ever, and teachers are increasingly making use of this readily available resource. Ramananda (2016) clearly said that using the video model (Video Based Analysis) will offer varied opportunities as it allows performance to be paused, repeated, and played in slow motion and can be used in all types of model-based practices like sports education. The use of VBA in teaching, along with any model-based practices, will help in improving the motor educability, efficiency and performance of the students, especially during this pandemic.

With the breakout of COVID-19, schools were forced to offer distance learning. The situation emphasized the importance of technology, in which students can equip themselves to organize their learning process independently, and at the same time, technology transfers some responsibility for learning to students (Moeller & Reitzes, 2011). The result of the study by Zheng, Ma, and Lin (2021) showed students perform better in blended learning than single-type learning students in all aspects, which proves the practicability and effectiveness of the proposed method.

In relation to this, video-based learning is deemed more appropriate and suitable, especially in the field of Physical Education (PE). In fact, video analysis is a common tool that is used in modern sports to increase coaching performance for individual and team competitions (Harvey & Gittins, 2014). Specifically, the National Association for Sport and Physical Education (NASPE 2009) believes that technology can be an effective tool for supplementing instruction when used appropriately. Video instruction used in physical education is to provide students with a view of their own performance or feedback as to what they have done or to provide instructors/coaches with the proper steps to instruct others, not necessarily feedback on their own performance. Video-based coaching is an educational modality that targets intro-operative judgement, technique and teaching (Hu et al., 2012).

However, there are some studies exploring the effectiveness of video-based teaching remain limited such as the study of Ou, Joyner, & Goel (2019), that there is a need to explore and identify new design principles for effective video-based learning arises due to rapid technological advancement and an increasing number of students taking online courses relying heavily on video lessons for their learning. Hence, this study aims to see how effective E-Learning videos are for dual sports footwork activity for BPEd College students.

# **RESEARCH METHOD**

This study employed a pre-experimental – single-group pretest post-test research design, "research that involves the manipulation of an independent variable without the random assignment of participants to conditions or orders of conditions". Specifically, the study applied a pretest-posttest type of pre-experimental design, where the dependent variable (student performance) is measured once before the treatment (watching self-made e-learning videos) is implemented and once after it is implemented (Price, Jhangiani, & Chiang, 2013).

According to DeCarlo (2018), pre-experimental design is a useful tool in determining the

effect of the intervention on a small group of people. Since the aim of the study is to identify the effect of self-made e-learning videos on student performance, the pre-experimental research design is deemed appropriate for the study.

A total of 33 BPED students were purposively selected as the participants of the study, where 15 are 2nd year and 18 are 3rd-year BPED students since they are the ones taking courses on dual sports during the second-semester academic year 2021-2022. The majority of them are females, with ages ranging from 21 to 23 years old. In terms of status, all the respondents are single.

The researchers used self-made video recordings of basic footwork for dual sports, and it was presented during their class sessions. For data gathering, a formulated and validated survey questionnaire was employed as one of the research instruments. The main instrument that the researchers used was the self-made video presentation which consisted of a detailed demonstration of basic footwork exercises recorded by the researchers.

The study used an online survey questionnaire to assess the performance of the self-made learning videos in terms of learners' reactions and changes in knowledge and skills. The questionnaire is divided into two parts, (1) personal information and (2) assessment of the elearning videos.

Pretest and posttest assessment tools were used in order to evaluate the performances of the participants. Both questionnaires contained the same questions regarding principles and concepts of basic dual sports footwork.

The researchers prepared and administered the pre-assessment, the pretest that assessed the current knowledge of the participants regarding dual sports footwork. These questionnaires were first validated by experts. After validation, the pretest was accomplished by the participants prior to watching the pre-recorded videos. After the pretest, the participants were asked to watch the video of the actual demonstration of the basic footwork exercises for dual sports. The participants accomplished the posttest afterwards.

Meanwhile, to assess the effectiveness of the e-learning videos, an online survey was administered, which investigated the participants' reactions, satisfaction, and perception regarding the effectiveness of the e-learning videos.

Descriptive statistics, such as frequency counts, mean score, standard deviation, T-test, and Cohen's d, were used to analyze the data. The data from the pretest and posttest results were used to validate the learners' perceived learning improvement.

#### FINDINGS AND DISCUSSION

Table 1 shows the participants profile, in which there was a total of 33 students served as participants of this study, where 15 are 2nd BPEd students, and 18 are from the 3rd year class. The majority (70%) of these students who are taking courses on dual sports are females, with ages ranging from 21 to 23 years old (73%).

**Table 1.** Participant's profile in terms of age and sex

	2 <sup>nd</sup> Year (n=18)		3 <sup>rd</sup> Year (n=15)			
Particular	F	%	F	%	F	%
Age						
19-20	9	60	0	0	9	27
21-23	9	60	15	83	24	73
Total	18	100	15	100	33	100
Sex						
Male	8	53	2	11	10	30

Female	10	67	13	72	23	70
Total	18	100	15	100	33	100

Figure 2 illustrates the different devices used in attending online classes; figure 3 below shows that the majority (29, 87.9%) of the participants use their cell phones. Only a few (4, 9.1%) use laptops for their classes. These results agree with the findings of the study of Wark and Ally (2018), where the use of mobile devices for learning is the most common among students. In fact, they found that mobile devices are now rapidly evolving as a device that provides a nearly seamless continuity of formal learning. The same was the results of Roberts and Rees (2014), where the number of students who use mobile phones for class activities are higher than those who use laptops. According to Jin and Sabio (2018), as cited by Asio et al. (2021), the use of mobile devices has become rampant among students due to its accessibility, convenience, and affordability compared to other technological devices.

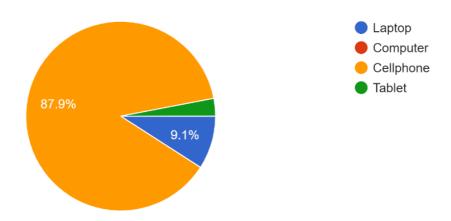
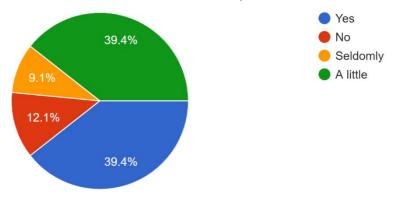


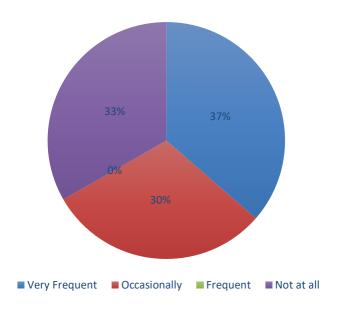
Figure 2. Devices used in online classes

Among the dual sports inquired are Badminton and Table Tennis. As shown in Figure 3, only 39.4% answered 'yes', which means that they are confident regarding their knowledge of the basic rules of playing the said two dual sports. On the other hand, the same percentage (39.4%) have little knowledge of dual sports. There was a significant percentage of respondents (12.1%) who answered 'no' and had zero knowledge regarding the basics of playing Badminton and Table Tennis. But some of them, with 9.1%, answered that they were seldom aware of dual sports.



**Figure 3.** Participants' frequency of playing dual sports

Figure 4 shows the Frequency of paying for dual sports. The results are almost evenly distributed among those who play very frequently, occasionally, and those who do not play at all. Specifically, most (36.4% and 30.3%) of the participants play dual sports very frequently and occasionally, respectively. A significant number (33.3%) of the participants declared that they had not played badminton or table tennis ever.



**Figure 4.** Frequency of playing dual sports

Table 2 shows the pretest and posttest results of the participants. Results showed that the participants garnered a relatively average mean score of 12.73, with a standard deviation of 2.17, from the pretest. The mean score significantly increased to 18.42, with a standard deviation of 1.64, during the posttest. The results showed that there was a significant improvement in the performance of students after watching the self-made videos prepared by the researchers.

**Table 2.** Pretest and Post test mean scores of the participants

Tests	Mean	Std. Dev.	Std. Error	Descriptive	
(n = 33)	Wean	Stu. Dev.	Mean	Interpretation	
Pretest	12.73	2.17	0.29	Average	
Posttest	18.42	1.64	0.38	Very High	

Legend: 18.00 - 20.00 = Very High; 16.00 - 17.00 = High; 10.00 - 15.00 = Average; 5.00 - 9.00 = Low; 1.00 - 4.00 = Very Low

Table 3 presents the significant difference between the pretest and posttest mean scores. The paired-sample t-test was conducted to determine the significant difference in the scores for the pretest (M=12.71, SD=2.17) and the post-test (M=18.42, SD=1.64), t (32) =13.327, p = .01. Further, these results (MD=5.95) suggest that there is a statistically significant difference between the pretest and posttest, as indicated in the large effect size of Cohen's d=2.96. In this matter, the result of the t-test denotes that the e-learning videos do positively influence students' understanding of the basic footwork for dual sports. As an implication, the use of self-made videos for online learning

has apparent potential to become a pedagogic tool that can improve instructional design (Merwe, 2011). In fact, research noticed significant overall improvements in learning when students viewed taped lectures or edited audio/visual clips compared with in-person instruction, tutorials or reading assignments (Burt, 2021).

**Table 3.** Test of significant difference between the pretest and posttest mean scores of

Test	Mean	Mean Difference	t-value	Cohen's d
Pretest	12.73	T (0	40.005**	2.96
Posttest	18.42	_ 5.69	13.327**	(Large)

df = 32; \*Significant at .01 level; Cohen's d: 0.20 (Small); 0.50 (Medium); 0.80 (Large)

## **CONCLUSIONS**

Based on the results, it is concluded that there is a significant difference between the pretest and posttest mean scores in the student's performance using self-made e-learning videos. Thus, the self-made e-learning videos are effective, efficient, and useful alternative learning material for teaching dual sport footwork.

The e-learning videos do positively influence students' understanding of the basic footwork for dual sports. E-learning videos are effective alternative learning materials in teaching basic principles of dual sport footwork, as revealed in the significant increase in posttest scores of the participants who indicated having little to no knowledge regarding the basics of playing Badminton and Table Tennis.

# Recommendation

It is recommended to apply the same process across all BPEd year levels in the LSPU system in order to achieve generalized results of the study. Since the scope of the assessment of the effectiveness is only focused on generating the participant's performance, there is a need to conduct a long-term assessment of the use of e-learning videos. It is suggested for replication of this study to other education courses in other universities. It is encouraged for the development of strategies to enhance the effectiveness of the e-learning course.

# **LIMITATION & FURTHER RESEARCH**

This study aimed to determine the effectiveness of the e-learning videos implemented for second and third-year BPEd students in LSPU Los Banos. The results are only applicable to the case of LSPU BPEd. Also, the scope of the assessment of the effectiveness is only focused on the learner's perception in terms of their knowledge gain, as well as the difference in the pretest and posttest scores.

It was conducted during the pandemic, personal contacts with respondents were limited, and there were some problems in sending online the survey questionnaire thru Google form due to internet glitches and contacting respondents. However, the result of the study attained the main objective and suggested that further studies with similar topics need to conduct in other curriculum programs offered in the University enable to determine the effectiveness of the e-learning videos in enhancing the footwork skills of students in dual sports.

#### REFERENCES

- Aguinaldo, J. C. (2020, October 5). *Challenges Encountered by Physical Education Teachers in Online Learning.*Retrieved from https://www.dlsu.edu.ph/wp-content/uploads/pdf/conferences/research-congress-proceedings/2021/LLI-13.pdf
- Apriyanto, R. & Adi, S. (2021). Effectiveness Of Online Learning and Physical Activities Study In Physical Education During Pandemic Covid 19. *Kinestetik: Jurnal Ilmiah Pendidikan Jasmani, 5.* 64-70. 10.33369/jk.v5i1.14264.
- Arambuyatan, R. C., Kim, S., Song, J., & Soo, W. (2007, October). A Study on E-Learning in the Philippines. *International Journal of Multimedia and Ubiquitous Engineering*, *2*(4), 49-54.
- Asio, J.M.R., Gadia, E.D., Abarintos. E.C., Paguio, D.P., & Balce, M. (2021). Internet connection and learning device availability of college students: Basis for institutionalizing flexible learning in the new normal. *Studies in Humanities and Education, 2*(1), 56-69. https://doi.org/10.48185/she.v2i1.224
- Athmika, T. (2021, September 14). *These are the 7 advantages of using videos in e-learning.*CommLab India. Retrieved from https://blog.commlabindia.com/elearning-design/7-advantages-of-using-videos-in-elearning
- Bergin, R. (undated). *Media richness theory*. Retrieved from https://www.chds.us/coursefiles /IS4010/lectures/tech\_media\_richness\_long/story\_content/external\_files/Media%20Richness%20Theory%20Script.pdf
- Burt, C. (2021, February 18). *Study: Pre-recorded videos can boost student learning.* Retrieved from https://universitybusiness.com/study-pre-recorded-videos-can-boost-student-learning/
- CHED Memorandum Order No. 80, series of 2017. Retrieved from https://chedro1.com/wp-content/uploads/2019/07/CMO-No.-80-s.-2017.pdf
- Daft, R. L., & Lengel, R. H. (1986). Organizational Information Requirements, Media Richness and Structural Design. *Management Science*, 32(5), 554–571. Retrieved from http://www.jstor.org/stable/2631846
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, *13*(3), 319-340. https://doi.org/10.2307/249008
- Decarlo, M. (2018). Scientific inquiry in social work. http://www.opensocialworkeducation.com/
- Do, J.W. (2020). An investigation of design constraints in the process of converting face-to-face course into online course. *Journal of Education & Culture*, *26*(2), 153-173.
- Fabian, E. (2016, November 21). *Philippine Physical Education in the information age: Major upgrade needed.* Sports Management Council of the Philippines. Retrieved from https://www.sportphil.com/philippine-physical-education-information-age/
- Go, B. (2020, October 6). *Physical Education stays alive in PH online distance learning*. https://www.rappler.com/sports/physical-education-subject-stays-online-distance-learning-philippines/
- Guan, B. (2012). Determination of China's online physical education objective. *Procedia Engineering*, 29(2012), 3557-3561. https://doi.org/10.1016/j.proeng.2012.01.530.
- Guo, Z., Ambra, J., & Edmundson, B. (2001). *Understanding Cultural Influence on Media Choice: A Cross-Cultural Study within Multinational Organisation Setting.* Paper presented at the PACIS 2001, Seoul, Korea. Retrieved from http://www.pacis-net.org/file/2001/028.pdf
- Gutierrez, J. (2021, September 15). *As Covid Surges, Filipino Students Begin Second Year Online.* The New York Times. https://www.nytimes.com/2021/09/13/world/asia/philippines-students-remote-covid.html
- Harvey, S., & Gittins, C. (2014). *Effects of Integrating Video-Based Feedback into a Teaching Games for Understanding Soccer Unit.* Agora Para la Educación Física y el De-porte, Agora for PE and Sport, 16, 271-290.

- Hu, Y. Y., Peyre, S. E., Arriaga, A. F., Osteen, R. T., Corso, K. A., Weiser, T. G., Swanson, R. S., Ashley, S. W., Raut, C. P., Zinner, M. J., Gawande, A. A., & Greenberg, C. C. (2012). Postgame analysis: using video-based coaching for continuous professional development. *Journal of the American College of Surgeons*, 214(1), 115–124. https://doi.org/10.1016/j.jamcollsurg.2011.10.009
- Jin, W., & Sabio, C.J. (2018). Potential use of mobile devices in selected public senior high schools in the city of Manila, Philippines. *International Journal of Learning, Teaching and Educational Research*, 17(4), 102-114, https://doi.org/10.26803/ijlter17.4.7
- Lee, H. Y., Chung, C. Y., & Fan-Yang. (2020). Research on Virtual Reality-based Badminton Teaching in Physical Education Courses. 2019 International Conference on STEM/STEAM and Education, Hawaii University. Retrieved from https://www.researchgate.net/publication/348558193\_Research\_on\_Virtual\_Reality-based\_Badminton\_Teaching\_in\_Physical\_Education\_Courses
- Llego, M. A. (2022, August 25). *The Importance of Physical Education in Schools.* TeacherPH. Retrieved at August 25, 2022 from, https://www.teacherph.com/importance-physical-education-schools/
- Merwe, Alex. (2011). Can Online Learning Boost Academic Performance? A Microeconomics Study. *International Business & Economics Research Journal (IBER), 10.* https://doi.org/10.19030/iber.v10i8.5377.
- Moeller, B. & Reitzes, T. (July, 2011). *Integrating Technology with Student-Centered Learning.* A Report to the Nellie Mae Education Foundation. https://www.edc.org/sites/default/files/uploads/Integrating-Technology-with-Student-Centered-Learning.pdf
- Ningthoujam, R. (2016). Construction and importance of video-based analyses teaching in physical education by use of window live movie maker. *Video Journal of Education and Pedagogy*, 1(4). https://doi.org/10.1186/s40990-016-0003-2
- Ou, C., Joyner, D.A., & Goel, A.K. (2019). Designing and developing video lessons for online learning: A seven principle model. *Online Learning, 23*(2), 82-104. https://doi.org/10.24059/olj.v23i2.1449
- Philippine News Agency. (2021, October 28). *300 coaches benefit from PSC's sport-specific lectures.*Philippine News Agency. https://www.pna.gov.ph/articles/1158071
- Ping, L., & Liu, K. (2020). Using the technology acceptance model to analyze K–12 students' behavioral intention to use augmented reality in learning. *Texas Education Review*, 8(2), 37-51. http://dx.doi.org/10.26153/tsw/9204
- Price, P.C., Jhangiani, R.S. and Chiang, I.C.A. (2013). *Research methods in Psychology 2nd Canadian edition*. https://opentextbc.ca/researchmethods/
- Ramananda, N. (2016). Construction and importance of video based analyses teaching in physical education by use of window live movie maker. Retrieved from https://videoeducationjournal.springeropen.com/articles/10.1186/s40990-016-0003-2 Republic Act No. 5708.
  - $https://lawlibrary.chanrobles.com/index.php?option=com_content&view = article\&id=76126:republic-act-no-5708\&catid=2130\&Itemid=738\#:\sim:text=This%20 Act%20shall%20be%20known,Sports%20Development%20Act%20of%201969.%22&text = (4)%20An%20integrated%20program%20for,facilities%20and%20sustained%20stable%20financing.$
- Roberts, N. & Rees, M. (2014). Student use of mobile devices in university lectures. *Australasian Journal of Educational Technology*, *30*, 415-426. https://doi.org/10.14742/ajet.589
- Zheng, W., Ma, Y.-Y., & Lin, H.-L. (2021). Research on Blended Learning in Physical Education During the COVID-19 Pandemic: A Case Study of Chinese Students. *SAGE Open, 11*(4).

https://doi.org/10.1177/21582440211058196

1987 Philippine Constitution. https://www.officialgazette.gov.ph/constitutions/1987-constitution/