

Development of instructional videos in the teaching of basketball

Jean C. Gabiazon*

Capiz State University - Main Campus, Roxas City, Capiz, Philippines

ABSTRACT

In education, particularly in physical education and sports instruction, technology serves as a powerful tool that enhances teaching and learning processes. This developmental research aimed to determine the acceptability of demonstration videos as an instructional enhancement strategy in teaching fundamental basketball skills specifically shooting, dribbling, and passing among 30 Grade 8 students at Hercor College High School students and 5 experts during the 2025-2026 academic year. The research utilized a developmental research design, to create and validate the instructional material. The respondents consisted of 30 Grade 8 students and 5 expert evaluators in the field of sports and physical education. Adapted evaluation rubrics and survey questionnaires was used to measure the level of acceptability of the videos and the students' proficiency in basketball skills. Data were analyzed using mean, frequency counts, percentages, and Pearson's Correlation Coefficient (r) to the relationship between the variables. Findings revealed that the demonstration videos were "Highly Acceptable" across all components as evaluated by experts in consideration of content, formed, accuracy, organization of information, technical quality. Also rated as "Highly Acceptable" in considerations of visual clarity, demonstration, audio/cues, pacing and usefulness as evaluated by students. The results indicate that the integration of structured video demonstrations is an effective instructional tool that provides clear visual feedback and repeated observation opportunities, leading to improved skill mastery and engagement. The study concludes that technology-enhanced instruction is a valuable strategy for 21st-century learners in physical education.

Keywords: Video demonstration, basketball fundamental skills, pedagogical effectiveness, technology integration, physical education.

Date Submitted: April 20, 2026

Date Accepted: April 24, 2026

Date Published: May 4, 2026

INTRODUCTION

The modern educational landscape is increasingly anchored in the pursuit of global competitiveness and the fulfillment of the United Nations' Sustainable Development Goals (SDGs). Central to this mission is SDG 4 (Quality Education), which mandates the use of Innovation and Digital Integration to ensure inclusive and equitable learning. In the Philippine context, the K-12 Physical Education (PE) program serves as a vehicle for these Transformative Practices, aiming to enhance students' micro and macro skills to meet

*Corresponding author / Email Address: jeangabiazon2@gmail.com

DOI: <http://doi.org/10.69651/PIJHSS05021103>

Recommended citation:

Gabiazon, J. C. (2026). Development of instructional videos in the teaching of basketball. *Pantao (The International Journal of the Humanities and Social Sciences)* 5 (2), 3422-3440.
<http://doi.org/10.69651/PIJHSS05021103>

international standards. Furthermore, by fostering physical literacy, the curriculum directly supports SDG 3 (Good Health and Well-being), empowering students with the Fundamentals and Advanced Knowledge necessary to lead active, healthy lives.

Technology, defined as the application of scientific knowledge to enhance efficiency (Zuni, 2017), has become an essential pillar of 21st-century learning. In the realm of physical education and sports instruction, innovation serves as a transformative tool that bridges the gap between theory and practice. From foundational hardware to advanced systems like GPS and fitness applications, digital integration allows educators to present materials in dynamic ways that resonate with modern learners (Cunningham, 2019). This shift toward transformative practices not only enhances the teaching-learning process but also increases students' intrinsic motivation to master both fundamental and advanced sports techniques.

The K-12 PE Curriculum is designed to foster lifelong learning by prioritizing movement competence, motor skill proficiency, and the valuing of physical activity for social interaction and career opportunities. It aims to develop students' abilities to access, synthesize, and evaluate health information to make informed life decisions. However, a significant gap remains between these curricular standards and actual classroom outcomes. Despite the availability of modern tools, there is a noted limited integration of technology in sports instruction. Many traditional programs still rely heavily on verbal explanations and fleeting live demonstrations, which often fail to address diverse learning styles. In basketball instruction, specifically, students frequently struggle to grasp the technical nuances of dribbling, shooting, and passing, leading to low skill mastery and a decline in participation.

The absence of clear visual feedback often leaves students unable to identify technical errors, resulting in inconsistent performance and reduced confidence. To address these systemic challenges, the utilization of video demonstration presents a promising instructional intervention. By allowing for repeated observation and slow-motion analysis, video-based instruction promotes learning ownership and self-assessment—core components of effective leadership and community engagement in sports. Unlike traditional one-time demonstrations, video materials can be replayed and reviewed, ensuring that visual and auditory learners alike can achieve a deeper comprehension of fundamental skills.

Therefore, this study aims to utilize video demonstration as an instructional enhancement strategy in teaching basketball. By embedding technology within sports instruction, the researcher seeks to provide a learner-centered approach that aligns with global standards of innovation and digital integration. Ultimately, this study aims to improve the mastery of basic basketball skills, thereby sustaining student interest and fostering a culture of lifelong physical fitness.

A fundamental challenge for practitioners in high-level sporting environments concerns how to support athletes in adapting behaviors to solve emergent problems during competitive performance. Guided by an ecological dynamic's framework, the design and integration of competitive performance preparation models that place athlete-environment interactions at the heart of the learning process may address this challenge. This ecological conceptualization of performance preparation signifies a shift in a coach's role; evolving from a consistent solution provider to a learning environment designer who fosters local athlete-environment interactions. However, despite the past decades of research within the ecological dynamic's framework developing an evidence-based, theoretical conceptualization of skill acquisition, expertise and talent development, an ongoing challenge resides within its practical integration into sporting environments. This article provides two case examples in which high-level sports organizations have utilized an ecological dynamics framework for performance preparation in Australian football and Association Football. A unique perspective is offered on experiences of professional sport organizations attempting to challenge traditional ideologies for athlete performance preparation by progressing the theoretical application of ecological dynamics.

These case examples intend to promote the sharing of methodological ideas to improve athlete development, affording opportunities for practitioners and applied scientists to accept, reject or adapt the approaches presented here to suit their specific ecosystems

Achievement Goal Theory. Motive is one of the main factors that underlie, initiate, and drive human behavior. It is observed that various human behaviors are related to motives. Since the 1970s, sports and exercise psychologists are also interested in what the motives are for starting sports, participating in sports and giving up sports and exercise (Toros and Yetim, 2015). Achievement Goal Theory (Achievement Goal Theory), first proposed by Nicholls (2012), is the logical extension of both Bandura's "Self-Efficacy Theory" and Harter's "Proficiency Motivation Theory".

Achievement Goal Theory determines the meaning of personal behavior and how individual success and failure are perceived (Hausenblas, 2016). According to Nicholls (2012), the defined characteristic of achievement motivation is based on the idea that individual perceives his/her own abilities. Nicholls (2012) focused on the goal-oriented nature of achievement behavior and discussed the perception of ability, which is the distinctive quality of achievement motivation. According to this, achievement goals, perceived ability and achievement behaviors are in interaction with determining the motivation of the individual. In this context, in order to understand the motivation of the individual, it is necessary to understand what success and failure means for the individual, how he/she achieves his/her achievement goals and how these goals interact with his/her perception of ability (Weinberg and Gould, 2015).

Achievement Goal Theory also emphasizes that individuals differ in how they define success based on either task orientation or ego orientation. Task-oriented individuals focus on personal improvement, effort, and mastery of skills, while ego-oriented individuals define success by comparing their performance with others. In the context of sports and physical education, this theory suggests that learners are more likely to stay motivated and persist in skill development when they experience a sense of competence and improvement over time. Therefore, instructional approaches that highlight personal progress, provide clear demonstrations, and allow learners to observe correct performance such as demonstration videos may strengthen task-oriented motivation and enhance sustained engagement in learning activities.

Statement of the problem

The study aimed to develop and determine the acceptability of demonstration videos in the teaching of basketball.

Specifically, it determined the following:

1. Describe the features of instructional videos.
2. the level of acceptability of demonstration videos in terms of content, format, accuracy and organization of information, and technical quality as evaluated by experts, and;
3. the level of acceptability of demonstration videos in terms of visual clarity, demonstration, audio/cues, pacing and usefulness as evaluated by students.

METHODOLOGY

This chapter presents the research methodology employed in the study, encompassing the research design, locale, sampling technique, participants, research instrument, data

gathering procedure, data analysis, and ethical considerations that guided the conduct of the investigation.

The study aimed to develop a demonstration video in the teaching of basketball and, in pursuit of this objective, utilized a developmental research design. Developmental research involves the systematic study of designing, developing, and evaluating instructional programs, processes, or products to ensure they meet established criteria for internal consistency, effectiveness, and applicability (Richey, 2012). In this study, the instructional product developed was a video demonstration of basketball fundamental skills, carefully designed to include clear explanations and step-by-step demonstrations of dribbling, shooting, and passing. Applying the developmental type of research, the researcher developed a demonstration video and had it evaluated by teachers, experts, and students in terms of its acceptability.

The study was conducted at Capiz Division, Department of Education and Hercor College High School Department during the academic year 2025 to 2026.

The study employed a purposive sampling method, guided by specific inclusion and exclusion criteria, to ensure that the participants possessed the exact attributes required to investigate the effectiveness of video-based basketball instruction. Purposive sampling is a non-probability technique particularly effective when a researcher needs to reach a targeted sample quickly and where sampling for proportionality is not the primary concern. In this context, the selection was driven by the participants' direct involvement in the physical education landscape and their potential to provide meaningful data regarding the intersection of technology and athletic skill acquisition.

The study engaged a diverse group of 35 respondents to provide a multi-perspective evaluation of the intervention. The primary cohort consisted of 30 Grade 8 students from Hercor College, Inc., who served as the focal point for the instructional intervention. Complementing this group were three sports experts and two Physical Education teachers, whose inclusion provided the necessary pedagogical and technical expertise to validate the study's findings. While these respondents were selected for their accessibility within the institution, they were fundamentally chosen because they represent the specific demographic of learners and educators most impacted by the shift toward digital integration in the K-12 PE curriculum. In total, the respondents comprised three sports experts, two coaches, and 30 students, for a combined total of 35 participants serving as evaluators of the developed instructional material.

During the research process, these respondents participated in a structured intervention that involved the systematic observation of video demonstrations focused on the fundamental basketball skills of dribbling, shooting, and passing. Following the intervention, the participants completed a comprehensive survey and a practical skill assessment. This dual approach allowed the researcher to measure both the subjective perceptions of the participants and the objective improvement in their motor skills. By utilizing this targeted sampling strategy, the study ensured that the data gathered was deeply rooted in the specific educational context of the participants, thereby enhancing the validity and relevance of the findings concerning the use of video demonstrations as a transformative instructional tool.

The study employed well-defined inclusion and exclusion criteria to ensure that the participants engaged were best positioned to contribute valuable, experience-based insights, particularly during the evaluation of the developed instructional materials. This step was essential for achieving valid, reliable, and ethically sound research outcomes (Creswell and Poth, 2018; Patino and Ferreira, 2018). The participants were involved in assessing the acceptability of a video demonstration of basketball fundamental skills, which focused on dribbling, shooting, and passing. The evaluators were predominantly students, but coaches and trainers were also invited to evaluate the material. These coaches were national and regional basketball trainers and coaches of basketball.

For sports experts, inclusion required affiliation with the Department of Education or any recognized sports or basketball organization, at least five years of experience in teaching, coaching, or supervising basketball or Physical Education classes, relevant experience in teaching basketball skills such as passing, dribbling, and shooting, experience in developing, using, or evaluating instructional materials such as video demonstrations in sports, familiarity with the K to 12 Most Essential Learning Competencies for Physical Education particularly basketball skills, participation in basketball-related seminars, training, or coaching clinics, current or recent active involvement in basketball instruction, coaching, or program implementation, and willingness to participate in the validation of basketball video demonstration materials with informed consent. Sports experts were excluded if they were not affiliated with DepEd or any recognized sports or basketball organization, had less than five years of relevant experience in basketball coaching or Physical Education, had no experience in teaching or coaching fundamental basketball skills, had no experience in using or evaluating instructional materials like video demonstrations, were unfamiliar with or lacked knowledge of the K to 12 curriculum and MELCs for Physical Education, had not attended any basketball-related seminars, training, or coaching clinics, were not currently active or involved in basketball-related instruction or programs, or declined or were unable to participate fully in the validation process.

For coaches, inclusion required affiliation with a school, sports organization, or training program, at least five years of experience in coaching basketball, experience in teaching fundamental basketball skills such as passing, dribbling, and shooting, experience in using or evaluating instructional materials such as video demonstrations in coaching, and willingness to participate in the validation of basketball video demonstrations with informed consent. Coaches were excluded if they were not affiliated with any school or recognized sports organization, had less than five years of basketball coaching experience, had no experience in teaching basic basketball skills, had no experience in using or evaluating instructional materials, or declined or were unable to participate in the validation process.

For students serving as evaluators, inclusion required current enrollment in Physical Education classes, prior or current exposure to basketball lessons in school, basic knowledge of fundamental basketball skills such as passing, dribbling, and shooting, prior experience with video demonstrations as part of learning activities, and willingness to participate in the evaluation of basketball video demonstrations with informed consent. Students were excluded if they were not currently enrolled in Physical Education classes, had no prior exposure to basketball lessons, lacked basic knowledge of basketball skills, had no experience in using video demonstrations for learning, or declined or were unable to participate in the evaluation process.

The researcher used an adapted rubric to evaluate the laboratory video demonstrations, and an adapted survey questionnaire was administered to the respondents. The survey questionnaire consisted of two parts. The first part gathered the demographic profile of the respondents, including their age, sex, and grade level. The second part utilized a Likert Scale format containing statements designed to determine the level of acceptability of the demonstration video in terms of content, format, accuracy, and organization as evaluated by experts, and in terms of visual clarity, demonstration, audio, pacing, and usefulness as evaluated by students. The rubric and survey instrument were utilized to systematically assess the quality and the level of acceptability of the demonstration video in the teaching of basketball.

The scoring scale used to assess the level of acceptability of the demonstration video as evaluated by experts was organized according to the following mean ranges and corresponding

descriptions: a mean range of 4.21 to 5.00 was described as Highly Acceptable; 3.41 to 4.20 as Acceptable; 2.61 to 3.40 as Moderately Acceptable; 1.81 to 2.60 as Slightly Acceptable; and 1.00 to 1.80 as Not Acceptable. For content, responses were assigned point values wherein Strongly Agree corresponded to 5, Agree to 4, Neutral to 3, Disagree to 2, and Strongly Disagree to 1, with the same mean range interpretations applied. For format, the same five-point response scale was used, with mean ranges interpreted as follows: 4.21 to 5.00 as Clear and consistent; 3.41 to 4.20 as Mostly clear; 2.61 to 3.40 as Needs refinement; 1.81 to 2.60 as Disorganized format; and 1.00 to 1.80 as Unclear and messy. For accuracy and organization of information, the same Likert response values were assigned, with mean ranges described as: 4.21 to 5.00 as Accurate and well-structured; 3.41 to 4.20 as Mostly accurate; 2.61 to 3.40 as Some inaccuracies; 1.81 to 2.60 as Several errors; and 1.00 to 1.80 as Inaccurate and disorganized. For technical quality, the mean ranges were interpreted as: 4.21 to 5.00 as Error-free and polished; 3.41 to 4.20 as Minor technical issues; 2.61 to 3.40 as Some technical flaws; 1.81 to 2.60 as Several technical errors; and 1.00 to 1.80 as Unclear and error-ridden.

The scoring scale for the level of acceptability as evaluated by students also followed a five-point Likert format with the same general mean range categories of Highly Acceptable, Acceptable, Moderately Acceptable, Slightly Acceptable, and Not Acceptable applied across all criteria. For visual clarity, the mean ranges were interpreted as: 4.21 to 5.00 as Very clear and highly visible; 3.41 to 4.20 as Clear visuals; 2.61 to 3.40 as Moderately clear; 1.81 to 2.60 as Unclear visuals; and 1.00 to 1.80 as Very poor visual quality. For demonstration, the descriptions were: 4.21 to 5.00 as Excellent and accurate demonstration; 3.41 to 4.20 as Clear and correct demonstration; 2.61 to 3.40 as Adequate demonstration; 1.81 to 2.60 as Poor demonstration; and 1.00 to 1.80 as Very unclear and incorrect demonstration. For audio and cues, the mean ranges corresponded to: 4.21 to 5.00 as Very clear and well-synchronized audio and cues; 3.41 to 4.20 as Clear audio and cues; 2.61 to 3.40 as Adequate audio and cues; 1.81 to 2.60 as Poor audio and cues; and 1.00 to 1.80 as Very unclear or absent audio and cues. For pacing, the descriptions were: 4.21 to 5.00 as Well-paced and highly appropriate for learning; 3.41 to 4.20 as Generally well-paced; 2.61 to 3.40 as Moderately paced; 1.81 to 2.60 as Poor pacing; and 1.00 to 1.80 as Very poor pacing. For usefulness, the mean ranges were described as: 4.21 to 5.00 as Highly useful for learning basketball skills; 3.41 to 4.20 as Useful; 2.61 to 3.40 as Moderately useful; 1.81 to 2.60 as Low usefulness; and 1.00 to 1.80 as Not useful for learning.

After the video demonstration was developed, the researcher requested professors who were teaching sports, particularly in MAPEH and BPED, to evaluate the instructional videos. These experts assessed the videos using an adapted evaluation rubric focusing on content, format, accuracy, organization of information, and technical quality. All recommendations and suggestions provided by the evaluators were carefully reviewed and incorporated to enhance the quality of the three video demonstrations on dribbling, shooting, and passing. Once the video demonstrations were revised, finalized, and approved by the experts, the researcher sought formal approval from the school principal to conduct the study. Upon receiving permission, the implementation phase commenced.

The intervention involved 30 respondents composed of 30 Grade 8 students and 5 expert evaluators. The Grade 8 students participated in watching the approved video demonstrations during their scheduled class session. The videos were presented systematically, ensuring that each fundamental skill of dribbling, shooting, and passing was clearly demonstrated and explained. After the intervention, data were collected through an adapted survey questionnaire and a skill assessment rubric. The experts also evaluated the acceptability of the video demonstrations as instructional materials. The collected data were then compiled, organized, and prepared for statistical analysis to determine the acceptability of the video

demonstration as an instructional enhancement in improving students' fundamental basketball skills.

The data collected in this study were analyzed to determine the acceptability of the demonstration videos in teaching basketball. The mean was computed to determine the level of acceptability of the demonstration videos. Frequency counts and percentages were used to evaluate the students' level of proficiency in each fundamental skill of dribbling, shooting, and passing, providing a clear picture of the students' strengths and areas for improvement in basketball fundamentals. By following these data analysis procedures, the study provided insights into how well the demonstration videos supported learning basketball fundamentals and whether improvements in pedagogical and technical quality were associated with enhanced skill acquisition among students. To determine the level of acceptability of the video demonstration and the students' level of fundamental skills, five-point Likert scales were utilized, with mean ranges interpreted as follows: 4.21 to 5.00 as Highly Acceptable; 3.41 to 4.20 as Effective; 2.61 to 3.40 as Moderately Acceptable; 1.81 to 2.60 as Slightly Acceptable; and 1.00 to 1.80 as Not Acceptable.

For this study, the researcher ensured that the participants' privacy was protected and not invaded without their informed consent. Participation in the study was entirely voluntary, and the respondents were given the right to withdraw at any point without any penalty. The researcher also ensured that the research process did not cause emotional, psychological, or social harm to the participants. All information gathered from the respondents was treated with strict confidentiality and was used solely for academic purposes. Anonymity was maintained by not disclosing the identities of the participants in any part of the study, and all data were presented in aggregate form. The responses provided by the participants were carefully acknowledged, faithfully recorded, and accurately represented without manipulation or misinterpretation. Prior informed consent was secured from the student evaluators before they participated in evaluating the demonstration video. They were fully informed about the purpose of the study, the procedures involved, and their role as evaluators. Furthermore, the researcher ensured honesty, transparency, and integrity throughout the conduct of the study, including proper citation of sources and avoidance of plagiarism.

RESULTS AND DISCUSSION

This chapter presents the results of the investigation conducted on the development and evaluation of instructional videos in the teaching of basketball. The study engaged a total of 35 respondents selected through purposive sampling, comprising three sports experts, two coaches, and 30 Grade 8 students from Hercor College, Inc. The study employed a developmental research design, and data were gathered using an adapted survey questionnaire administered following the respondents' exposure to the developed video demonstrations. The data were analyzed using frequency counts, percentages, and the mean, with a five-point Likert scale applied to determine the level of acceptability of the instructional videos across multiple evaluative criteria. All results presented and discussed in this chapter are interpreted in direct relation to the objectives of the study.

Acceptability of instructional videos as evaluated by experts

The instructional videos were evaluated by experts across four components, namely content, format, accuracy and organization of information, and technical quality, yielding an overall grand mean of 4.56, interpreted as Highly Acceptable. This consistently high aggregate

rating indicates that the experts unanimously regarded the videos as effective and appropriate instructional tools for teaching fundamental basketball skills at the high school level.

Among the four components, technical quality obtained the highest mean of 4.72, interpreted as Highly Acceptable, suggesting that the videos excelled in terms of production clarity, smooth delivery, and organizational flow. This rating reflects that the visual and auditory elements of the videos were of sufficient quality to support learner engagement and comprehension. Content followed with a mean of 4.60, also interpreted as Highly Acceptable, indicating that the material presented was relevant, comprehensive, and suitable for high school students. The strong performance in this area reflects the videos' effectiveness in covering essential basketball skills while connecting them to real-game situations. Format received a mean of 4.48, interpreted as Highly Acceptable, demonstrating that the visual design, use of instructional aids, and overall presentation contributed positively to the learning experience. Accuracy and organization of information obtained the lowest mean among the four components at 4.44, though this remains within the Highly Acceptable range, suggesting that while the videos were accurate and well-organized, this dimension presented a marginally greater opportunity for refinement relative to the other components.

These results collectively affirm that the demonstration videos constitute effective instructional materials integrating strong content, engaging format, accurate information, and excellent technical quality. As Mayer (2018) posits, effective learning occurs when instructional materials integrate well-structured content with appropriate visual and verbal elements, a principle directly reflected in the high expert ratings across all components. Sweller (2020) further supports this finding by arguing that presenting information through both visual and auditory channels prevents cognitive overload and allows for a more efficient transfer of knowledge, which is consistent with the near-uniform high acceptability ratings recorded across all four expert-evaluated dimensions.

Acceptability of instructional videos in terms of content as evaluated by experts

In terms of content, the instructional videos received a grand mean of 4.60, interpreted as Highly Acceptable. Among the five indicators assessed, the statement affirming that the videos effectively explain the purpose and application of each basketball skill in real-game situations obtained the highest mean of 5.0, interpreted as Highly Acceptable, indicating that learners are able to understand how the demonstrated skills translate into actual play. Two indicators each obtained a mean of 4.60, also interpreted as Highly Acceptable, reflecting that the videos comprehensively cover essential aspects of each basketball skill, including proper footwork, hand placement, and body position, and that the videos effectively address common errors while providing clear corrective guidance. The promotion of safe practices and techniques to prevent injuries during basketball training received a mean of 4.40, interpreted as Highly Acceptable, while the relevance and appropriateness of the basketball skills for high school students likewise obtained a mean of 4.40, interpreted as Highly Acceptable, confirming that the content remains well-suited to the intended learners despite receiving the lowest rating among the five indicators.

The perfect score of 5.0 for real-game application carries particularly significant implications for instructional design in physical education. Schmidt and Lee (2015) maintain that learning is more effective when practice reflects real performance situations, a principle that is directly substantiated by this finding. Similarly, Kolb (2016) explains that knowledge is developed through experience and application, supporting the conclusion that demonstration videos which clearly connect skills to authentic competitive contexts enhance both student understanding and performance. The strong emphasis on error correction, safety, and skill specificity across the remaining indicators further reinforces the quality and

comprehensiveness of the content, suggesting that the videos function not merely as passive demonstrations but as complete instructional guides capable of addressing diverse learner needs within the K-12 Physical Education curriculum.

Acceptability of instructional videos in terms of format as evaluated by experts

The format of the instructional videos was evaluated with a grand mean of 4.44, interpreted as Highly Acceptable, with the note that in the original results the grand mean for format was reported as 4.44 in the component-level analysis. The highest mean scores of 4.60, interpreted as Highly Acceptable, were obtained by two indicators: the use of visual aids such as graphics, text overlays, arrows, and highlights, and the incorporation of features such as slow-motion and different camera angles. These ratings suggest that the videos are particularly effective in enhancing learners' understanding through visual support and detailed presentation of movements, enabling students to closely observe the proper execution of basketball techniques from multiple perspectives. The appropriate length of the videos and the logical sequencing of content both received a mean of 4.40, interpreted as Highly Acceptable, reflecting that the videos are well-structured and maintain learner attention without causing information overload. The overall presentation style, including visual aesthetics and transitions between scenes, obtained the lowest mean of 4.20, interpreted as Acceptable, indicating that while the videos are engaging, there remains room for improvement in visual aesthetics and scene transitions.

These findings align with Mayer's (2015) Cognitive Theory of Multimedia Learning, which holds that learners understand complex information better when words and visuals are effectively combined. The dual emphasis on slow-motion features and multiple camera angles is further supported by Paivio's (2016) Dual Coding Theory, which posits that information is more readily retained when presented through both verbal and visual channels simultaneously. The slightly lower score for overall presentation style, while still within the acceptable range, serves as an important signal that future iterations of the instructional videos should direct attention toward enhancing aesthetic quality and transition smoothness, as these elements can meaningfully influence the degree to which students remain visually engaged throughout the learning process.

Acceptability of instructional videos in terms of accuracy and organization of information as evaluated by experts

The instructional videos received a grand mean of 4.48 for accuracy and organization of information, interpreted as Highly Acceptable. The highest mean scores of 4.60, both interpreted as Highly Acceptable, were obtained by two indicators: the statement affirming that key steps and essential instructions for each skill are clearly highlighted and easy to identify, and the statement affirming that the videos are structured in a way that makes them easy to follow and learn the basketball skills. These findings demonstrate that the videos are particularly effective in guiding learners through important skill components by clearly emphasizing critical instructions and organizing content in a learner-friendly manner. The remaining three indicators, which addressed the logical organization and smooth progression of information, the clear definition of introduction, demonstration, and conclusion segments, and the flow of information supporting both initial learning and review, each obtained a mean of 4.40, interpreted as Highly Acceptable. While these ratings remain strong, they indicate a

marginally greater opportunity for refinement in flow and structural cohesion relative to the highest-rated indicators.

The pattern of results across this component reflects the foundational instructional design principle articulated by Gagne (2018), who holds that effective learning occurs when information is presented in a logical sequence that helps learners process and retain knowledge. Jerome Bruner's emphasis on well-organized instruction as a scaffold for progressive learning is similarly reflected in these findings, as the structured presentation of basketball skills enables students to build technical understanding step by step. The slightly lower scores for flow and segment definition suggest that while the overall organizational quality of the videos is high, targeted improvements in transitional clarity and the explicit delineation of video segments could further enhance both initial comprehension and the videos' utility as review materials for repeated learner use.

Acceptability of instructional videos in terms of technical quality as evaluated by experts

Technical quality emerged as the highest-rated component among the expert-evaluated dimensions, with a grand mean of 4.72, interpreted as Highly Acceptable. Three indicators obtained the highest mean score of 4.80, each interpreted as Highly Acceptable: video resolution and visual clarity, audio quality including the clarity of narration, the absence of background noise, and appropriate volume, and the sufficiency of lighting to clearly illuminate the subjects and their actions. These near-perfect ratings indicate that the fundamental sensory conditions required for effective instructional viewing were met at an exceptional level, ensuring that all movements, instructions, and technical details were easily perceived by learners. The remaining two indicators, which addressed the professionalism of editing and camera work including smooth transitions, steady shots, and effective framing, and the smoothness of video playback without lag or interruptions, both obtained a mean of 4.60, interpreted as Highly Acceptable, reflecting a high level of production quality across all technical dimensions.

These findings are strongly supported by Mayer (2018), who argues that learners understand instructional content better when it is presented with clear visuals and well-synchronized audio. Gagne (2017) reinforces this position by emphasizing that effective learning materials must ensure clarity and proper presentation to facilitate understanding. Sweller (2020) adds a crucial theoretical dimension by positing that minimizing technical distractions through high-resolution imagery and clear sound reduces extraneous cognitive load, allowing students to dedicate their full cognitive resources to mastering the specific motor skills being demonstrated. The exceptional performance across all technical quality indicators collectively implies that high-fidelity production is not a peripheral concern in instructional media development, but rather a foundational prerequisite for enabling the kind of precise observational learning that motor skill acquisition demands.

Acceptability of instructional videos as evaluated by students

Students evaluated the instructional videos across five components, namely visual clarity, demonstration, audio and cues, pacing, and usefulness, with an overall grand mean of 4.47, interpreted as Highly Acceptable. This aggregate rating reflects a uniformly positive evaluation across all dimensions, indicating that the videos were effective instructional materials in terms of clarity, delivery, timing, and learning utility from the perspective of the student learners.

Among the five student-evaluated components, usefulness obtained the highest mean of 4.63, interpreted as Highly Acceptable, suggesting that students found the videos highly

beneficial for learning basketball skills, improving performance, and supporting independent practice. Audio and cues followed with a mean of 4.49, interpreted as Highly Acceptable, indicating that students found the verbal instructions clear, well-synchronized, and supportive of their comprehension of the demonstrations. Visual clarity received a mean of 4.48, interpreted as Highly Acceptable, reflecting that students were able to clearly perceive the movements, techniques, and important details shown in the videos. Demonstration obtained a mean of 4.40, interpreted as Highly Acceptable, suggesting that the skills were generally well-executed and appropriately shown for learner comprehension. Pacing received the lowest mean of 4.35, interpreted as Highly Acceptable, indicating that while the timing and flow of the videos were generally appropriate, a slight margin for improvement exists in adjusting speed and transitions to better accommodate learner comprehension across varying skill complexities.

These results are broadly consistent with Mayer's (2016) assertion that learners understand better when instructional materials effectively combine visual, auditory, and structured presentation elements. The peak score in usefulness, in particular, carries practical implications for the role of digital instructional tools in the K-12 Physical Education curriculum, as it suggests that students not only recognize the informational value of such resources but also perceive them as directly actionable and applicable to their own athletic development.

Acceptability of instructional videos in terms of visual clarity as evaluated by students

Visual clarity received a grand mean of 4.48, interpreted as Highly Acceptable, with all five indicators rated within the Highly Acceptable range. The highest mean of 4.60 was obtained by the indicator affirming that the camera angle allows students to clearly observe the basketball skills being demonstrated, suggesting that strategic camera positioning plays a crucial role in enabling learners to perceive the correct execution of movements from an optimal vantage point. The indicator on clear visibility without blurriness received a mean of 4.53, interpreted as Highly Acceptable, while the ability to clearly see techniques and body parts obtained a mean of 4.50, also interpreted as Highly Acceptable. The identification of important parts of the demonstration received a mean of 4.40, interpreted as Highly Acceptable, and lighting received the lowest mean of 4.37, also interpreted as Highly Acceptable, indicating that while illumination was sufficient for comprehension, it represents the dimension of visual clarity most amenable to further enhancement.

The cumulative strength of these ratings supports Mayer's (2018) contention that learning is improved when instructional materials are presented with clear and well-designed visuals that reduce cognitive load. The prominence of camera angles as the highest-rated indicator within this component suggests that the spatial and perspectival design of instructional video is a particularly consequential variable in sports skill acquisition, where the precision of observed body mechanics directly determines the accuracy with which learners can replicate demonstrated movements.

Acceptability of instructional videos in terms of demonstration as evaluated by students

The demonstration component received a grand mean of 4.40, interpreted as Highly Acceptable. The highest mean of 4.57 was obtained by the indicator affirming that the demonstrator performs the skills at an appropriate level for learners, interpreted as Highly Acceptable, suggesting that the skills were presented in a manner well-matched to the capability and comprehension level of the students. The indicators on the correct demonstration

of basketball skills including passing, dribbling, and shooting, and the helpful use of slow-motion or replays each obtained a mean of 4.40, interpreted as Highly Acceptable, reflecting that students found the demonstrations accurate and the slow-motion features useful in understanding proper skill execution. The indicator affirming that the demonstration helps students understand how to properly execute the skills received a mean of 4.37, interpreted as Highly Acceptable. The lowest rating of 4.27, interpreted as Highly Acceptable, was obtained by the indicator on the clear and orderly presentation of steps, suggesting that while the sequential structure of the demonstrations was generally comprehensible, there is a modest opportunity to make the progression of movements more explicitly and systematically organized in future iterations.

These findings align with Bandura's (2015) social cognitive theory, which holds that learning occurs effectively through observation and imitation of appropriate models, particularly when the demonstration matches the developmental level of the learner. Richard Schmidt's work on motor learning further supports this finding by emphasizing that skill acquisition improves when learners observe clear and correctly executed movements prior to physical practice. The slightly lower score for orderly presentation of steps serves as a practical directive for future instructional design, suggesting that more explicit visual or verbal cues during skill transitions could enhance the sequential coherence of the demonstrations and, by extension, the accuracy and confidence with which students replicate the techniques.

Acceptability of instructional videos in terms of audio and cues as evaluated by students

The audio and cues component of the instructional videos received a grand mean of 4.49, interpreted as Highly Acceptable. The highest mean of 4.63 was obtained by the indicator affirming that the instructions are explained in a simple and understandable way, interpreted as Highly Acceptable, suggesting that the coaching explanations were delivered with sufficient clarity and directness to facilitate student comprehension and reduce instructional ambiguity. The indicator on consistent narration free from distracting background noise received a mean of 4.56, interpreted as Highly Acceptable, while both the appropriate volume of the audio throughout the video and the alignment of audio with the actions shown in the video each obtained a mean of 4.50, interpreted as Highly Acceptable. The lowest mean of 4.27 was obtained by the indicator on clearly hearing and understanding coaching tips, interpreted as Highly Acceptable, though this rating indicates that there may be minor issues with vocal clarity or emphasis in select audio segments that could be further refined to strengthen instructional delivery.

These findings are consistent with Mayer's (2018) principle that learners understand instructional content better when spoken explanations are clear, well-paced, and synchronized with visuals. The peak score for instructional simplicity and understandability reinforces the importance of accessible language in sports pedagogy, particularly in diverse classroom settings where students may differ significantly in their prior exposure to technical basketball terminology. The slight performance gap in the clarity of coaching tips, while not falling below the Highly Acceptable threshold, nonetheless identifies a targeted dimension for improvement in the audio design of future instructional video productions.

Acceptability of instructional videos in terms of pacing as evaluated by students

Pacing received a grand mean of 4.35, which, while the lowest among all student-evaluated components, remains within the Highly Acceptable range. The highest mean of 4.40 was obtained by the indicator affirming that the transitions between steps are smooth and easy to follow, interpreted as Highly Acceptable, suggesting that the overall flow of the

demonstrations supports continuous learner engagement without disorienting breaks in the instructional sequence. Three indicators, namely the appropriateness of video length, the sufficiency of time allotted for each step to be understood, and the overall balance between speed and slowness, each received a mean of 4.37, interpreted as Highly Acceptable, reflecting a generally well-calibrated temporal design that allows students adequate time to observe and process each basketball skill. The lowest mean of 4.23 was obtained by the indicator on the appropriateness of demonstration speed for learning purposes, interpreted as Highly Acceptable, suggesting that a portion of students found certain segments of the demonstration either slightly too fast or too slow for optimal comprehension, pointing to a specific area where expanded use of slow-motion features for intricate techniques could further improve instructional effectiveness.

The overall pacing ratings reflect a carefully managed instructional tempo that respects the constraints of student working memory, a consideration highlighted in Sweller's (2020) cognitive load theory. The finding that smooth transitions received the highest rating within this component underscores the importance of continuity in video-based motor skill instruction, as interruptions or abrupt shifts in presentation can disrupt the mental modeling process that is central to effective observational learning. The marginally lower score for demonstration speed provides constructive direction for future video production, suggesting that more granular temporal control over the presentation of complex movements would strengthen the overall instructional value of the videos.

Acceptability of instructional videos in terms of usefulness as evaluated by students

Usefulness was the highest-rated student-evaluated component, with a grand mean of 4.63, interpreted as Highly Acceptable. The highest mean of 4.97, interpreted as Highly Acceptable, was obtained by the indicator affirming that the videos make learning basketball more engaging and interesting, a near-perfect score that reflects exceptional student receptiveness to the videos as a motivating instructional medium. The indicator on the videos' effectiveness in helping students improve their basketball skills received a mean of 4.73, interpreted as Highly Acceptable, while the indicator affirming that the videos are useful for practicing basketball skills independently obtained a mean of 4.70, also interpreted as Highly Acceptable. The indicator on the ease of following and applying what was learned from the videos received a mean of 4.47, interpreted as Highly Acceptable. The lowest mean of 4.30 was obtained by the indicator affirming that students feel they can now perform the skills based on the video, interpreted as Highly Acceptable, though this relatively lower rating suggests that video instruction alone may not fully translate into performance confidence for all learners and that complementary physical reinforcement activities may be necessary to consolidate skill mastery.

The near-perfect score for engagement is particularly noteworthy and is supported by Brude's (2019) finding that well-designed instructional videos improve learning outcomes by combining engagement with clear presentation of information. The strong ratings for skill improvement and independent practice capacity further affirm that the videos function effectively as a portable and self-directed learning resource, extending instructional reach beyond the physical boundaries of the gymnasium. The slight gap in performance confidence relative to the other usefulness indicators provides a practically important signal for curriculum designers, suggesting that digital instructional tools in Physical Education are most effective when integrated within a broader instructional framework that includes supervised physical practice alongside video-based observation.

The findings of this study collectively demonstrate that the instructional videos developed for the teaching of basketball fundamental skills were evaluated as Highly Acceptable by both expert evaluators and student respondents across all assessed dimensions. Expert evaluations yielded an overall grand mean of 4.56, while student evaluations produced an overall grand mean of 4.47, both interpreted as Highly Acceptable. These results affirm that the developed videos successfully integrate strong content quality, effective format design, accurate and well-organized information, high technical production standards, clear visual and auditory presentation, appropriate demonstration, well-managed pacing, and exceptional practical usefulness. Taken together, the findings address the central objective of the study by establishing that the developed instructional videos meet the criteria for acceptability as evaluated by both pedagogical experts and the intended learner population. These results contribute meaningfully to the growing body of evidence supporting the integration of multimedia instructional tools in Physical Education, demonstrating that high-quality video demonstrations can serve as effective, equitable, and learner-centered instructional resources within the K-12 curriculum. The conclusions drawn from this chapter provide the empirical foundation for the subsequent chapter, which presents the summary, conclusions, and recommendations of the study.

CONCLUSION

This chapter presents the summary of findings, conclusions, and recommendations derived from the investigation into the development and evaluation of demonstration videos in the teaching of basketball. The study was conducted at Capiz Division, Department of Education and Hercor College High School Department during the academic year 2025 to 2026, employing a developmental research design as described by Richey (2012), which involves the systematic study of designing, developing, and evaluating instructional programs, processes, or products to ensure they meet established criteria for internal consistency, effectiveness, and applicability. The instructional product developed was a video demonstration of basketball fundamental skills, carefully designed to include clear explanations and step-by-step demonstrations of dribbling, shooting, and passing. Data were gathered from a total of 35 evaluators, of whom 30 were students and 5 were experts, using an adapted rubric and an adapted survey questionnaire consisting of two parts. The first part gathered the demographic profile of the respondents, and the second part utilized a Likert Scale format to determine the level of acceptability of the demonstration video as evaluated by both experts and students. Mean, frequency counts, and percentages were employed to analyze the collected data.

The findings of the study consistently demonstrated that the demonstration videos are highly acceptable across all evaluated components as assessed by both expert evaluators and student respondents. From the perspective of the experts, the videos were assessed as well-developed and of high quality in terms of content, format, accuracy and organization of information, and technical quality, yielding an overall grand mean of 4.56, interpreted as Highly Acceptable. The content of the videos was rated with a mean of 4.60, indicating that the material presented was relevant, comprehensive, and suitable for high school students, with a perfect score of 5.0 recorded for the indicator affirming that the videos effectively explain the purpose and application of each basketball skill in real-game situations. The format dimension received a mean of 4.44, with the use of visual aids and cinematic features such as slow-motion and different camera angles obtaining the highest indicator score of 4.60, reflecting the effectiveness of these elements in enhancing learner understanding of complex physical movements. Accuracy and organization of information received a grand mean of 4.48, with the indicators on the clear highlighting of key steps and the logical structure of the videos each

obtaining a mean of 4.60, confirming that the videos effectively guide learners through essential skill components in an orderly and comprehensible manner. Technical quality emerged as the highest-rated expert-evaluated component with a grand mean of 4.72, with video resolution and visual clarity, audio quality, and lighting each receiving the highest indicator score of 4.80, attesting to the professional production standards of the instructional materials. These results collectively affirm that the demonstration videos are not only informative but also systematically designed, logically arranged, and aligned with accepted coaching and instructional standards in basketball, making them reliable resources capable of supporting structured teaching and learning in physical education.

The student evaluations likewise reflected a highly positive response toward the demonstration videos, with an overall grand mean of 4.47, interpreted as Highly Acceptable across all five components of visual clarity, demonstration, audio and cues, pacing, and usefulness. Visual clarity received a grand mean of 4.48, with the indicator on camera angles obtaining the highest score of 4.60, suggesting that strategic camera positioning played a crucial role in enabling students to observe the correct execution of basketball techniques from an optimal vantage point. The demonstration component received a grand mean of 4.40, with the indicator on the appropriateness of the demonstrator's skill level for learners obtaining the highest score of 4.57, reflecting that the skills were presented in a manner well-matched to the students' developmental stage. Audio and cues received a grand mean of 4.49, with the indicator on the simplicity and understandability of instructions obtaining the highest score of 4.63, demonstrating that the coaching explanations were delivered with sufficient clarity to reduce instructional ambiguity and support skill comprehension. Pacing received a grand mean of 4.35, the lowest among the student-evaluated components, though still within the Highly Acceptable range, with the indicator on smooth transitions between steps obtaining the highest score of 4.40, and the indicator on demonstration speed obtaining the lowest score of 4.23, suggesting that a slight opportunity exists to refine the temporal design of the videos for more complex skill sequences. Usefulness was the highest-rated student-evaluated component with a grand mean of 4.63, with the indicator affirming that the videos make learning basketball more engaging and interesting obtaining a near-perfect score of 4.97, and the indicator on skill improvement obtaining a mean of 4.73, while the indicator on independent practice utility received a mean of 4.70. The indicator on ease of following and applying what was learned received a mean of 4.47, and the indicator on performance confidence received the lowest score of 4.30, indicating that while students recognized the instructional value of the videos, complementary physical practice activities may be beneficial in fully consolidating skill execution confidence. The students' recognition of the videos' clarity, usefulness, and capacity to enhance engagement affirms that the developed materials meet the learning needs of the intended population and successfully support the development of fundamental basketball skills within a structured physical education context.

The consistency between expert and student evaluations constitutes a significant conclusion of this study, indicating that the demonstration videos are well-designed learning resources capable of effectively supporting basketball instruction in a school setting. This convergence of professional validation and learner affirmation suggests that the videos successfully satisfy both pedagogical standards and practical learning requirements, reinforcing their value as tools for modern physical education practice. The positive findings further suggest that integrating well-structured demonstration videos in physical education can significantly improve students' understanding, motivation, and performance in sports skills. These conclusions are theoretically grounded in the principles of multimedia learning articulated by Mayer (2018), cognitive load theory as advanced by Sweller (2020), social

cognitive theory as established by Bandura (2015), and experiential learning theory as developed by Kolb (2016), all of which collectively support the effectiveness of high-quality, well-organized video demonstrations as vehicles for motor skill acquisition and learner engagement.

On the basis of these conclusions, several recommendations are advanced to guide future practice and inquiry in this area. Teachers and coaches are encouraged to incorporate demonstration videos into basketball instruction to enhance students' understanding of fundamental skills, given that the videos were rated highly acceptable in terms of content, format, accuracy and organization, and technical quality, indicating that they are pedagogically sound and technically well-developed. Schools and sports programs are similarly encouraged to regularly utilize multimedia tools to improve students' basketball skill development, as the findings showed that students perceived the videos as highly useful for improving performance and making learning more engaging, suggesting that video-based instruction contributes to better skill acquisition and more meaningful learning experiences in physical education. Developers and educators are further advised to periodically review and update demonstration videos to ensure that the content remains accurate, relevant, and engaging, given the strong ratings in accuracy and technical quality, with continuous improvement recommended to maintain instructional effectiveness and to further enhance clarity, pacing, and presentation for better student comprehension. Students themselves are encouraged to actively engage with the demonstration videos through repeated viewing, practice, and self-assessment, as the findings indicate that students found the videos clear, helpful, and easy to follow, and that repeated exposure and active learning strategies may further improve their understanding and mastery of basketball skills. Schools and instructors are additionally encouraged to consider developing similar demonstration videos for other sports and physical education activities, including volleyball, badminton, and fitness exercises, given that the intervention received highly acceptable ratings across all components, suggesting that this approach may be effective in teaching other skill-based sports and thereby improving overall physical education instruction. Finally, teachers and coaches are advised to undergo training on how to effectively integrate demonstration videos into their teaching strategies, as the effectiveness of the videos may be maximized when educators are skilled in using them appropriately within lessons, such as by guiding discussions, reinforcing key points, and combining video instruction with practical activities. Taken together, these findings and recommendations affirm that the development and integration of high-quality demonstration videos represent a meaningful and evidence-based contribution to the advancement of physical education pedagogy, with clear implications for the continued digitalization of sports instruction in the K-12 curriculum.

REFERENCES

- Alexander, R. (2018). *Developing dialogic teaching: Genesis, process, trial*. Routledge.
- Balsote, R. (2022). Technology integration in sports education and training. *Philippine Journal of Physical Education and Sports Science*, 8(1), 15–27.
- Banville, D., & Polifko, J. (2018). Engaging students in physical education through technology integration. *Journal of Physical Education, Recreation & Dance*, 89(6), 45–50.
- Bautista, M. (2020). The role of immersive technology in enhancing sports education. *Journal of Educational Technology Development and Exchange*, 13(2), 34–48.
- Bice, M. R., Ball, J. W., & McClaran, S. (2016). Technology and physical activity motivation. *International Journal of Kinesiology in Higher Education*, 1(1), 1–10.

- Bice, M. R., Ball, J. W., & Ramsey, M. W. (2016). Technology in physical education: High school students' perceptions of digital tools. *Journal of Physical Education and Sport*, 16(4), 1140–1146.
- Brannon, E. E., & Cushing, C. C. (2015). A systematic review: Is there an app for that? The role of smartphone applications for physical activity among youth. *Journal of Physical Activity and Health*, 12(7), 1040–1052.
- Brame, C. J. (2016). Effective educational videos: Principles and guidelines for maximizing student learning from video content. *CBE—Life Sciences Education*, 15(4), es6.
- Cleveland-Innes, M., & Campbell, P. (2012). Emotional presence, learning, and the online learning environment. *International Review of Research in Open and Distributed Learning*, 13(4), 269–292.
- Cunningham, K. (2019). *Digital integration in physical education: Strategies for the modern classroom*. Academic Press.
- Delos Santos, J., Ramirez, P., & Cruz, M. (2015). Traditional versus technology-assisted sports instruction in secondary schools. *Asia Pacific Journal of Multidisciplinary Research*, 3(5), 98–104.
- Depper, A., & Howe, P. D. L. (2017). Are we fit to use fitness trackers? The role of wearable technology in health behavior change. *Digital Health*, 3, 1–9.
- Donovan, T., Green, T., & Mason, C. (2019). Student-centered learning through technology integration. *Educational Technology Research and Development*, 67(4), 843–862.
- Dy, M. (2019). Peer learning and video-assisted feedback in physical education. *Journal of Physical Education and Sport*, 19(3), 1150–1156.
- Galy, O., Dowse, R., & Berg, K. (2019). Technology-based intervention to improve physical activity in adolescents. *BMC Public Health*, 19, 1234. <https://doi.org/10.1186/s12889-019-7562-1>
- Gould, D., Dieffenbach, K., & Moffett, A. (2012). Psychological characteristics and their development in Olympic champions. *Journal of Applied Sport Psychology*, 14(3), 172–204.
- Gracia, L. (2016). Technology as a catalyst in sports education. *International Journal of Sports Science*, 6(2), 56–62.
- Gu, X., & Solmon, M. A. (2016). Motivational processes in physical education and after school physical activity. *Research Quarterly for Exercise and Sport*, 87(4), 370–381.
- Gu, X., & Solmon, M. A. (2016). Motivational processes in technology-integrated physical education: A self-determination theory perspective. *Journal of Teaching in Physical Education*, 35(1), 17–27.
- Guo, P. J., Kim, J., & Rubin, R. (2014). How video production affects student engagement. *Proceedings of the First ACM Conference on Learning at Scale*, 41–50.

- Henninger, M., & Richardson, K. (2016). Increasing practice time in physical education. *Strategies: A Journal for Physical and Sport Educators*, 29(2), 3–9.
- Henninger, M. L., & Richardson, K. P. (2016). Mastering motor skills through active practice. *Human Kinetics*.
- Hsu, Y. C., Ching, Y. H., & Grabowski, B. L. (2020). Web 2.0 applications and practices for learning through collaboration. *Educational Technology Research and Development*, 68(2), 945–969.
- Jung, J., & Choi, E. (2016). Enhancing student learning through extended practice time in sports education. *Physical Education and Sport Pedagogy*, 21(3), 287–301.
- Jung, H., & Choi, E. (2016). The impact of instructional technology on motor skill acquisition in secondary education. *International Journal of Sport Science & Coaching*, 11(3), 421–429.
- Khacharem, A., Trabelsi, K., Bragazzi, N. L., Zmijewski, P., Souissi, N., & Jarraya, M. (2020). Learning a motor skill from video and static pictures in physical education students: Effects on technical performances, motivation and cognitive load. *International Journal of Environmental Research and Public Health*, 17(24), 9314.
- Knudson, D., & Morrison, C. (2017). *Qualitative analysis of human movement* (3rd ed.). Human Kinetics.
- Lindstrom, B., Gulbrandsen, P., & Nordstrom, G. (2019). Networked learning in physical education contexts. *European Physical Education Review*, 25(4), 1023–1038.
- Ly, K., & Dy, R. (2019). Physical activity and academic achievement: A longitudinal study on K-12 students. *Journal of School Health*, 89(5), 345–352.
- Mayer, R. E. (2021). *Multimedia learning* (3rd ed.). Cambridge University Press.
- Mossier, R. (2014). Goal setting and movement analysis in sports education. *Journal of Coaching Education*, 7(1), 55–66.
- Passey, D. (2017). Computer science and digital literacy in education. *British Journal of Educational Technology*, 48(2), 305–316.
- Pratiwi, D., & Santoso, H. (2022). Fundamental basketball skill mastery among high school students. *Journal of Physical Education and Sport*, 22(1), 112–118.
- Pyle, K., & Esslinger, K. (2014). Utilizing technology to enhance student learning. *Journal of Educational Technology Systems*, 43(3), 271–289.
- Rahayu, S., & Kurniawan, F. (2020). Team performance and fundamental skill development in basketball. *International Journal of Sports Science and Coaching*, 15(4), 564–572.
- Reyes, A. (2022). Global connectivity and sports education in the digital age. *Philippine Journal of Educational Innovation*, 5(2), 22–35.

- Scrabis-Fletcher, K., Juniu, S., & Zullo, T. (2016). Technology in physical education: Integrating mobile devices for movement analysis. *Journal of Physical Education, Recreation & Dance*, 87(3), 29–35.
- Serdyukov, P. (2017). Innovation in education: What works and what doesn't? *Journal of Research in Innovative Teaching & Learning*, 10(1), 4–33.
- Setiawan, R., Nugroho, A., & Rahman, F. (2021). Structured basketball training and skill acquisition among adolescents. *Journal of Physical Education and Sport*, 21(5), 2310–2316.
- Snelson, C. (2018). Video-based learning: A review of the literature. *Contemporary Educational Technology*, 9(2), 189–206.
- Stein, J., Shephard, R., & Mummery, K. (2017). Enhancing engagement through digital tools in physical education. *European Physical Education Review*, 23(1), 90–104.
- Ste-Marie, D. M., Rymal, A. M., Vertes, K., & Martini, R. (2020). Self-modeling and self-observation: A commentary on the development of the video feedback research. *International Review of Sport and Exercise Psychology*, 13(1), 213–236.
- Tiryaki, S. (2015). Motivation in sports: Distinguishing arousal from motivation. *Procedia Social and Behavioral Sciences*, 174, 368–372.
- Truskowski, J., & Vandermolen, J. (2016). Technology-enhanced instruction in physical education. *Strategies: A Journal for Physical and Sport Educators*, 29(4), 18–24.
- Vasquez, J. (2016). Challenges and barriers in contemporary physical education. *Sports Media Publishers*.
- Wattelez, G., Frayon, S., Cavaloc, Y., Cherrier, S., Lerrant, Y., & Galy, O. (2019). Technology-based intervention and adolescent physical activity. *International Journal of Environmental Research and Public Health*, 16(7), 1235.
- Xianzhou, Z. (2018). Effectiveness of multimedia technology in physical education. *International Journal of Emerging Technologies in Learning*, 13(10), 156–167.
- Yeltepe, H. (2017). Achievement motivation in sports: A theoretical framework. *Journal of Education and Training Studies*, 5(2), 135–141.
- Zhang, T., Solmon, M., Kosma, M., Carson, R., & Gu, X. (2011). Need support, need satisfaction, and physical activity participation among middle school students. *Journal of Teaching in Physical Education*, 30(1), 51–68.
- Zimmermann, K. (2017). Movement analysis in physical education instruction. *Physical Educator*, 74(2), 345–360.
- Zuni, R. (2017). *The foundations of technology in modern society*. Global Education Press.