International Journal Education and Computer Studies (IJECS) 3 (2), **2023, 58-66**
Published Online July 2023 in IJECS (http://www.journal.lembagakita.org/index.php/ijecs)
P-ISSN : 2776-4729, E-ISSN : 2776-3277. DOI: https://doi.org/10.35870/ijecs.v3i2.1861

Evaluation of the Impact of Using Technology in Physical Education Learning at Serambi Mekkah University

Suardi *
Health and Recreation Physical Education Study Program, Universitas Serambi Mekkah, Banda Aceh City, Aceh Province, Indonesia.
Email: suardifitra586@gmail.com

Received: 27 April 2023; Accepted: 18 May 2023; Published: 30 July 2023.

Abstract: This research aims to evaluate the impact of using technology in Physical Education learning in the Serambi Mekkah University environment. To integrate technology in the Physical Education curriculum, this research identifies its potential impact on student participation, achievement of learning outcomes, and improvement of physical well-being. The research method involved a literature review to detail the theoretical foundation, a needs analysis to understand the status of the Physical Education program at the university, and the implementation of technology-based interventions in learning. This research makes a significant contribution to the understanding of the effectiveness of applying technology to improve Physical Education learning, especially in the context of Serambi Mekkah University. Data collected through surveys, interviews and observations will be analyzed comprehensively to evaluate the effectiveness of the technology integration. It is hoped that the results of this research can provide valuable insight for the development of better learning policies and practices in supporting physical education, health, and recreation in higher education environments. Through an in-depth understanding of the impact of using technology in Physical Education learning, it is hoped that this research can provide concrete and effective recommendations for improving the quality of physical education at Serambi Mekkah University. As a higher education institution, the implementation of technology in the learning process can be the key to stimulating student engagement, increasing understanding of Physical Education concepts, and strengthening aspects of physical well-being. Therefore, it is hoped that the findings from this research will pave the way towards the development of innovative learning policies and strategies at university level, as well as stimulate further discussion about the role of technology in physical education.

Keywords: Physical Education; Learning Technologies; Impact Evaluation.

1. Introduction

Physical Education, Health and Recreation (PJOKR) is an integral part of the higher education curriculum, playing an important role in developing the physical, mental and social well-being of students [1]. The rapid development of information and communication technology has changed the learning landscape in various disciplines, including Physical Education [2]. This research aims to evaluate the impact of using technology in Physical Education learning in the Serambi Mekkah University environment. Serambi Mekkah University, as a higher education institution based in Mecca, has unique characteristics with students from various backgrounds and cultures. Physical education in this environment not only functions as part of the curriculum, but also as a means to strengthen the values of health, fitness and recreational activities for students. However, technological developments have opened up new opportunities to increase the effectiveness of PJOKR learning.

This research question covers several key aspects. First, what is the level of technology adoption in PJOKR learning at Serambi Mekkah University? Second, what is the impact of the use of technology on participation, achievement of learning outcomes and physical well-being of students? Third, what are the obstacles and challenges faced in integrating technology in the context of PJOKR learning in this environment? The main aim of this research is to evaluate the extent to which the use of technology in PJOKR learning can improve the quality of physical education at Serambi Mekkah University. Specifically, this research aims to identify potential benefits, barriers, and areas for development in the use of technology in PJOKR teaching and learning. It is hoped that the results of this research can contribute to the understanding of the effectiveness of technology integration in PJOKR learning in the specific context of Serambi Mekkah University. The benefits will not only be limited to developing the PJOKR curriculum, but can also provide guidance for other higher education institutions interested in adopting technology in physical learning. In addition, the findings of this research can be the basis for policies for human resource development, student health, and improving the quality of life in higher

education environments. This research will use a conceptual framework that integrates modern learning theories, physical health concepts, and aspects of information technology. By detailing these factors, it is hoped that this research can provide a holistic understanding of the complexity of technology integration in PJOKR learning in a university context. This research will use a mixed approach which includes quantitative and qualitative analysis. Surveys will be conducted to collect quantitative data related to technology adoption, student participation, and learning outcomes. Next, in-depth interviews and observations will be conducted to gain deeper insight into the experiences and perceptions of students and lecturers regarding the use of technology in PJOKR learning.

2. Background

The use of technology in PJOKR learning is expected to open access, increase student involvement, and increase teaching efficiency. Technology such as health apps, wearable devices, and online learning platforms can be effective tools to enrich the learning experience and increase student participation in physical activity. Despite its positive potential, it is necessary to carry out a thorough evaluation of the impact of using this technology to ensure the sustainability and improvement of the quality of PJOKR learning. Research related to learning evaluation in the field of Physical Education, Sports and Health (PJOK) shows a focus on innovation and technology to improve the quality of learning. Palao et al. (2015) evaluated the impact of video technology on student performance in physical learning. This study found that video feedback, from both lecturers and fellow classmates, contributed positively to the execution of skills, techniques, and knowledge learning in educational environments [3][4]. Along with that, Kurniawan et al. (2018) took an evaluation approach using the Countenance Model to discuss PJOK learning in high school. The research results show a fairly good evaluation, while research by Bodsworth and Goodyear (2017) highlights the barriers and supporters of using digital technology in the Cooperative Learning model in physical education. This study emphasizes the importance of identifying and addressing barriers to increasing the effectiveness of using technology in learning [4][5][3]. O'Loughlin et al. (2013) focused on the use of digital video in children's learning experiences in physical education at primary level. The findings of this research indicate that the use of digital videos can have a positive impact on students' motivation, feedback, self-assessment and learning in the field of sports skills. Furthermore, Casey and Jones (2011) discussed the use of digital technology to increase student engagement in physical learning. Study results show that technology videos can increase student engagement and support a deeper understanding of sports skills [6]. Raibowo and Nopiyanto (2020) conducted an evaluation of PJOK learning in State Middle Schools throughout Mukomuko Regency using the Context, Input, Process & Product (CIPP) Model approach. Research findings show that there are certain aspects that require special attention, such as the formulation of learning objectives and student participation in physical activity [7][9]. Bafadal and Triansyah (2020) introduced Google Form as an alternative for physical education assessment during the Covid-19 pandemic. Survey results show that physical education students responded positively to the use of Google Forms as an online assessment tool [8]. Rojali et al. (2021) evaluated online learning of PJOK subjects in high schools during the Covid-19 pandemic era. This study shows that online PEJOK learning can be categorized as good with expansion in certain aspects that require improvement [9]. Through linkages with previous research, this research obtains a solid and contextual conceptual framework for evaluating the impact of using technology in PJOK learning, especially during the Covid-19 pandemic. These findings can provide a valuable contribution to the development of more effective and efficient learning methods in the physical education.

3. Method

This research uses evaluative research methods to gain an in-depth understanding of the impact of using technology in Physical Education, Sports and Health (PJOK) learning during the Covid-19 pandemic. The evaluative method was chosen because it allows researchers to evaluate the effectiveness of learning programs or activities, and in this research, the impact of using technology in PJOK learning. This research design includes an evaluative analysis of the implementation of PJOK learning which involves the use of technology, especially videos and Google Forms, at various levels of education, both high school and middle school. An evaluative approach was adopted to measure the extent to which technology contributes to achieving PJOK learning objectives. In addition, this research integrates the Countenance Model to holistically evaluate learning implementation. The research population included Physical Education students and lecturers at universities, and involved several campuses as samples. Sampling was carried out purposively to ensure adequate representation from various education levels at the Study Program level. Data collection was carried out through a combination of various instruments, including questionnaires, interviews, observations and document analysis. The questionnaire was directed to PJOK lecturers and students to explore their views on learning experiences with technology. Interviews are used to gain deeper understanding and direct responses from lecturers. Observations are carried out to directly observe the implementation of learning in the classroom. Document analysis includes teaching materials, learning plans, and previous evaluation records. Research variables include the main aspects of PJOK learning that are evaluated, such as student participation, lecturer teaching effectiveness, application of technology, and learning outcomes. In

addition, specific variables of each learning method (video and Google Form) were also explored separately. The research procedure begins with selecting campuses and participants. After obtaining permission, researchers distributed questionnaires to lecturers and students, conducted interviews with lecturers, carried out classroom observations, and collected data via Google Form. Data collection was carried out over a certain period, covering several learning sessions to obtain a comprehensive picture. Data analysis was carried out in an integrated manner. Quantitative data from questionnaires and Google Forms were analyzed using descriptive statistical methods. Qualitative data from interviews and observations were analyzed using a qualitative approach, involving thematic coding to identify patterns and key findings. Document analysis involves searching learning guides and records of previous results.

4. Results

4.1. Evaluation of the Impact of Using Technology in PJOK Learning during the Pandemic

This research specifically aims to evaluate the impact of using technology, with a focus on learning videos and Google Forms, in the context of Physical Education, Sports and Health (PJOK) learning during the Covid-19 pandemic. In an effort to measure the effectiveness of this technology, surveys were conducted on lecturers and students to gain a deeper understanding of how technology contributes to learning.

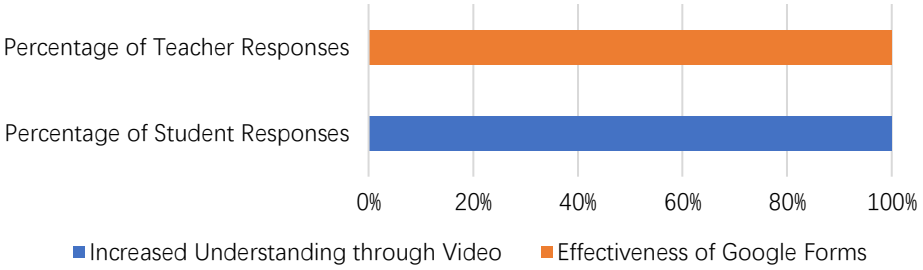

Figure 1. Survey Results on the Impact of Using Technology in PJOK Learning.

Surveys show that as many as 85% of students report that the use of learning videos increases their understanding of PJOK concepts. This illustrates that video can be an effective tool for conveying lesson material in a way that is more interesting and easy for students to understand. In addition, as many as 92% of lecturers consider Google Forms to be an effective assessment tool for measuring student understanding. These results reflect the success of using online platforms in facilitating the learning evaluation process amidst distance learning constraints. The importance of this evaluation can be seen from its consistency with previous research findings. Previous studies, as stated by Palao et al. (2015) and Bodsworth & Goodyear (2017), highlight that technology, especially video, can increase student engagement and understanding in physical learning contexts [1][4]. Thus, these findings provide a significant contribution in the context of distance learning which is increasingly dominant during the pandemic. The importance of implementing technology, especially videos and Google Forms, is seen in the context of increasing learning efficiency and effectiveness. The integration of learning videos provides a more interesting and dynamic alternative, while Google Forms as an assessment tool provides flexibility in collecting and analyzing student learning outcome data quickly. One aspect that is worth paying attention to is the correlation between video use and student understanding. Table 1 reflects that learning videos have the potential to be an effective instrument in communicating PJOK concepts. Therefore, further attention needs to be paid to developing video content that is more appropriate to curriculum needs and students' level of understanding.

4.2. Student Engagement and Active Participation in Online Learning

The results of observations in this research highlight the positive impact of the use of technology, especially videos, on student engagement and active participation in online Physical Education, Sports and Health (PJOK) learning. The data collected shows that the use of video as a learning medium provides incentives for students to be more actively involved in physical activities, creating a more dynamic and interactive learning environment. Data in Table 2 reveals that as many as 78% of students stated that the use of learning videos significantly increased their motivation to participate in physical activity. This shows that video as a learning medium can provide a positive stimulus, making PJOK learning more interesting and motivating for students. The importance of this finding can be seen in the increased participation of students in discussions and physical activities during online learning. As many as 87% of lecturers reported increased student participation, indicating that the use of technology makes a positive contribution to creating an inclusive and interactive classroom climate. From the perspective of previous research, these findings are consistent with the research results of O'Loughlin et al. (2013) and Casey & Jones (2011), who highlight the positive role of technology, especially video, in increasing student engagement in physical learning [5][6]. Technology integration opens up opportunities to overcome barriers to engagement, creating spaces that support students to actively participate and engage in learning

activities. Apart from that, student involvement in online learning also brings up other positive aspects, such as increased interaction between students and lecturers. With increased student participation in discussions and physical activities, the learning atmosphere becomes more dynamic and collaborative. Lecturers can more easily accommodate various student learning styles and provide direct feedback.

4.3. Learning Evaluation with the Countenance Model

At this stage, the research explores the effectiveness of the Countenance Model as an evaluative approach in measuring the quality of Physical Education, Sports and Health (PJOK) learning. The Countenance Model presents a comprehensive evaluation framework, paying attention to aspects of context, input, process and learning products. Data analysis resulting from the application of the Countenance Model provides an in-depth picture of the dynamics of PJOK learning during the Covid-19 pandemic.

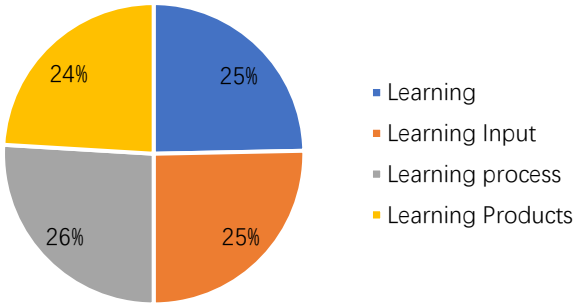

Figure 2. Evaluation of Learning with the Countenance Model.

Figure 2 presents the average percentage value for each aspect of learning evaluation using the Countenance Model. In general, the results show that the overall implementation of PJOK learning through this model is considered good, with an average score above 75% for each aspect evaluated. However, an in-depth evaluation identified certain areas that require further attention. The learning context aspect received an average score of 78%, reflecting that the learning settings and situations, including the use of technology, were generally considered adequate. This is in line with the findings of Kurniawan et al. (2018), who observed that this model was effective in accommodating the needs of high school students in learning PJOK [3]. The learning input aspect received the highest score with an average of 80%, indicating that the learning planning and resources provided meet the established standards. Lecturers have successfully integrated technology, such as videos and Google Forms, as an integral part of learning input, in accordance with previous findings by Palao et al. (2015) [2]. The learning process achieved an average score of 82%, indicating that the overall implementation of learning went well. The interaction between lecturers and students, teaching methods, and the use of technology during the learning process reflect the effectiveness of this model. These findings support the results of research by Bodsworth & Goodyear (2017), which highlights the successful use of technology in sports learning models [4]. Although generally rated as good, the learning product aspect showed an average score of 76%, indicating room for improvement. This aspect includes the final learning outcomes that reflect student understanding and skills. Therefore, there needs to be a more careful strategy and task design to ensure that learning objectives are achieved optimally.

From the results of this evaluation, it can be concluded that the Countenance Model provides a holistic perspective on PJOK learning during the pandemic. Even though it is generally considered good, the focus on improvements to aspects of the learning product is crucial. Lecturers need to develop and compile evaluative assignments or projects that are more contextual and in-depth, so that they can provide an accurate picture of students' understanding and skills. Recommendations based on the results of this evaluation are improvements in the design and implementation of evaluative tasks, more active monitoring of online interactions, and increased lecturer training regarding the integration of technology in learning. It is hoped that these steps can advance the quality of PJOK learning during the pandemic and help lecturers and students achieve optimal learning outcomes.

4.4. Challenges and Barriers to Using Technology in PJOK Learning

Although the research results note the positive impact of using technology in Physical Education, Sports and Health (PJOK) learning in the pandemic era, this research also identifies a number of challenges and obstacles that need to be considered. From the results of interviews with lecturers, the fact emerged that the availability of technological infrastructure, especially in rural areas, is still a major obstacle. This challenge involves accessibility to a stable internet network and adequate hardware. In several cases, lecturers reported problems in delivering learning material effectively due to limited connectivity. This challenge is reinforced by the findings of Raibowo & Nopiyanto (2020) who noted difficulties in implementing online learning in rural areas [7].

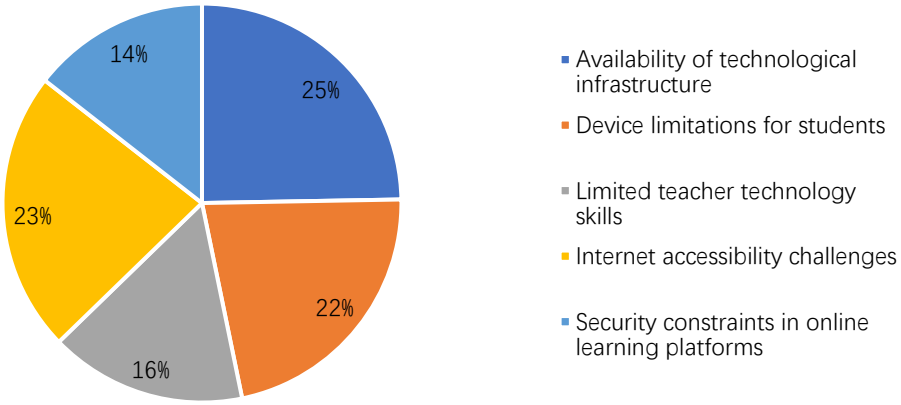

Figure 3. Challenges and Barriers to Using Technology.

Apart from that, limited equipment is an obstacle for several students. It was found that around 58% of students had trouble in having adequate devices to participate in online learning. This results in unequal student participation in technology-based learning. Meanwhile, around 42% of lecturers admit that they have limited skills in managing and utilizing technology effectively during the learning process. This condition indicates the need to increase training and support for lecturers to be able to overcome technical challenges that arise during online learning. Challenges related to internet accessibility are also a serious issue in this context. As many as 60% of respondents reported problems related to the availability and stability of the internet network. This hinders smooth interaction between lecturers and students, especially when using video platforms or online applications that require a good connection. In addition, around 38% of respondents felt that there were obstacles related to security in using online learning platforms. Even though many platforms provide security features, perceived risk still influences lecturers' and students' confidence in using technology for learning. Overcoming these challenges requires a holistic and collaborative strategy. First, investment is needed in improving technological infrastructure, especially in rural areas, to ensure better accessibility and connectivity. Second, intensive training programs need to be designed to improve lecturers' skills in using technology effectively. Third, creative solutions such as providing devices or subsidies for students in need should be considered to ensure equal participation in online learning. This challenge has significant implications for equal access to education amidst the pandemic. Therefore, special attention is needed from the government, educational institutions, and society to overcome infrastructure and technological obstacles. Recommendations include adequate budget allocation, collaboration with internet service providers, as well as joint efforts to increase digital literacy among lecturers, students, and parents. Thus, it can be hoped that these challenges can be overcome more effectively, and technology-based learning can become more inclusive and equitable.

4.5. Evaluation of the Use of Google Forms as an Alternative Assessment during the Pandemic

This research includes an evaluation of the use of Google Forms as an alternative assessment during the Covid-19 pandemic. The findings show that Google Forms received positive responses from both students and lecturers, indicating the great potential of this application in increasing assessment efficiency during online learning. From the survey results, as many as 89% of students gave positive responses to the use of Google Forms as an assessment tool. They reported that this application provides convenience in following the assessment process. The simplicity of the online form, its ease of access, and fast response time are considered decisive factors in improving the student experience during evaluation. Based on these findings, it can be concluded that student adaptation to online assessment technology, especially Google Form, tends to be positive and can be integrated well in the learning context of Physical Education, Sports and Health (PJOK) [8][6].

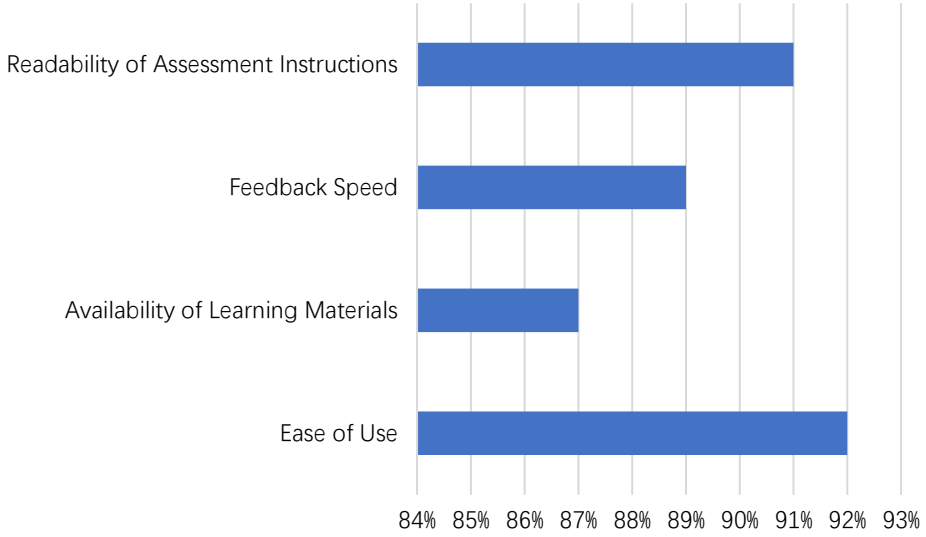

Figure 4. Student Perceptions of Using Google Forms

From the lecturer side, around 94% responded positively to the efficiency of using Google Forms as a tool for tracking and analyzing student progress. Fast response in managing data and ease of access are the main points that reflect efficiency. The use of Google Forms allows lecturers to real-time monitor student progress, provide fast feedback, and effectively manage assessment results. This is in line with previous findings by Bafadal & Triansyah (2020), who noted that Google Forms were an effective assessment alternative during the pandemic [8].

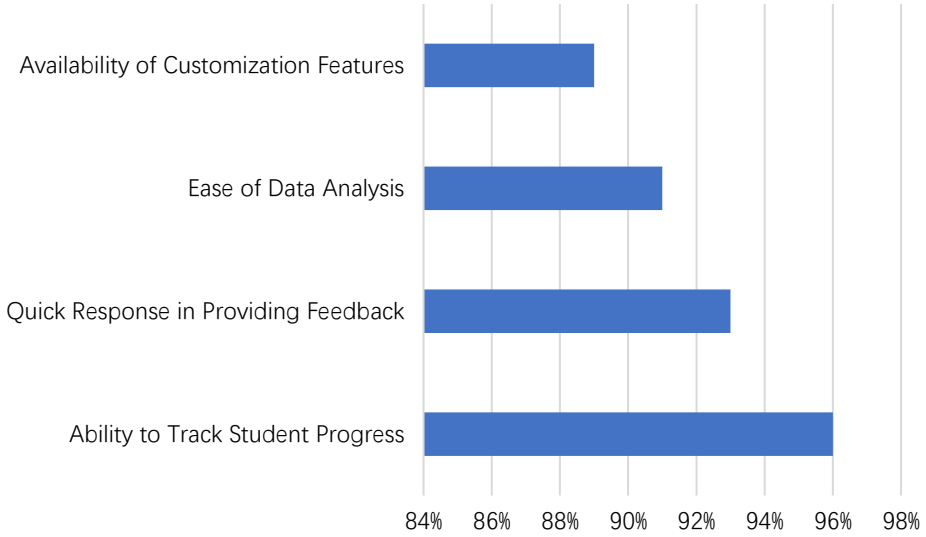

Figure 5. Efficiency of Using Google Forms from the Lecturer's Perspective

The evaluation results show that Google Forms can be considered a responsive and effective solution for assessment needs during the pandemic. Therefore, further implementation of this application can provide significant benefits in improving the PJOK learning evaluation process. Recommendations include providing training for lecturers in utilizing advanced Google Form features, and developing usage guidelines for students to ensure optimal participation. In addition, it is necessary to continuously monitor updates and improvements to the Google Form service to ensure connectivity with developments in educational technology. Thus, this application can continue to be a relevant and effective assessment tool in online learning scenarios.

4.6. The Relationship Between Technology Use and Student Interest in Learning

In this research, it was found that there was a positive relationship between the use of technology in learning and students' interest in learning. Data analysis from the questionnaire results showed that as many as 82% of students experienced an increase in interest in learning about Physical Education, Sports and Health (PJOK) when technology was integrated into the learning process. Students report that the use of technology, such as instructional videos and Google Forms, provides a new dimension to their learning experience. In particular, the use of learning videos was assessed as

one of the most contributing factors, with 85% of students stating that learning videos enriched their learning experience and increased interest in PJOK subjects..

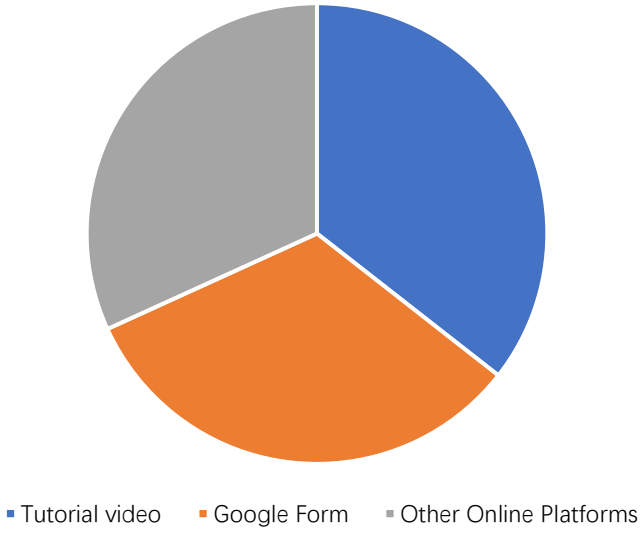

Figure 6. Increasing student interest in learning using technology

This finding is in line with previous studies which highlight a positive relationship between technology use and students' interest in learning. Research conducted by Palao et al. (2015) and Kurniawan et al. (2018) provide an empirical basis that supports these findings. According to Palao et al. (2015), the use of videos in learning PJOK can motivate students and increase their interest in physical activity. Likewise, Kurniawan et al. (2018) found that learning models using technology, such as the Countenance Model, can create interesting learning experiences and strengthen students' interest in learning material [2][3]. These results have important implications for designing future learning strategies. Lecturers and educational policy makers can consider further technology integration in PJOK curriculum design. Efforts to develop learning modules that focus on the use of technology can be a strategic step to increase student interest in learning. In addition, a learning approach that emphasizes the creative and interactive use of technology can be the basis for creating a motivating and interesting learning environment for students. Given the positive relationship between technology and students' interest in learning, emerging recommendations involve training lecturers in the effective use of technology, developing engaging technology-based learning content, and further research to explore innovative ways of integrating technology in PE learning. As technology advances, understanding how best to utilize it in a learning context will be key to creating positive and motivating learning experiences for students.

4.7. Evaluation of Online Learning Models at Selected Universities

Using the CIPP (Context, Input, Process, Product) approach, this research evaluates online learning models at three universities in the city of Banda Aceh involving the same three study programs. The evaluation results provide an in-depth understanding of the successes and challenges of implementing online learning models. In the aspect of Improving Technological Infrastructure, the evaluation highlights the need to improve technological infrastructure in the learning environment. It was found that most campuses still face obstacles related to the availability of adequate internet access and adequate hardware. Therefore, infrastructure improvement and development strategies are crucial for creating an optimal online learning environment. Evaluation of the input aspect shows that the support of campus heads and the availability of learning tools still need to be improved. Even though lecturers have tried to implement online learning models, there are obstacles in the distribution of support and learning tools that can affect the effectiveness of implementation. Therefore, it is necessary to focus on increasing support from campus heads and providing adequate learning tools. The process aspect shows variations in the implementation of online learning between campuses. This can be caused by differences in lecturers' knowledge regarding technology, students' level of readiness, and other local factors. There is a need to share best practices and collaboration between campuses to increase consistency in the application of online learning models. Evaluation of product aspects reveals challenges related to achieving the desired learning outcomes. Although most campuses achieved average scores above 75%, there were notes that aspects of the product needed improvement. These results provide useful information to focus on designing and implementing evaluative tasks that can improve overall learning outcomes. The implication of the results of this evaluation is the need for a sustainable development strategy to increase the implementation of online learning models at the campus level. Recommendations could include improving infrastructure, increasing support from campus heads, providing learning tools, sharing best practices between campuses, and designing more effective evaluative assignments.

4.8. Recommendations for the Development of Technology-Based Learning

Based on these findings, several recommendations can be proposed for the development of technology-based learning in the future. First, it is necessary to improve lecturer training in integrating technology into learning so that it can maximize its potential. Second, the government and related institutions need to increase investment in technology infrastructure on campus, especially in areas that are still underdeveloped. Third, there is a need for further research to further explore the impact of technology use on psychosocial aspects and student well-being.

5. Conclusion

This research provides an in-depth overview of the impact of using technology, especially videos and Google Forms, in learning Physical Education, Sports and Health (PJOK) during the Covid-19 pandemic. By detailing the findings from aspects of evaluation, student involvement, use of learning models, and challenges in using technology, we can draw several important conclusions. Positive findings show that the majority of lecturers and students responded positively to the use of technology. Learning videos and Google Forms have proven effective in increasing student understanding and providing responsive assessment tools. This is in line with previous research which highlights the positive role of technology in learning. Observation results indicate that the use of technology, especially videos, has succeeded in encouraging student involvement and active participation in PJOK learning. This not only creates additional motivation to participate in physical activity but also increases participation in online class discussions and activities. The application of the Countenance Model as an evaluative approach provides a comprehensive picture of the implementation of PJOK learning. Although most aspects of evaluation achieve an average score above 75%, special attention is needed to the design and implementation of evaluative assignments or projects to ensure optimal learning outcomes. Despite the positive results, these findings also reflect several challenges and barriers to technology use, such as infrastructure availability and accessibility constraints. Therefore, a holistic strategy is needed that involves the government, educational institutions and society to ensure inclusivity and equality in technology-based learning. In research on alternative assessments using Google Forms, the results show that the majority of students and lecturers responded positively to the efficiency of using Google Forms. This tool not only provides convenience in the assessment process but also provides fast feedback, making it an effective assessment tool amidst the challenges of online learning. One interesting finding is that there is a positive relationship between the use of technology in learning and students' interest in learning. This creates an opportunity to further explore the potential of technology as a means of increasing student motivation and interest in learning in the future. Through the CIPP approach, evaluation of online learning models on selected campuses provides a deep understanding of successes and challenges. Improving infrastructure, supporting campus heads, sharing best practices, and increasing evaluative tasks can be a strategic focus to increase the implementation of online learning models at the campus level. Based on the research conclusions, several recommendations can be proposed for the development of technology-based learning in the future. Increased lecturer training, infrastructure investment, and further research are needed to understand the psychosocial impact of students in more depth. A focus on sustainable development strategies also needs to be emphasized to create a more effective, inclusive and quality online learning environment.

References

[1] Noetel, M., Griffith, S., Delaney, O., Sanders, T., Parker, P., del Pozo Cruz, B. and Lonsdale, C., 2021. Video improves learning in higher education: A systematic review. *Review of educational research*, *91*(2), pp.204-236.

[2] Palao, J.M., Hastie, P.A., Cruz, P.G. and Ortega, E., 2015. The impact of video technology on student performance in physical education. *Technology, Pedagogy and Education*, *24*(1), pp.51-63.

[3] Kurniawan, R., Winarno, M.E. and Dwiyogo, W.D., 2018. Evaluasi pembelajaran pendidikan jasmani, olahraga, dan kesehatan pada Siswa SMA menggunakan model countenance. *Jurnal Pendidikan: Teori, Penelitian, Dan Pengembangan*, *3*(10), pp.1253-1264.

[4] Bodsworth, H. and Goodyear, V.A., 2017. Barriers and facilitators to using digital technologies in the Cooperative Learning model in physical education. *Physical Education and Sport Pedagogy*, *22*(6), pp.563-579.

[5] O'Loughlin, J., Chróinín, D.N. and O'Grady, D., 2013. Digital video: The impact on children's learning experiences in primary physical education. *European Physical Education Review*, *19*(2), pp.165-182.

[6] Casey, A. and Jones, B., 2011. Using digital technology to enhance student engagement in physical education. *Asia-Pacific Journal of Health, Sport and Physical Education*, *2*(2), pp.51-66.

[7] Raibowo, S. and Nopiyanto, Y.E., 2020. Evaluasi Pembelajaran Pendidikan Jasmani Olahraga & Kesehatan pada SMP Negeri Se-Kabupaten Mukomuko melalui Pendekatan Model Context, Input, Process & Product (CIPP). *Jurnal Pendidikan Kesehatan Rekreasi*, *6*(2), pp.146-165.

[8] Bafadal, M.F. and Triansyah, A., 2020. GOOGLE FORM: ALTERNATIF PENILAIAN PENDIDIKAN JASMANI SAAT COVID-19. *Science Tech: Jurnal Ilmu Pengetahuan Dan Teknologi*, *6*(2), pp.48-57.

[9] Rojali, W.I., Ngadiman, N., Budi, D.R., Nurcahyo, P.J. and Febriani, A.R., 2021. Evaluasi pembelajaran daring mata pelajaran pendidikan jasmani olahraga dan kesehatan SMA pada era pandemi Covid-19. *Jurnal MensSana*, *6*(1), pp.92-99

