

Analysis of Students' Preferences and Needs for PJOK E-Module Development

Julian Tri Wibowo¹, Putri Cicilia Kristina¹, Widya Handayani¹

¹Universitas PGRI Palembang, South Sumatra, Indonesia

Corresponding author e-mail: julian.3wibowo@gmail.com

Article History: Received on 19 July 2024, Revised on 7 September 2024,

Published on 30 September 2024

Abstract: The objective of this research was to evaluate students' requirements for teaching materials in Physical Education, Sports, and Health (*PJOK*) with the goal of developing e-modules that effectively address these needs. The study utilized a descriptive exploratory approach, focusing on students from grades X and XI at SMA Negeri 15 Palembang. Participants were surveyed using a questionnaire distributed through Google Forms, which allowed students to articulate their preferences and needs regarding teaching materials. The research found that students exhibit a clear preference for digital teaching materials over printed ones. This preference is primarily driven by the practicality and convenience that digital resources offer, such as easy access, interactive features, and multimedia content. The questionnaire data revealed that students value the flexibility and enhanced engagement opportunities provided by digital materials, which align with current trends in educational technology. The analysis of the results suggests that incorporating digital resources into *PJOK* instruction can significantly improve student engagement and address practical needs. The findings highlight the importance of adapting teaching materials to fit students' preferences and technological advancements. By developing e-modules that cater to these preferences, educators can enhance the learning experience and better support students in mastering both the theoretical and practical aspects of *PJOK*. This research underscores the need for a balanced approach in educational resource development, integrating both digital and traditional materials to create a comprehensive learning environment.

Keywords: E-Modules, Teaching Materials, *PJOK*

A. Introduction

Education is a crucial element in shaping a better future and plays a significant role in national progress. It acts as an investment in preparing the younger generation to manage, develop, and lead the country. The quality of education is closely linked the competency standards required of teachers, which include pedagogical, social,

personality, and professional competencies. Meeting these standards is essential for fulfilling teachers' responsibilities as educational service providers (Ningsih & Siagian, 2020). Teachers must not only implement learning methods but also develop and create effective learning media (Fajri et al., 2021). Balancing pedagogical, social, personality, and professional skills enables teachers to deliver meaningful learning experiences. Innovative learning media can enhance student motivation and engagement, leading to a more effective educational process.

The rapid advancement of Information and Communication Technology (ICT) has significantly impacted various aspects of life, including education. ICT enables overcoming spatial and temporal limitations, facilitating swift information exchange. This technological progress presents opportunities for improving education in Indonesia through flexible online learning resources. Technology supports the development of student skills and transforms traditional teaching methods, emphasizing the need for digital integration in education.

Educational technology focuses on enhancing teaching processes through ICT, incorporating digital media into learning to modernize the educational experience. Utami & Yuwaningsih (2020) and Lubis et al., (2021), highlight those various types of learning media, such as computers, gadgets, and the internet, can enhance classroom learning. Technological progress has enabled the creation of interactive and engaging digital platforms that encourage active student participation. According to Andini et al. (2018), advancements in information and communication technology (ICT) have introduced innovations in teaching materials, including computer-based learning, multimedia resources, and communication systems. In today's educational environment, skills like critical thinking, communication, innovation, problem-solving, and information analysis are essential. E-modules exemplify such innovations, providing a modern alternative to traditional print-based learning resources.

E-modules are online digital textbooks created to reduce student boredom and boost engagement in learning. According to Serevina et al. (2018), these e-modules can improve students' critical and creative thinking skills. In contrast to conventional modules, e-modules are designed to enhance student interaction and motivation. They also support the development of TPACK (Technology, Pedagogy, Content Knowledge) competencies in pre-service teachers by combining educational content with project-based learning.

Physical education, which emphasizes physical activity to achieve learning objectives, often focuses on psychomotor responses while sometimes neglecting cognitive aspects. Limited teacher competence can be a factor in this imbalance. It is essential for physical education teachers to develop strategies that stimulate both

cognitive understanding and physical activity, using tools like e-modules to facilitate concept comprehension. This holistic approach aims to improve both physical skills and cognitive abilities, making the learning experience more interactive and enjoyable.

The development of *PJOK* (Physical Education, Sports, and Health) e-modules represents a significant advancement in modernizing physical education curricula. These digital tools offer interactive and engaging learning experiences that cater to individual needs and learning styles, providing greater flexibility and accessibility. Incorporating wearable technology, such as fitness trackers and heart rate monitors, can further enhance students' understanding of their physical activity levels and progress. These tools allow students to set goals, track performance, and make adjustments to improve fitness, fostering goal-setting and self-monitoring skills. Additionally, technology can offer real-time feedback on form and technique, helping students avoid injuries and optimize workouts. By creating a more interactive and supportive learning environment, technology can significantly impact students' motivation and engagement in physical education.

This research aimed to explore the integration of fitness trackers and virtual reality technology in physical education curricula to increase student participation and improve health outcomes. Implementing these technologies over a semester at a local high school will involve tracking student activity levels, setting goals, and engaging in immersive virtual reality simulations. The study will assess student participation rates, physical fitness levels, and attitudes toward physical activity before and after the intervention. It will also investigate potential barriers to using technology in physical education and its impact on motivation and adherence to exercise routines. The findings will provide valuable insights into how technology can enhance physical education and support students' overall well-being.

The conclusion is the advancement of information and communication technology presents considerable opportunities for creating innovative and engaging digital teaching materials, fundamentally transforming the landscape of education. As educational environments increasingly integrate digital tools, it becomes essential to comprehend and address the specific needs of students to ensure the effectiveness of these materials. This research is dedicated to analyzing these needs with the goal of developing e-modules tailored for *PJOK* (Physical Education, Sport, and Health) subjects. By focusing on the unique requirements of students, this study aims to enhance the educational experience and align with the evolving demands of the digital era. Through the development of e-modules that incorporate interactive and multimedia elements, the research seeks to not only improve student engagement and learning outcomes but also to facilitate a more dynamic and adaptable approach to teaching physical education. This alignment with contemporary technological

advancements underscores the importance of adapting educational resources to meet the needs of modern learners and educators, ultimately contributing to more effective and enriched learning experiences.

B. Methods

This research utilized an exploratory descriptive method to examine the preferences and needs of students regarding teaching materials at SMA Negeri 15 Palembang (Alazwari, 2022; Li et al., 2011). The study specifically focused on students from classes X and XI, aiming to gather insights into their preferences for print versus digital teaching materials and the underlying reasons for these preferences. The exploratory descriptive method was chosen for this research due to its effectiveness in investigating and understanding the characteristics and preferences of a particular group. This method allows for an in-depth exploration of the subject matter without making predefined assumptions or hypotheses. By employing this approach, the study aimed to uncover nuanced insights into students' preferences for teaching materials and the factors influencing these preferences.

The subjects of the research were students from classes X and XI at SMA Negeri 15 Palembang, a secondary school in the region. This demographic was selected to provide a representative sample of the student population, capturing a range of perspectives from different year groups within the school. Including both classes X and XI allowed for a broader understanding of the students' evolving preferences as they progress through their educational journey.

Data were collected through a questionnaire designed to elicit detailed information about students' preferences for teaching materials. The questionnaire focused on two main areas: the preference between print and digital teaching materials and the reasons behind these preferences. The questionnaire was constructed to gather both quantitative and qualitative data. It included multiple-choice questions to assess general preferences and open-ended questions to explore the reasons behind these preferences in more detail. This approach ensured that the data collected would be both comprehensive and insightful, providing a well-rounded view of the students' needs.

To facilitate efficient data collection, the questionnaire was distributed using Google Forms. This digital platform was chosen for its ease of use, accessibility, and ability to quickly compile responses. By utilizing Google Forms, the research ensured that students could easily complete the questionnaire at their convenience, increasing the likelihood of obtaining a high response rate. In addition to the questionnaire, the study employed an observation method to further understand the context in which students interact with teaching materials. According to Salim (2019), using an observation format or form as an instrument is an effective way to gather qualitative

data on how students engage with different types of teaching materials. This method involved systematically observing and recording students' interactions with both print and digital materials during class activities. The observation method provided valuable insights into students' engagement levels, preferences, and any challenges they faced with different types of materials. This qualitative data complemented the quantitative data obtained from the questionnaire, offering a more comprehensive understanding of students' needs and preferences.

The data collected from the questionnaire and observations were analyzed descriptively. Descriptive analysis involves summarizing and interpreting data to identify patterns, trends, and key findings. In this research, descriptive analysis was used to determine the overall preferences of students for print versus digital teaching materials and to identify common reasons behind these preferences. The analysis of the questionnaire responses involved calculating the frequency and percentage of each preference category. This provided a clear picture of the overall trends in students' preferences. Additionally, the open-ended responses were analyzed thematically to identify common themes and reasons behind students' choices. The observational data was also analyzed descriptively, focusing on key aspects such as engagement levels, interaction patterns, and any notable differences between print and digital materials. This analysis helped to contextualize the questionnaire findings and provide a more detailed understanding of how students interact with different teaching materials in practice.

The exploratory descriptive approach provided valuable insights into the preferences and needs of students regarding teaching materials. The questionnaire revealed a range of preferences between print and digital materials, with some students favoring the traditional print format and others preferring the convenience and interactivity of digital materials. The reasons behind these preferences varied, with some students citing the tactile experience and familiarity of print materials as key factors, while others highlighted the accessibility and multimedia features of digital materials as significant advantages. The observational data supported these findings, showing that students who preferred digital materials were often more engaged and interacted more actively with the content.

C. Results and Discussion

The findings of this research have several implications for the development and implementation of teaching materials. Understanding students' preferences and needs is crucial for designing effective and engaging educational resources. Based on the research, it is recommended that educators and curriculum developers consider incorporating both print and digital materials to cater to diverse student preferences. Additionally, the insights gained from the research can inform the development of

more interactive and user-friendly digital materials that address students' needs and preferences. By aligning teaching materials with students' preferences, educators can enhance the learning experience and improve overall student engagement and outcomes.

In conclusion, this research offered an in-depth analysis of students' preferences for teaching materials at SMA Negeri 15 Palembang, shedding light on the evolving landscape of educational resources. Utilizing an exploratory descriptive method allowed for a nuanced understanding of students' inclinations towards print and digital materials, as well as the underlying motivations behind these preferences. The study's findings underscore the significance of aligning teaching materials with students' needs to foster a more engaging and effective learning environment.

The exploratory descriptive approach proved to be a powerful tool in capturing the diversity of student preferences. By engaging directly with students through questionnaires and observations, the research was able to uncover a broad spectrum of attitudes towards print and digital materials. This method provided a holistic view of how students interact with different types of resources, revealing insights that might be missed through other research methodologies.

The data collected highlighted a clear distinction in student preferences between traditional print materials and modern digital resources. On one hand, print materials were valued for their tangibility and the familiar, tactile experience they provide. Many students appreciated the ability to physically interact with books and papers, finding that print materials support focused and uninterrupted reading. This preference aligns with existing literature suggesting that physical materials can enhance concentration and reduce distractions, which are often prevalent in digital environments (Mangen, Walgermo, & Brønnick, 2013). On the other hand, digital materials were favored by many students for their convenience, accessibility, and interactive features. The ability to access resources anytime and anywhere, coupled with multimedia elements such as videos and interactive exercises, made digital materials particularly appealing. This preference reflects broader trends in education and technology, where digital tools are increasingly integrated into learning environments to cater to the needs of tech-savvy students (Kier & Johnson et al., 2022). The interactive nature of digital resources was found to engage students more effectively, promoting active learning and immediate feedback.

The reasons behind these preferences were multifaceted. For print materials, students cited the lack of eye strain and the ease of annotation as significant benefits. They valued the physical presence of books and noted that print materials often felt more permanent and reliable. Conversely, digital materials were praised for their flexibility and adaptability. Features such as search functions, hyperlinks, and

multimedia content were highlighted as enhancements that support diverse learning styles and facilitate a more personalized learning experience.

The observational component of the research provided further context to these preferences. It revealed that students who preferred digital materials often exhibited higher levels of engagement during lessons that utilized these resources. This finding suggests that digital materials can play a crucial role in maintaining student interest and motivation, which is vital for effective learning. The interactive features of digital resources appeared to stimulate greater participation and enthusiasm, aligning with theories of active learning and engagement (Bonwell & Eison, 1991). The implications of these findings are significant for educators and curriculum developers. As educational practices evolve, it is essential to recognize and integrate the diverse preferences of students. The evidence from this study supports a balanced approach to teaching materials, where both print and digital resources are used to cater to different learning needs and preferences. This blended approach not only accommodates various learning styles but also maximizes the benefits of each type of material.

Incorporating both print and digital resources into the curriculum can enhance the overall educational experience. Print materials can provide a solid foundation for reading and comprehension, while digital materials can offer interactive and engaging content that complements traditional resources. This integration aligns with the concept of technological pedagogical content knowledge (TPACK), which emphasizes the importance of combining technology, pedagogy, and content knowledge to create effective teaching strategies (Mishra & Koehler, 2006).

The findings also suggest that educators should be mindful of the changing preferences and needs of students. As technology continues to advance, students' expectations and experiences with educational resources will evolve. Therefore, it is crucial for educators to stay informed about emerging trends and to adapt their teaching materials accordingly. This adaptability will ensure that educational resources remain relevant and effective in meeting the needs of contemporary learners. Furthermore, the research highlights the importance of ongoing assessment and feedback in the development of teaching materials. By regularly soliciting input from students and evaluating the effectiveness of different resources, educators can make informed decisions about which materials to use and how to optimize their impact. This continuous feedback loop will contribute to the creation of more effective and engaging educational materials.

In summary, this research underscores the importance of understanding and addressing students' preferences for teaching materials. By utilizing an exploratory descriptive method, the study provided valuable insights into students' inclinations

towards print and digital resources and the reasons behind these preferences. The findings emphasize the need for a balanced approach to educational materials, incorporating both print and digital resources to meet the diverse needs of students and enhance the overall learning experience. As educational practices continue to evolve, adapting to the changing preferences and needs of students will be essential for creating effective and engaging learning environments. This approach will not only support academic achievement but also foster a more inclusive and dynamic educational experience for all students.

The findings from the conducted research can be summarized as follows: According to the completed student questionnaires, the data on the percentage of students using additional handbooks for learning *PJOK* is illustrated in Figure 1 below.

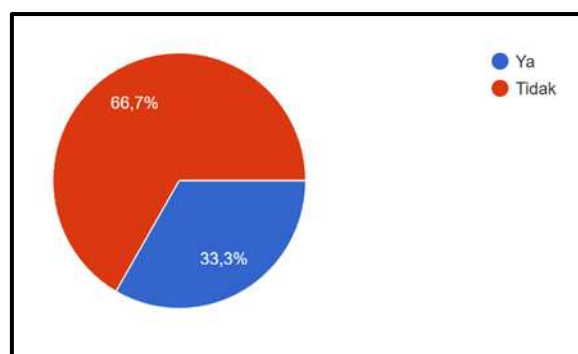


Figure 1. The Percentage of Students Who Have Other Handbooks for Learning *PJOK*

From the figure above, it is evident that many students lack additional handbooks for learning *PJOK* (Physical Education, Sport, and Health) apart from the books provided by the school library. This highlights a significant gap in the availability of relevant and adequate learning resources for students, which is crucial for supporting their education in *PJOK*. Often, *PJOK* is perceived as a less critical subject compared to others due to its practical nature, leading to a diminished focus on the theoretical concepts underlying the material. However, a solid understanding of theory is essential for grasping the basic concepts in *PJOK*. By comprehending the theoretical framework behind each concept, students can develop a deeper appreciation for the importance of exercise and health in their daily lives.

Indariani et al. (2018) emphasize that teaching materials are fundamental elements in education, whether in written or non-written form, and should be systematically organized to convey material effectively. According to Setiawan & Basyari (2017), teaching materials encompass all types of resources containing learning content designed for the educational process. These materials must be structured to facilitate student learning and mastery, including the acquisition of knowledge, skills, and attitudes through engaging learning activities.

Given the current gap in resources, it is imperative to enhance the availability of comprehensive and varied teaching materials for *PJOK*. This will ensure that students not only engage with practical activities but also develop a robust understanding of the theoretical aspects of the subject. By doing so, educators can enrich the learning experience and underscore the value of *PJOK* in promoting overall well-being. Then for the next question, the percentage shows what kind of learning resources the students want, which can be seen from Figure 2 below:

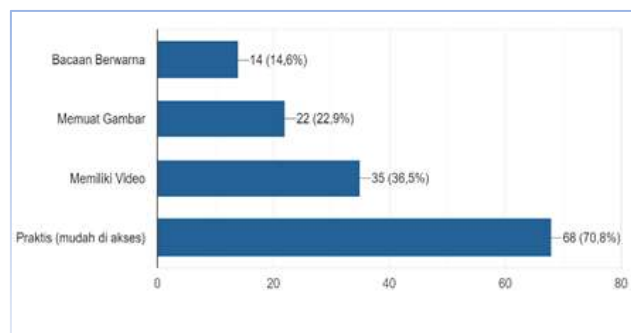


Figure 2. The Percentage Shows What Kind of Learning Resources the Students Want

In this statement, students are given four answer choices regarding the category of learning resources they want. Students can choose more than one of the available answer choices. From the picture, it can be seen that the students' most preferred choice is practical (easy to access) learning resources. This shows that students prefer learning resources that can be accessed easily and are practical rather than others. This indicates that ease of access is an important factor for students in selecting learning resources. This implies that education providers and learning resource developers need to pay attention to aspects of accessibility and ease of use in designing their learning resources. By ensuring that learning resources can be accessed easily and practically, students will be more motivated to learn and improve their overall learning outcomes. Furthermore, the percentage of students who prefer digital teaching materials can be seen from Figure 3 below:



Figure 3. The Majority of Students Tend to Choose Digital Teaching Materials

From this figure, it can be seen that the majority of students tend to choose digital teaching materials. The main reason students choose digital teaching materials is because of their flexibility, which allows them to study anytime and anywhere. Currently, digital learning media is very popular. This media involves the use of tools to create audio-visual content (Mariyah, et al, 2021). With digital teaching materials, students can access study materials easily without being limited by time and location. In addition, digital teaching materials can be tailored to each student's learning needs, thereby providing a more personalized and effective learning experience.

For educators, digital teaching materials make it easier to manage and distribute learning materials. Various digital learning platforms and applications enable the delivery of material in a more interactive and interesting way, which in turn can increase student interest and motivation. In addition, digital teaching materials allow teachers to more easily monitor and evaluate student learning progress. With all the convenience and benefits offered, it is not surprising that digital teaching materials are increasingly popular with students and teachers in this digital era. Furthermore, it is known that students agreed to develop the *PJOK* emodule, which can be seen from Figure 4 below:

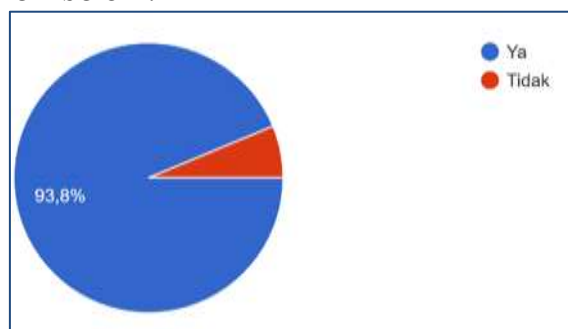


Figure 4. Students Support the Development of E-Modules For *PJOK*

The figure above indicates that students support the development of e-modules for *PJOK* (Physical Education, Sports, and Health) learning. This demonstrates a strong student interest in integrating technology into their *PJOK* classes. The goal is for interactive e-modules to make learning more engaging and effective. With the introduction of these interactive e-modules, it is anticipated that students will be more motivated to actively participate, leading to better learning outcomes. Additionally, incorporating technology into the learning process can enhance students' digital skills, which are crucial competencies in today's digital age.

D. Conclusions

Based on the analysis of the questionnaire results distributed to students, it is evident that there is a clear preference for digital teaching materials over printed

ones. The primary reason behind this preference is the practicality and convenience that digital materials offer. Students appreciate the ease of access, the ability to interact with multimedia content, and the flexibility of digital resources. These advantages align with contemporary educational trends, where digital tools are increasingly favored for their ability to enhance learning experiences and accommodate various learning styles. Consequently, it is recommended that educators increase their use of digital teaching resources to better meet students' practical needs. Embracing advancements in information and communication technology provides ample opportunities for creating engaging and innovative digital teaching materials. By integrating these digital resources into the curriculum, educators can significantly boost student interest and involvement in the learning process. This approach not only aligns with students' preferences but also leverages the benefits of modern technology to create a more dynamic and effective educational environment. Thus, incorporating a greater range of digital materials can enhance the overall learning experience and better prepare students for a digitally-oriented future.

When discussing the study's limitations and potential biases, it is important to reflect on the significance of addressing student needs in educational technology. Educators and developers should prioritize student feedback in designing e-learning tools. The study underscores the importance of considering student demographics when developing PJOK e-modules. By understanding the diverse preferences and needs of various student groups, educators and developers can create more engaging and effective e-learning tools. Future research should further explore how student demographics impact the effectiveness of e-modules. It is crucial for educators and developers to incorporate student feedback to ensure that e-learning tools meet the diverse needs of all learners. This approach not only enhances student engagement and learning outcomes but also ensures that e-modules are accessible and inclusive. Tailoring e-modules to address barriers such as language proficiency and accessibility issues can create a more personalized and effective learning experience.

Considering student demographics when developing PJOK e-modules is essential for promoting student success and fostering an equitable educational environment. This approach ensures that all students can engage with the material in a meaningful and relevant way. Incorporating diverse perspectives and cultural references into e-modules can create a sense of inclusivity and belonging, enriching the overall learning experience. By reflecting students' backgrounds and experiences, educators can enhance engagement, retention, and success. Embracing diversity and inclusivity in e-module development can lead to a more equitable and inclusive education system.

Incorporating culturally responsive teaching practices can further promote diversity and inclusivity. This involves integrating students' cultural backgrounds and perspectives into the curriculum and instructional strategies. Valuing students' diversity helps create an inclusive environment where all individuals feel respected and represented. Providing opportunities for students to share their cultural knowledge fosters a sense of belonging and empowerment. Activities like sharing personal stories, discussing cultural traditions, and exploring different viewpoints on historical events can help students feel comfortable expressing their unique backgrounds. This approach not only improves academic performance but also prepares students for an interconnected and globalized world. Embracing cultural diversity in the classroom enriches the educational experience, promotes empathy and understanding, and fosters unity among students. It helps break down barriers, encourages cooperation, and prepares students to navigate diverse social and professional settings. Integrating literature and history from various cultures into the curriculum facilitates meaningful discussions and interactions, enhancing mutual respect and appreciation for diversity.

E. Acknowledgment

Thanks to all parties who support us in this valuable project.

References

- Alazwari, A. (2022). A descriptive exploratory case study of University of Central Riyadh collaboration with public schools in preparing teachers (Doctoral dissertation, University of South Florida).
- Andini, T., Dika and Yulian, M. (2018). Development of Electronic Book Teaching Materials Using Kvisoft Flipbook Software on Basic Chemical Legal Material at SMA Negeri 1 Pantan Reu, West Aceh. *JUPI (Journal of Science and Science Learning)*, 2(1): 2. <https://doi.org/10.24815/jipi.v2i1.10730>
- Bonwell, C. C., & Eison, J. A. (1991). *Active learning: Creating excitement in the classroom*. 1991 ASHE-ERIC higher education reports. ERIC Clearinghouse on Higher Education, The George Washington University, One Dupont Circle, Suite 630, Washington, DC 20036-1183. <https://eric.ed.gov/?id=ED336049>
- Fajri, G., Priyono, P., & Kusumohadi, C. (2021). Developing Learning Media: Analysis of Needs for Exterior Light System Material. *Journal of Education, Humanities and Social Sciences (JEHSS)*, 4(1), 365-371. <https://doi.org/10.34007/jehss.v4i1.652>
- Indariani, Artisa, Surya AP, Sika F. (2018). Development of Digital Teaching Materials Based on Mathematical Problem Solving Ability in Mathematics Learning (Interactive Digital Teaching Materials on Linear Absolute Value Inequalities of One Variable). *Eduma Journal*, 7(2): 89- 98.

- Kier, M. W., & Johnson, L. L. (2022). Exploring how secondary STEM teachers and undergraduate mentors adapt digital technologies to promote culturally relevant education during COVID-19. *Education Sciences*, 12(1), 48. <https://doi.org/10.3390/educsci12010048>
- Li, Y. S., Chen, H. M., Yang, B. H., & Liu, C. F. (2011). An exploratory study of the relationship between age and learning styles among students in different nursing programs in Taiwan. *Nurse education today*, 31(1), 18-23. <https://doi.org/10.1016/j.nedt.2010.03.014>
- Lubis, P. K. D., Adriani, D., & Silitonga, A. I. (2021, November). Teaching Materials Development Using Kvisoft Flipbook Maker Application in Creative Economy Courses with 4-D Model Design. In 6th Annual International Seminar on Transformative Education and Educational Leadership (AISTEEL 2021) (pp. 792-796). Atlantis Press. <https://doi.org/10.2991/assehr.k.211110.182>
- Mangen, A., Walgermo, B. R., & Brønnick, K. (2013). Reading linear texts on paper versus computer screen: Effects on reading comprehension. *International journal of educational research*, 58, 61-68. <https://doi.org/10.1016/j.ijer.2012.12.002>
- Mariyah, Y., Budiman, A., Rohayani, H., & Audina, W. (2021). Increasing Student Learning Motivation Through the Use of Audio-Visual Media: Experimental Study in Dance Learning. *Journal of Education, Humanities and Social Sciences (JEHSS)*, 4(2), 959-967. <https://doi.org/10.34007/jehss.v4i2.778>
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers' college record*, 108(6), 1017-1054.
- Ningsih, SY, & Siagian, MD (2020). Achieving Pedagogical Content Knowledge Through Mathematics Learning. *Journal of Didactic Mathematics*, 1(1), 41- 46. <https://doi.org/10.34007/jdm.v1i1.1578/rdje.v2i2.1432>
- Salim & Haidir. (2019). *Educational Research*. Kencana Publishers.
- Serevina, V., S., R., Astra, I. M. & Sari, I. J. (2018). Development of E-Module Based on Problem Based Learning (PBL) on Heat and Temperature to Improve Student's Science Process Skill. *Turkish Online Journal of Educational Technology - TOJET*, 17(3), 26-36. <https://www.learntechlib.org/p/189646/>
- Setiawan, A., & Basyari, I. W. (2017). Design of Teaching Materials Oriented to the Student Team Achievement Division Learning Model for Learning Achievements in the Realm of Student Understanding in Class VII Social Sciences Subjects at SMP Negeri 1 Plered, Cirebon Regency. *Edunomic Journal*, 5(1): 17-32. <https://doi.org/10.33603/ejpe.v5i1.431>
- Utami, WT, & Yuwaningsih, DA (2020). Analysis of the need for e-module development on derivative topics using Kvisoft Flipbook Maker Pro for class XI high school students. *Proceedings of the Scientific Conference on Education*, 1, 149-152.