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Multimedia-based sociology education material design efforts to improve student learning outcomes in pandemic: Review evidences

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Abstract---Many studies have proven the relationship between multimedia and learning effectiveness. The authors believe that very few have investigated the effectiveness of multimedia in improving learning outcomes for the social sciences by utilizing published data from various contexts of scientific studies and applications. For this reason, this study has collected scientific evidence in the form of information from various contexts that generally discuss the effectiveness of using multimedia based on social studies educational material design to improve student learning outcomes during the pandemic. To answer these problems, in discussions to improve understanding, we first obtained some data by searching with the help of the Google engine on several publications in the form of books and other academic works. The study process involves coding data techniques, evaluating the data in depth, and holding high interpretations to get valid results with a phenomenological approach. We understood phenomenal multimedia to design sociology course materials during a pandemic. After we studied and integrated it in depth, we can finally conclude that the use of multimedia based on social studies educational material design to improve student learning outcomes has received the attention of many researchers, as

evidenced by research results. Everyone said that multimedia is indeed one of the relevant approaches used in the context of education disrupted by the pandemic. Hopefully, these findings will be a significant input in the study and solution of learning problems disrupted by the crisis.

Keywords--Multimedia, Social Science, Material Design, Learning Outcomes, Review.

Introduction

The presence of technology which is now increasingly used in all sectors of life, is supported by changes that occur, especially in the field of educational services will continue to increase. High-quality educational output can be a hope for all parties (Ehrenberg, 2012). In front of our eyes, it is clear that Indonesian children's education quality must continue to be improved. Because when viewed from various aspects, this is undoubtedly a tough job, especially for educators and the government as well as the community, to distinguish what is available so that the achievement of the quality of Indonesian children's education can be realized (Sudarmo et al., 2021). One of the things that can be done to create quality learning resources for Indonesian children is by presenting vital learning facilities such as multimedia in preparing learning materials, especially sociology and other branches of science, which until now have become an issue that has received a response from all parties. This sociology subject has a close relationship with concepts in learning related to multimedia which will therefore be able to motivate and increase students' curiosity; in the end, it will increase their learning outcomes (Maresch & Gartner, 2020).

For this reason, the teachers in charge of education are at the forefront, so they are the ones who can determine the direction of quality learning to produce good educational outcomes with teacher participation to create various learning models based on multimedia technology so that the expected educational goals can be achieved (Golubev & Testov, 2015). Logically, when students have high technology motivation, they will be able to become independent students who are ready to face challenges both in the learning process and in solving problems when they face periods of learning evaluation. Various studies have been carried out, and the results provide a solution for teachers' Sociology subjects so that they can overcome problems by involving technology to maximize efforts for the learning process that creates lessons full of interactive and inspiring innovations and delight students.

In supporting multimedia-based learning for sociology subjects, experts have said that one of them is increasing students' learning participation (Mishra et al., 2020). The solution is to design multimedia learning materials so that later, students will have the power to create interactive programs assisted by multimedia technology which, when sociological learning is carried out with this traditional system, will add to the problems that are impossible to overcome. So there is a basis that the importance of solving problems involving multimedia in

designing sociology learning in schools will continue to be pursued to create the latest solutions and innovations at the school level (Bryk et al., 2011).

Learning experiences with multimedia are believed to create new interests and desires in students because this method will further inspire enthusiasm in learning and have a mental impact on student learning outcomes (Gilakjani, 2012). Using instructional media will help the adequacy of the educational experience and delivery of messages and materials. It is normal to help students by working on their understanding and persuading them to learn because the data is presented excitingly. As shown by many studies, multimedia will empower to reach the point of realization, which can further develop learning outcomes (An & Reigeluth, 2011). Determination of legitimate learning media must be coordinated with material needs so that the ability of the media as an instrument to arouse students' senses does not deviate from the learning requirements. Students are expected to receive the message conveyed by the teacher well.

In the 2013 education plan, humanism is critical to be taught as an isolated subject because it is a medium to develop other valuable reasoning skills to overcome problems in everyday life. Implementing educational plans in developing experiences requires students' contribution to developing their capacity and expertise in dealing with particularity or problem (Grant, 2011). To achieve a developing experience, students are asked to take part. The teacher becomes a mobile learning resource and a facilitator to direct and direct students to deal with problems and conditions throughout the educational experience and discover their ideas and the material being studied.

The 2022 education independence curriculum program expects teacher and student freedom, including unique relationships and communication between educators and students, so that learning objectives can be adequately achieved (Rahayu et al., 2022). An engaging and proficient growing experience can best be recognized, assuming educators use the suitable media to achieve the most significant results. Media is a tool to convey messages. While learning is a process of cooperation and correspondence between students, educators, and materials. The sociological division of education means that instructional media are tools to help educators convey messages and materials to students in a developing experience, monitor professional opportunities to understand the material, and assist students in obtaining and growing information in school learning (Kulikowski et al., 2022).

The advantage of learning media as a tool for teachers and students is to make the developing experience more exciting, and further develop the inspiration for learning. Learning materials will be more critical, and learning activities can increase (Wijaya et al., 2020). Learning media also empowers students to dominate different learning points and learning strategies, which are not only about verbal communication through discourse discussions by the instructor. Furthermore, students do not run out. The instructor does not regulate the discourse; however, they give students a feeling of thinking to deal with the problem. Students will often take learning actions. They not only pay attention to the instructor's clarification but direct some exercises, for example, paying attention, leading the action system, showing off, and so on. Media use plays a

vital role in providing opportunities for students to develop. This can inspire students and develop a new interest in learning movements, influencing student brain research (Williamson et al., 2020).

In addition, the use of learning media will help the continuity of the educational experience, improve student understanding, present more exciting and solid data, facilitate the translation of information, and add data. Consequently, it is accepted that media capabilities are helpful tools in leading learning activities in schools. Multimedia is a kind of program used for performances with a web premise. In addition, multimedia can also be used as a tool to convey and share thoughts about virtual materials (Rodriguez-Ardura & Meseguer-Artola, 2016). Multimedia is increasing as a device than any other performance medium due to technology. It empowers clients to zoom in and out of show media with concerted effort and interesting variety through accessible slides. Multimedia can be used as a medium to create more imaginative and creative impressions in 2 structures, construction and the introduction of understanding maps. Other multimedia performances are placed on the performance material. It is partitioned and arranged at the edge of the program, which can determine the relative size and position among all show objects. They can also cover and illuminate the articles they need. To create a linear view, the client can lay out the track of the completed performance route sequentially. Multimedia enjoys many benefits, such as making visual displays more attractive and inventive (Nwaocha, 2010).

Multimedia also works together to create and watch live shows from anywhere to a broader extent. Multimedia can convey thoughts and considerations in a presentation and show the relationship between slides. Multimedia provides more space to share images in a slide show using expandable material that can place slides into each sentence with dynamic and different slide movements. We were able to quickly zoom in/out from a slide with a decent storefront. Multimedia opens free registration to the public. Clients can use it regularly from the web. Multimedia is about making different solutions better and more organized. It is an instrument and a medium for creating and conveying responses in visual structures to images and ideas (Montagud et al., 2012).

Method

The advantage of learning media as a tool for teachers and students is to make the developing experience more exciting, and further develop the inspiration for learning. Learning materials will be more critical, and learning activities can increase. Learning media also empowers students to dominate different learning points and learning strategies, which are not only about verbal communication through discourse discussions by the instructor. Furthermore, students do not run out. The instructor does not regulate the discourse; however, they give students a feeling of thinking to deal with the problem. Students will often take learning actions. They not only pay attention to the instructor's clarification but direct some exercises, for example, paying attention, leading the action system, showing off, and so on. Media use plays a vital role in providing opportunities for students to develop. This can inspire students and develop a new interest in learning movements, influencing student brain research.

We repeat this article to try to understand and then discuss the role of multimedia based on sociology education lessons, especially in designing learning materials that are part of efforts to improve student learning outcomes after the pandemic (Patten & Newhart, 2017). Many studies have been conducted on technology and technology-based learning and others during the pandemic. However, few have conducted studies on designing multimedia-based materials for sociology lessons after the pandemic. So to complete this discussion, we have obtained a series of data and facts in the form of scientific publications, books, and academic articles, which actively discuss multimedia issues based on sociology learning to improve student learning outcomes during the pandemic (Driscoll et al., 2012).

We conducted a technology-assisted search on published literature sources which we then reviewed under a phenomenological approach to gain an in-depth and valid understanding. The review process involves interpreting the data, coding the data, and drawing conclusions that we believe will answer the problem. After analyzing the data, we design a descriptive qualitative report where we want to focus on discussing what we found from several published materials so that we get a deep understanding. Among other things, conducting a study assessed from the preliminary formulation and problems and ending with a final report under a qualitative design (Lewin et al., 2015).

Discussion

Multimedia in a Sociology Lesson

The presence of technology has changed how humans interact with each other. Learning methods from conventional methods allow advanced ways with various media, which are now increasingly becoming determinants of the success of business activities and human education (Choi & Lee, 2018). Through the sophistication of multimedia, students may find out more about the learning they do at school and also allow students to study with their parents when they get home and allow students to study independently for the sake of personalizing learning with the social media network system that is now the prima donna in the world learning activities. With the same reality, technology has also expanded without limits the social environment of human life, constantly changing how people think and interact with each other. (Nugmanova, 2017).

Multimedia has been used in various platforms such as social media where it continues to be connected, even television, which used to be the conventional one; the media is directly into the heart of the handheld so that it allows students to interact with each other to send messages to each other, share content with various learnings so that they can interact with each other—sharing entertainment achieving student learning needs then how multimedia technology will be better of course when teachers and students can socialize encouraging each other to use various means that promote learning change than with a fast flow of information and allow teachers to be more aware of their involvement in learning become part of the community to socialize (D'heer & Courtois, 2016). In reality, when the competition from time to time continues to compete for life, the presence of multimedia will free people from ignorance so they will get an

understanding of how to live in the past, now become a Cosmopolitan society and all with the presence of multimedia will change the reality of human life with a variety of multimedia, which is becoming trendy in all circles, mainly.

These are some of the statements above that are interesting to be used as material in designing sociology learning by including issues in the context of a sociological perspective, positioning the structure and focus of learning objectives assisted by multimedia technology, and how websites that are part of multimedia technology connect one another from one country to another country by allowing humans to discuss something global in nature that might happen (Berthon et al., 2012). A person with a critical perspective will focus on systematic equality, thereby creating access to media and technology. How a student views this interaction assisted by multimedia technology will understand the difference between real life and life that Maya describes the reality as seen from multimedia and then connected to the reality of life, which allows multimedia to be one of the sociological imaginations to be studied so that the benefits of multimedia provide impact on students and other educated people (Bandyopadhyay & Sen, 2011).

The Pieces of Evidence From Previous Studies

The findings of Nurhikmah et al. (2021) revealed that making online teaching materials in Sociology lessons in the Covid-19 Era has fostered multimedia-based subject matter through the design of multimedia-based learning materials and determined the validity, fairness, and adequacy of internet viewing material for sociology subjects at High School in Bungloe, Bantaeng Regency during the Covid-19 period. The results showed that the web-based display material using the flipbook made was substantial, whereas, on the approval of the material and media, the results were a very valid classification. The impact of the respondent's assessment in the small preliminary meeting and the reaction of the educator to the results of the presentation of the material is very down-to-earth; this can be seen from the reactions of students and teachers, who are classified as very reasonable. Robust web-based performance enhancements made. This can be seen from the summary of typical learning outcomes and increased student learning outcomes, among others, when using multimedia-based teaching materials, which have proven effective. A similar study was done by (Sumandiyar et al., 2021).

Likewise, Zulaikah et al. (2022) study of learning models in Social Education. This article provides a reasonable learning model to realize Sociology so that learning targets can be achieved. This is evidenced by the results of the standard of ability and competence of students in Social Sciences at the junior high school level covering topics: Social Education, history, topography, and finance. Topics changed to Social Science subjects. Issue-based learning is also one of the learning models that can be utilized. So the two studies above have proven how effective multimedia is in preparing Sociology teaching materials to improve student learning outcomes during the pandemic (Gillis & Krull, 2020).

Gillis and Krull (2020) analyze the progress from home during COVID-19 out of 2020 with class structure, understudy discernments, and imbalances in school addresses. They indicated that the pandemic had constrained all learning projects

to change to web-based instructing. The learning utilized in the change, understudies' view of the adequacy/fun/availability of the method, the hindrances understudies face because of the progress, and racial/class/orientation imbalances in encountering these boundaries. We utilized a basic course overview by two teachers to contrast understudies' responses with our changes and advances in their different courses. We find that the informative methods teachers use are less significant than how well they apply them to understudy learning. While there is a tradeoff between delight and openness, educators can utilize methods to work on the openness of intelligent configurations. In any event, web and innovation obstructions are typical for understudies who do not expect issues. Most understudies experienced obstructions to their learning because of the pandemic, including interruption, expanded nervousness, and sensations of the absence of inspiration, particularly for non-white, female, and original undergrads (Mattson, 2021).

Furthermore, Wardani (2021) found that the increase in the use of multimedia such as Android significantly improves student learning outcomes in social science and economics lessons. This study was carried out in Indonesia in response to the pandemic, which spontaneously changed learning from face to face into a network where schools responded to government policies whose solution was to open classes on a net that required readiness, including adequate learning multimedia. This study with an analysis of learning and curriculum has resulted in the design of Android-based multimedia in teaching preparation, including teaching materials and evaluations fully developed with multimedia applications which succeeded in getting the conclusion that the development of various Android-based multimedia in social lessons has given very significant results where teaching be effective, practical and productive. We can conclude that what Wardani has done to develop multimedia to improve socio-economic learning outcomes in secondary schools during a pandemic has proven that multimedia is an efficient solution to improve student learning outcomes (Handaru & Pujiriyanto, 2020).

While the findings of Primary et al. (2021), where students' perceptions of multimedia applications such as mobile phones and reading text-based learning in social science during a pandemic have proven that social science learning activities follow the topic of discussion taught through multimedia even though they are controversial. However, with mobile-based multimedia, students' perceptions are found Regarding multimedia, it has a very significant effect, as evidenced by the higher motivation and attractiveness of students who continuously without getting bored have resulted in very encouraging social science learning, especially online teaching, so based on the findings made by Pratama with his friends, this adds to confidence that the use of multimedia in social science teaching during Indonesia in the face of this pandemic is a very encouraging solution marked by increased motivation and student learning outcomes compared to other learning approaches in the classroom (Baeten et al., 2010).

Furthermore, increasing literacy in students' social science lessons in learning from home by relying on multimedia is to provide a new understanding where after a series of learning relying on multimedia, the results are declared valid and

appropriate to be applied in the learning process after the end of the pandemic (Ahied et al., 2020). This study also proves that the level of scientific literacy after this study is evidenced by the results of student literacy which increased from level b to level an increase reached an average value of 0.31 with a positive response indicating that the percentage of students, 89% of students were able to perform very convincingly. Therefore they conclude that the performance of scientific literacy literature has increased significantly when learning from home becomes reality-based multimedia when learning policies in schools are carried out with online classes are very promising. Similar results were also found in Yusuf's (2021) study, where the impact of online tutorial applications on the achievement of student learning outcomes in all social science lessons during the pandemic was significant.

Finally, we review the findings of Zulfadewina et al. (2020), which examines how to develop multimedia for learning with Adobe Flash CS6 in animal husbandry lessons. Indeed, learning during the pandemic is, of course, an extraordinary challenge. However, with the ability to develop using professional Adobe Flash CS6, they can prove that multimedia is a solution in terms of material preparation and motivate students to be more responsive to their learning goals. Assisted by multimedia can increase student learning outcomes by an average of 89%. Thus both teachers and students in seeing how multimedia can break the value up to 95% is an innovation in animal science education so that students find significant learning outcomes. The results of a similar study were also carried out by Kumala (2021) with his study of the multimedia learning model to develop e-learning during the pandemic with the concept of e-learning for elementary schools.

Conclusion

At the end of this study, we will conclude the essence of the findings in the study, which aims to gain an understanding of the sociological education-based multimedia learning method, especially in the design of teaching materials to improve student learning outcomes during the pandemic. We can conclude that learning during a pandemic is a condition with challenges and limitations, so multimedia solutions are very reliable in learning natural science and other social sciences. By reviewing several existing applications, we can conclude that material design-based multimedia for sociology lessons have, on average, concluded that their friends could improve student learning outcomes in quantitative and qualitative studies. So with this, we can say that multimedia has no doubt its ability to bridge problems and learning disorders during the pandemic. This follows what we have described in the results section, especially the evidence study that we got from some publications that we reviewed, emphasizing the various aspects of using multimedia to improve student learning outcomes which should be very disturbed by the policy of closing schools but opening classes online.

So with that, we can conclude a series of our findings from the literature in the form of scientific publications from various application contexts; we can say with this that the results are very valid due to the support of scientific facts that are very easy to see. However, the advantages and disadvantages of this data are we

also get the limitations and weaknesses of this study, both from the formulation of data search problems to the final report; of course, we want to get feedback and guidance from parties so that the implementation of future studies to utilize technology to improve student learning outcomes in we can improve the disturbance period in this technique. Hopefully, these findings will help develop multimedia to improve the quality of student learning in times of hope, both during pandemic disturbances and other learning crises.

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