The Implementation of Interactive Multimedia in Encouraging Students' Participation in Distance Learning

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ABSTRACT

The Covid-19 pandemic has necessitated schools to conduct distance learning. Teachers and students do not have face-to-face interactions in the classroom. Schools have implemented policies to reduce instructional hours. Teachers and students have had to adapt to these conditions. Christian education views students as creations of God, made in His image and likeness. Students are created by God with different abilities and uniqueness. Teachers play the role of facilitators in the classroom, preparing interactive teaching materials, methods, and learning media. Students participate by providing responses, asking questions, giving opinions in discussions, and being able to follow instructions and rules during the learning process. During teaching practice, there was an issue of low student participation. The purpose of this writing is to describe the use of interactive learning media that can encourage active student participation during remote learning. The research method used is descriptive qualitative. Interactive learning media has an impact on the level of student participation. The design of interactive multimedia includes features such as images, sound, graphics, video, and animation that can capture students' attention. When combined with good content, this media design can enhance student participation. Teachers need to pay attention to students' needs, uniqueness, and potential. Teachers should learn to use technology in designing interactive learning media. The design of interactive learning media should be done with careful preparation.

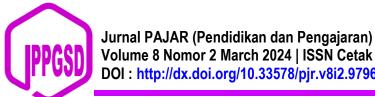*Keywords: interactive multimedia, learning videos, student participation*

INTRODUCTION

Education is the process of forming basic abilities, emotions towards the environment, and fellow humans (Neolaka & Neolaka, 2017). Cara pandang guru tentang manusia yang bersumber pada Kristus, maka akan mempengaruhi cara mereka berinteraksi dengan siswa, apa yang akan mereka ajarkan dan bagaimana mengajarkannya (Saragih et al., 2019). Humans are born with different abilities and interests. Therefore, to be maximized in its formation requires two-way interaction. Two-way interaction means that there is active participation between both parties, in this case, teachers and students. Humans are very active and want to always research, not passive, and do not simply accept certain views before they are empirically proven (Fadlillah, 2017). In learning, students are encouraged to participate in learning such as giving responses, feedback, or questions.. Planning and teaching a class requires teaching materials, appropriate teaching methods, and varied and interactive learning media. In addition, providing opportunities for students to submit responses, feedback, or questions is very important for teachers. Some aspects show active participation from students, including being involved in discussions, punctuality in doing assignments, asking questions, asking opinions, and answering questions(Ranti, 2016).

When the author conducted observation and teaching practice for six weeks in a Christian school in Tomohon, North Sulawesi, several obstacles were found that limited the achievement of the author's expectations. Online learning limits the interaction between teachers and students and makes it difficult for teachers to know student responses during learning. When the author observed the mentor teacher for three meetings, the mentor teacher used video call media through Google Meet and then presented the learning by

lecturing to students. During learning, some students took the initiative to answer the mentor teacher's questions, while other students did not answer, and would answer if appointed by the teacher. After learning, the teacher gave assignments that students had to do and collect at a given time, but some students were still late in collecting the assignments.

When the author teaches, the author uses learning video media. This video contains math learning materials and practice problems for students to work on. The author will ask and open a discussion space in a narrative regarding responses to the video, understanding, and questions that students want to convey in the chat room after students watch the video, but it is very rare for students to ask questions or express opinions. Usually, the author will give time to wait but there are not many active students who give responses. After the author reflected on the learning process that took place as well as feedback from the supervisor teacher, the author realized that with the use of learning media such as videos and video calls with material explanation content, the level of student participation is still lacking, especially during distance learning.

Based on the explanation above, it can be seen that what is expected does not match the reality during teaching practice. Therefore, the author thinks of other strategies that can be more specifically used during distance learning, and allow students to actively participate during the learning process. Appropriate, effective, and highly influential learning media encourages active student participation, especially those that can be used in online learning. Multimedia is an interactive media that can facilitate students in learning the learning material presented, namely initiation, response, and feedback (Nugroho & Surjono, 2019). Interactive learning media can encourage student participation such as initiation, response and feedback during learning.

Christian teachers are facilitators in the classroom who must view students as God's unique creations with different abilities. (Van Brummelen, 2009). Christian teachers need to prepare plans carefully to maximize the potential of students. (Knight, 2009). Based on the explanation above, the problem formulation of this research is how the use of interactive learning media increases students' active participation during distance learning. The purpose is to describe the use of interactive learning media that can encourage the active participation of students during distance learning.

LITERATURE REVIEW

Learning in the classroom requires the participation of both teachers and students. Teachers as individuals who facilitate learning materials, methods, and media, in short, teachers as facilitators in the classroom. Students as individuals who try to shape their mindset and character by using the facilities provided. The participation of both is very important for the development of learning in the future. The activities that occur in the classroom can affect the achievement of learning objectives. The purpose of learning is that students can construct their knowledge through the facilities provided by the teacher for them.

Student participation in learning can be shown by their activeness in the teaching and learning process, attention when the teacher explains in class, and asking what a wedge in their mind is and can communicate reciprocally in learning (Sudarma & Sakdiyah, 2007). Learning that shows active participation from students both mentally and physically is characterized by several aspects such as actively discussing asking opinions and answering questions, active questioning, and punctuality in carrying out instructions and doing assignments (Ranti, 2016). Students must be active in learning and teachers must provide a learning environment that encourages students to be active in this regard participating in learning activities. Students must participate personally to learn something well, so students must hear, see, answer questions, and discuss with others (Gora, 2010).

The depiction of students' willingness to participate in learning can be seen in attending class, doing and submitting assignments, following teacher instructions in class, discussing, and taking initiative in trying to take personal responsibility for their learning (Rika & Patahuddin, 2019). The positive behaviors that show student participation include paying attention to the delivery of material, asking questions, giving opinions in class discussions, following rules and instructions, and doing the tasks given (Dharmayana et al., 2012). Based on the explanation above, it can be concluded that student participation in the classroom is shown by several

aspects such as attendance, giving attention to explanations, engaging in class discussions, giving and answering questions, obeying the rules and instructions given, and paying attention to timeliness in doing and collecting assignments. Being involved in class discussions means actively expressing opinions and arguments about the material being studied. Obeying rules and instructions such as submitting assignments on time. Punctuality is very important due to distance learning conditions that limit learning time to be less. Therefore, students' participation in punctuality is very helpful for effective learning.

Government Regulation No. 1 Article 19 Chapter IV of 2005 concerning Process Standards explains that the learning process is held interactively, inspiring, fun, and challenging, motivating students to participate actively and providing sufficient space for initiative, creativity, and independence following the talents, interests, and physical, and psychological development of students (Machali & Hidayat, 2016). The learning process is expected to provide space for students to actively participate to develop their potential. In line with that, educators need to prepare, run, and evaluate learning to make it more effective.

Things that need to be prepared include teaching materials, methods, and learning media. The media used is expected to be arranged interactively so that it can motivate students to actively participate in learning. Interactive learning multimedia means media developed so that students can learn independently, teachers and students can receive mutual feedback, by combining various forms such as text, sound, video, and animation (Shalikhah, 2017). Interactive multimedia is media used that allows users to learn by using all senses such as seeing, hearing, and doing something in the form of a response or feedback (Lestari, 2020).

Interactive multimedia combines information in the form of text, graphics, images, sound, pictures, and videos with the benefits of overcoming time and space limitations, clarifying messages, providing opportunities for students to participate in self-study, and being presented in a more attractive form (Maharani, 2015). Interactive learning media consists of several elements including text, images, sound, and animation that aim to overcome the limitations of space and time and influence students' attitudes in providing participation during learning (Kurniawan et al., 2018). Interactive multimedia is multimedia that is used so that students can learn by giving their participating in controlling the pace of learning with features that are interesting and able to clarify learning material (Pradana et al., 2020).

Based on the explanation above, interactive multimedia is learning media composed of text, images, sound, images, video, and animation. Interactive multimedia can accommodate various ways of learning because it is designed to be seen, heard, and provide opportunities for students to move or do something. The various features available can increase students' interest in learning. In addition, various other benefits such as effective and efficient use with limited space and time where students can control the pace of learning independently. The advantage for teachers is that they can receive responses and provide feedback on student learning outcomes. Types of interactive multimedia include video-based tutorials, drills and practice or problem-solving with feedback, simulations or real-world experiences, and computer-based games (Dewi, 2015). The communication components in interactive multimedia include users and media based on video presentations, animated videos, and interactive modules (Lestari, 2020). These different types of interactive media should be adapted to the classroom conditions and students' situation in distance learning.

One of the factors that influence students' active participation in terms of thinking, emotions, and social is learning media that includes audio, visual, and supports students to do something (Wibowo, 2016). Therefore, the level of student participation is influenced by the type of learning media used. This means that the teacher as a facilitator in the classroom must prepare a learning media that can encourage active student participation. In line with that, it still has to encourage the achievement of learning objectives.

Learning requires a reciprocal relationship between teachers and students. Both parties should provide their participation. Student participation is shown by several factors including understanding learning objectives, focusing during learning, giving opinions, and being on time (Surya, 2009). Understanding the learning objectives can be seen in the assignment. Student participation is also seen from the focus of paying attention during learning. Giving opinions in discussions can be in the form of questions and answers between peer students or with the teacher. They are being on time in doing instructions and tasks.

Teaching practice carried out in one of the Christian schools in Tomohon obtained several conditions marking the occurrence of problems. The results of teaching reflection explained the lack of participation level of VIII grade students in mathematics subjects during distance learning. This is characterized by most students not actively participating in discussions, being late in following instructions, some students not doing assignments, and still not giving responses in the form of questions and answers. These things mark the lack of student participation (Appendix 8C Reflection Meeting 1, 8C Reflection Meeting 2).

Research conducted at SMA Negeri 1 Bukit Tinggi on sociology learning class X IPS states that the problems that occur in the classroom are the lack of student participation during learning which is characterized by not paying attention, not giving opinions, not doing assignments (Jefri & Junaidi, 2019). Students did not pay attention to the material, instead chatting or even sleeping. The number of students who expressed opinions was 13 out of 35 students and the number of students who did the assignments was 17 out of 35 students. Another study found similar things that mark the lack of student participation, namely behaviors such as not paying attention to explanations, no one asking questions, not answering teacher questions unless appointed, and cheating on friends' work (Artianningsih et al., 2013). Some students chose to draw and did not pay attention to the accounting material being taught. Even though they have been allowed to ask questions, there is still no response from students.

Research at SMAN 1 Muaro Jambi found a low level of student participation characterized by a lack of response to the explanation of the material, a lack of initiative to ask or answer, and in expressing opinions (Khodijah & Hendri, 2016). The research by Subekti at SD Negeri Keputran IV Yogyakarta stated that the lack of student concentration during learning, not asking or answering questions, and not actively following the instructions given marked the low level of student participation (Subekti, 2015).

Interactive multimedia is a combination of images, video, audio, text, and animation, with the benefit of improving the quality of student learning and student learning attitudes in terms of providing participation (Susana, 2019). Teaching practice in one of the Christian schools in Tomohon, the author taught using video learning media. The aim was to overcome time and space limitations during distance learning. The video consists of a powerpoint show combined with an audio explanation of the material from the author. Some features were added such as graphics and images to attract students' interest and focus in learning. There is a task at the end of the learning video that students must do with a certain time limit as a form of student participation and to see the achievement of learning objectives. The author also opens a discussion and question and answer forum on Google Classroom in the form of text. The author's goal is for students to participate in learning by joining discussions, asking questions, and answering.

Related research states the results of the use of interactive media in the form of learning videos can affect the attitude of student participation, students can arrange videos as needed, overcome space and time limitations, provide even messages, and are very good at explaining the process (Irawan et al., 2018). This research was conducted at SMA Negeri 1 Dampit in the biology subject. The policy of reducing class hours in the second semester made the teacher have to find a good way to deliver in a limited time. Learning is then carried out using learning videos and the results are students can see, hear, and understand the material and then give opinions on the results of critical thinking. Another study on the development of learning video media based on Virtual Field Trip (VFT) with action steps to determine learning objectives and encourage student participation stated effective results to be used in the learning process (Melinda et al., 2018). The use of printed books and worksheets previously made students bored and passive in the classroom. The application of learning video media based on Virtual Field Trip (VFT) invites students' curiosity and gives students the space to learn with different experiences.

METHOD

This research was conducted in Field Experience 2 in class VIII in Mathematics in one of the schools in Tomohon, North Sulawesi. The time used was six weeks. The research method that the author used was descriptive qualitative. The qualitative descriptive method is a type of research method that pours writing in the form of narration (Anggito & Setiawan, 2018).

The procedures used during field experience practice are observation, implementation of learning and then evaluation. Data from the portfolio became the source of instruments in the form of lesson plans, observation sheets, mentor feedback sheets, and reflections. The data was analyzed descriptively.

RESULTS AND DISCUSSION

The author found low participation during teaching practice. This is characterized by less than ten students actively discussing, most students being late in following instructions, some students not working on assignments, and still less than ten giving a response in the form of questions and answers. This condition was experienced by the author when teaching online. Distance learning cuts formal teaching and learning hours between teachers and students to one hour per meeting.
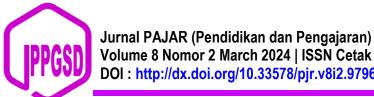
The teacher's participation in learning is to prepare the right teaching materials, methods, and media. The media designed by the teacher is expected to increase the active participation of students. Interactive multimedia is learning media that is composed of text, images, sounds, images, videos, and animations. These features are available to increase students' participation in learning. Interactive media can overcome time and space limitations, especially in distance learning. Teachers can design the response and feedback section between students and teachers. It can motivate students with rewards in the form of animations or moving images.

In teaching practice in class VIII, teachers use interactive media in the form of learning videos. The video content contains an explanation of the material explained through audio that has been recorded and connected, besides that, graphs and images are also added. At the end of the video, some questions must be asked by students. Teachers also use Google Classroom media so that after students watch the next learning video, they can discuss and ask questions in Google Classroom..

The use of video media is useful to overcome time constraints during distance learning. Setting the duration of the video can be done by the teacher since the media preparation before teaching. Learning videos can help students control their learning pace because they can repeat or stop the video. The classroom teaching experience using interactive media based on learning videos found that the class experienced an increase in student participation to more than half of the class population becoming more active in discussions, submitting answers and questions, as well as being on time in following instructions and collecting assignments (Appendix Reflection 8C Meeting 2). Some students were unable to follow instructions and activities on time due to poor network constraints. In line with that, Melinda & Tammu (2023) in their research included indicators of student participation that can be seen when doing assignments. According to them, in distance learning teachers need to remind students to complete their assignments.

Based on the feedback from the mentor teachers, the shortcoming of the learning video is that it does not include backsound to make it more interesting (Appendix 9C Mentor Feedback). The results of Putri's research (2022) confirmed that audio-visual media affects children's participation because it can increase students' interest in learning. Other shortcomings are technical constraints such as out-of-sync sound and picture and inaudible audio explanation on the recording (Appendix Feedback 8C Meeting 1, 8C Meeting 2). Technical shortcomings can be overcome through media preparation. Therefore, good preparation of materials and media is necessary. Further research on the development of learning videos at SDN Sokoiber 1 Jombang states that the design of interactive learning media based on learning videos includes storyboards, collecting images, recording and filling in sound, and creating effective animations to increase student understanding in order to achieve learning goals (Hidayati et al., 2019). Researchers developed a learning video-based interactive media design using several features such as text, images, audio, and animation which were then edited.

Research conducted by Kuncahyono & Sudarmiatin (2018) states that interactive multimedia with digital combinations in the form of text, images, graphics, sound, video, and animation can encourage student participation. Other studies state similar things that the use of interactive multimedia in the form of text, graphics, images, audio, and visuals is very good at increasing active student participation. (Wulandari et al., 2017). The results of Kurniawati, Setyosari, and Kuswandi's research state that the use of interactive media in

the form of animated videos with image and sound features can encourage student participation in terms of completing assignments and discussions in class (Kurniawati et al., 2019). Based on the results of previous research, it is concluded that the use of interactive multimedia has a good effect in encouraging the active participation of students during learning. The interactive multimedia used includes several elements such as text, images, graphics, audio, visual, animation, video, and contains content that encourages students to do something. This means that the media must be well organized by the teacher. Teachers as facilitators for students in the classroom are responsible for designing various interactive media to encourage active participation from students.

Student participation can be seen from the focus during learning, actively expressing opinions, asking questions, answering, and punctuality. Teachers need to design the right media to increase student participation. If previously the author opened a discussion and question and answer room in a narrative on Google Classroom, the result was the attitude of students who showed a low level of participation. Then a different design is needed that encourages an increase in the level of student participation.

Distance learning was conducted as an alternative during the global pandemic due to the Covid-19 virus outbreak. Teachers and students learn to adapt to learning conditions that are not face-to-face. Teachers work hard in preparing learning alternatives that suit the existing conditions. Preparation in terms of teaching materials, methods, and media. Learning utilizes a lot of digital technology today. Technology is well-developed and has become a necessity for everyone in the modern era of globalization for more effective things (Anditya et al., 2018). One of the opportunities in the digital era is that it can facilitate communication without distance limitations (Prijanto, 2017). The use of technology in learning has the potential to increase student motivation, interaction skills, improve student abilities, and make students active and able to provide their participate in learning (Kembuan & Irwansyah, 2019). Students also have to adapt to the online learning system. There is no face-to-face meeting, so students must be more active and independent in learning. Teachers must prepare media that supports controlled learning but still meets the needs of students.
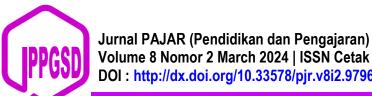
Student participation is ideally characterized by paying attention to explanations, actively asking and answering questions, expressing opinions in discussions, obeying the rules and instructions given, and paying attention to timeliness in carrying out instructions and collecting assignments. God created man as a similar person and in the same image as Him, who is then given the responsibility to cultivate the earth (Hoekema, 2008). Being in the image and likeness of God means that humans have reason, power over other creations, free will, and the moral qualities of love and justice (Bavinck, 2011). As the image and likeness of God who is given ratio, power, will, and morals by God, humans are responsible for carrying out God's mandate to manage the earth. God created humans with uniqueness and different potentials to be used in managing and ruling the earth by being responsible in their respective fields of expertise (Knight, 2009).

The media design should be attractive and contain clear instructions. Interactive multimedia with features such as sound, text, graphics, images, video, and animation can attract interest and increase student participation. If these features are connected and then designed to include questions, content where students must give their responses, feedback from the teacher, and praise in the form of animations, images, and backsounds can encourage students to participate more in learning.

Interactive multimedia provides benefits in its use during distance learning. Teachers and students are helped in receiving responses and feedback, and long distances between teachers and students can be overcome due to limited teaching and learning time according to school policies can also be overcome.

CONCLUSIONS AND RECOMMENDATION
Based on the discussion, it can be concluded that the application of interactive multimedia can encourage student participation during distance learning. Interactive multimedia has features such as sound, text, graphics, images, video, and animation that can attract students' attention during learning. Guiding questions and feedback designed in the interactive multimedia content can increase students' active participation in discussing, expressing opinions, giving, and answering questions. Clear instructions can encourage students' timeliness in carrying out and collecting assignments.

Interactive multimedia design by combining interesting features such as sound, text, graphics, images, video, and animation can attract students' interest. When these features are combined with clear content, instructions, questions, and feedback from the teacher, it can encourage increased student participation in learning.

REFERENCES

Anditya, N. H., Panggabean, M. S., & Hidayat, D. (2018). The acts of academic dishonesty in a Christian school. *JOHME: Journal of Holistic Mathematics Education*, *2*(1), 1–11. https://doi.org/10.19166/johme.v2i1.952

Anggito, A., & Setiawan, J. (2018). *Metodologi penelitian kualitatif*. CV Jejak (Jejak Publisher).

Artianningsih, A., Witurachmi, S., & Sumaryati, S. (2013). Penerapan Mind Mapping dengan Media Prezi untuk Meningkatkan Prestasi dan Partisipasi Belajar Akuntansi. *Jurnal Pendidikan Ekonomi Universitas Sebelas Maret*, *2*(1), 13517. https://www.neliti.com/publications/13517/penerapan-mind-mapping-dengan-media-prezi-untuk-meningkatkan-prestasi-dan-partis

Bavinck, H. (2011). *Reformed dogmatics: Abridged in one volume*. Baker Academic.

Dewi, T. A. (2015). Implementasi Multimedia Interaktif Dalam Pembelajaran Ekonomi di Sekolah. *PROMOSI (Jurnal Pendidikan Ekonomi)*, *3*(2). https://doi.org/10.24127/ja.v3i2.328

Dharmayana, I. W., Kumara, A., & Wirawan, Y. G. (2012). Keterlibatan siswa (student engagement) sebagai mediator kompetensi emosi dan prestasi akademik. *Jurnal Psikologi*, *39*(1), 76–94. https://doi.org/10.22146/jpsi.6968

Fadlillah, M. (2017). Aliran progresivisme dalam pendidikan di Indonesia. *Jurnal Dimensi Pendidikan Dan Pembelajaran*, *5*(1), 17–24. https://doi.org/10.24269/dpp.v5i1.322

Gora, W. (2010). Pakematik: Strategi pembelajaran inovatif berbasis TIK. *Jakarta: PT Alex Media Komputindo*.

Hidayati, A. S., Adi, E. P., & Praherdhiono, H. (2019). Pengembangan media video pembelajaran untuk meningkatkan pemahaman materi gaya kelas IV di SDN Sukoiber 1 Jombang. *JINOTEP (Jurnal Inovasi Dan Teknologi Pembelajaran): Kajian Dan Riset Dalam Teknologi Pembelajaran*, *6*(1), 45–50. https://doi.org/10.17977/um031v6i12019p045

Hoekema, A. A. (2008). *Manusia: Ciptaan Menurut Gambar Allah*. Surabaya, Indonesia: Momentum.

Irawan, A., Sihkabuden, S., & Sulthoni, S. (2018). Pengembangan Media Video Pembelajaran Biologi Pembuatan Tempe dan Yoghurt. *Jurnal Inovasi Dan Teknologi Pembelajaran*, *3*(2), 105–109. https://doi.org/10.17977/um031v6i12019p045

Jefri, J., & Junaidi, J. (2019). Penerapan Model Talking Stick Untuk Meningkatkan Partisipasi Belajar Siswa Pada Pembelajaran Sosiologi Kelas X IPS 1 SMA Negeri 3 Bukittinggi 2019. *Jurnal Perspektif: Jurnal Kajian Sosiologi Dan Pendidikan*, *2*(3), 125–132. https://doi.org/10.24036/perspektif.v2i3.74

Kembuan, E. M., & Irwansyah, I. (2019). Peran teknologi audio-visual dalam pengembangan pembelajaran anak di Sekolah Dasar Karya Anak Bangsa di Manado [The role of technology and audio-visual media in learning development at Anak Bangsa Elementary School, Manado]. *Polyglot: Jurnal Ilmiah*, *15*(1), 73–92. https://doi.org/10.19166/pji.v15i1.1311

Khodijah, D. N., & Hendri, M. (2016). Upaya Meningkatkan Partisipasi dan Hasil Belajar Dengan Menggunakan Model Pembelajaran Kooperatif Tipe Think Pair Share di Kelas XI MIA7 SMAN 1 Muaro Jambi. *Edufisika: Jurnal Pendidikan Fisika*, *1*(2), 46–54. https://doi.org/\10.22437/edufisika.v1i2.3429

Knight, G. R. (2009). Filsafat & pendidikan: Sebuah pendahuluan dari perspektif Kristen. *Jakarta: Universitas Pelita Harapan*.

Kuncahyono, K., & Sudarmiatin, S. (2018). Pengembangan multimedia interaktif pada pembelajaran tematik indahnya negeriku untuk siswa kelas IV sekolah dasar. *Ilmu Pendidikan: Jurnal Kajian Teori Dan Praktik Kependidikan*, *3*(2), 156–163. http://journal2.um.ac.id/index.php/jktpk/article/view/6292/0

Kurniawan, D. C., Kuswandi, D., & Husna, A. (2018). Pengembangan media video pembelajaran pada mata pelajaran IPA tentang sifat dan perubahan wujud benda kelas IV SDN Merjosari 5 Malang. *Jurnal*

Inovasi Dan Teknologi Pembelajaran, *4*(2), 119–125. https://doi.org/http://dx.doi.org/10.17977/um031v4i22018p119

Kurniawati, T., Setyosari, P., & Kuswandi, D. (2019). Strategi Pembelajaran Nilai Karakter Mandiri Berbantuan Video Animasi Pembelajaran untuk PAUD. *JINOTEP (Jurnal Inovasi Dan Teknologi Pembelajaran): Kajian Dan Riset Dalam Teknologi Pembelajaran*, *6*(1), 30–38. https://doi.org/10.17977/um031v6i12019p030

Lestari, N. (2020). *Media Pembelajaran Berbasis Multimedia Interaktif*. Lakeisha.

Machali, I., & Hidayat, A. (2016). *The Handbook of Education Management Teori dan praktik pengelolaan sekolah/madrasah di Indonesia* (Vol. 1, Issue Cet. 1). Prenadamedia Group.

Maharani, Y. (2015). Efektivitas multimedia pembelajaran interaktif berbasis kurikulum 2013. *Indonesian Journal of Curriculum and Educational Technology Studies*, *3*(1), 31–40. https://www.learntechlib.org/p/209296/

Manzilati, A. (2017). *Metodologi penelitian kualitatif: Paradigma, metode, dan aplikasi*. Universitas Brawijaya Press.

Melinda, T.M., & Tammu, R.M. (2023). Implementation of Study in Group Study to Optimize the Eleventh-Grade Science Students' Participation in Learning. *Jurnal PAJAR (Pendidikan dan Pengajaran)*, 7(6), 1136-1146. DOI: http://dx.doi.org/10.33578/pjr.v7i6.9580.

Melinda, V. A., Degeng, N. S., & Kuswandi, D. (2018). Pengembangan Media Video Pembelajaran Ips Berbasis Virtual Field Trip (Vft) Pada Kelas V SDN Kratonkencong. *Jurnal Inovasi Dan Teknologi Pembelajaran (JINOTEP): Kajian Dan Riset Dalam Teknologi Pembelajaran*, *3*(2), 158–164. https://doi.org/10.17977/um031v3i22017p158

Neolaka, A., & Neolaka, G. A. A. (2017). Landasan pendidikan dasar pengenalan diri sendiri menuju perubahan hidup. *Depok: Kencana*.

Nugroho, I. A., & Surjono, H. D. (2019). Pengembangan multimedia pembelajaran interaktif berbasis video materi sikap cinta tanah air dan peduli lingkungan. *Jurnal Inovasi Teknologi Pendidikan*, *6*(1), 29–41. https://doi.org/10.21831/jitp.v6i1.15911

Pradana, I. B., Setyosari, P., & Sulthoni, S. (2020). Pengembangan multimedia pembelajaran interaktif berbasis android pada mata pelajaran ilmu pengetahuan alam materi cahaya. *Jurnal Inovasi Dan Teknologi Pembelajaran*, *7*(1), 26–32. https://doi.org/10.17977/um031v7i12020p026

Prijanto, J. H. (2017). Panggilan Sebagai Guru Kristen Wujud Amanat Agung Yesus Kristus Dalam Penanaman Nilai Alkitabiah Pada Era Digital [A Christian Teacher's Calling in Response to Jesus Christ's Great Commission in Instilling Biblical Values in a Digital Era]. *Polyglot: Jurnal Ilmiah*, *13*(2), 99–108. https://doi.org/10.19166/pji.v13i2.325

Putri, A. A. A. V. W. (2020). Project Based Learning Berbantuan Media Audio Visual Meningkatkan Partisipasi Belajar Anak. Journal for Lesson and Learning Studies, 3(3), 388–396. https://doi.org/10.23887/jlls.v3i3.29412

Ranti, M. G. (2016). Partisipasi Siswa Pada Pembelajaran Matematika SMA Menggunakan Pendekatan Ctl (Contextual Teaching and Learning). *Math Didactic: Jurnal Pendidikan Matematika*, *2*(1), 41–46. https://doi.org/10.33654/math.v2i1.26

Rika, B., & Patahuddin, S. (2019). Investigasi tingkat keterlibatan matematika siswa melalui analisis rancangan pelaksanaan pembelajaran ELPSA dan implementasinya di kelas. *Jurnal Pendidikan Matematika*, *13*(1), 55–77. https://doi.org/10.22342/jpm.13.1.6326.55-72

Saragih, M. J., Hidayat, D., & Tamba, K. P. (2019). Implikasi pendidikan yang berpusat pada Kristus dalam kelas matematika [The implications of Christ-center education for mathematics classes]. *JOHME: Journal of Holistic Mathematics Education*, *2*(2), 97–107. https://doi.org/10.19166/johme.v2i2.1695

Shalikhah, N. D. (2017). Media pembelajaran interaktif lectora inspire sebagai inovasi pembelajaran. *Warta Lpm*, *20*(1), 9–16. https://doi.org/10.23917/warta.v19i3.2842

Subekti, T. (2015). Penggunaan media audio elektronika wireless microphone untuk meningkatkan partisipasi siswa SD pada pembelajaran Bahasa Indonesia. *TRANSFORMASI*, *11*(2). https://ejournal.stmikbinapatria.ac.id/index.php/JT/article/view/64/0

Sudarma, K., & Sakdiyah, E. M. (2007). Pengaruh motivasi, disiplin, dan partisipasi siswa dalam pembelajaran terhadap prestasi belajar akuntansi. *Dinamika Pendidikan*, *2*(2). https://doi.org/10.15294/dp.v2i2.446

Surya, H. (2009). *Menjadi manusia pembelajaran*. Elex Media Komputindo.

Susana, A. (2019). *Pembelajaran discovery learning menggunakan multimedia aktif*. Tata Akbar.

Tamba, K. P., Saragih, M. J., & Listiani, T. (2018). Learning trajectory of quadratic inequality. *JOHME: Journal of Holistic Mathematics Education*, *2*(1), 12–21. https://doi.org/10.19166/johme.v2i1.1202

Van Brummelen, H. (2009). Berjalan dengan Tuhan di dalam kelas. *Universitas Pelita Harapan Press*.

Wibowo, N. (2016). Upaya peningkatan keaktifan siswa melalui pembelajaran berdasarkan gaya belajar di SMK Negeri 1 Saptosari. *Elinvo (Electronics, Informatics, and Vocational Education)*, *1*(2), 128–139. https://doi.org/10.21831/elinvo.v1i2.10621

Wulandari, R., Susilo, H., & Kuswandi, D. (2017). Penggunaan multimedia interaktif bermuatan game edukasi untuk meningkatkan aktivitas dan hasil belajar siswa sekolah dasar. *Jurnal Pendidikan: Teori, Penelitian, Dan Pengembangan*, *2*(8), 1024–1029. https://doi.org/10.17977/jptpp.v2i8.9759