Journal for Lesson and Learning Studies
Volume 6, Number 2, 2023 pp. 276-286
P-ISSN: 2615-6148 E-ISSN: 2615-7330
Open Access: https://doi.org/10.23887/jlls.v6i2.62053

Design of Interactive PowerPoint Media on CTL Model in Primary School

Siti Dewi Maharani[1*], Mazda Leva Okta Safitri[2], Fatoni Agus Setiawan[3]

[1,2,3] Department of Primary School Teacher Education, Faculty of Teacher Training and Education, Sriwijaya University, Indonesia

ARTICLE INFO

Article history:
Received March 07, 2023
Accepted June 09, 2023
Available online July 25, 2023

Kata Kunci:
Media interaktif, CTL, powerpoint, sekolah dasar

Keywords:
Interactive media, CTL, powerpoint, primary school

ABSTRAK

Salah satu tugas guru adalah mencari cara agar siswa dapat memahami konsep pelajaran secara utuh tanpa mengalami kesulitan. Penelitian ini bertujuan untuk menghasilkan media PowerPoint hyperlink interaktif berdasarkan model pembelajaran kontekstual yang layak untuk digunakan dan untuk mengetahui efektivitasnya. Jenis penelitian ini adalah Research and Development (R&D) dengan model 3D+I (Define, Design, Develop, dan Implementation). Pengumpulan data dalam penelitian ini menggunakan walkthrough, wawancara, dan kuesioner. Kajian ini melibatkan penilaian ahli materi, media, dan desain. Teknik analisis data menggunakan analisis deskriptif kualitatif dan kuantitatif. Hasil penilaian validasi ahli media dikategorikan "sangat layak". Hasil penilaian validasi dari ahli desain dikategorikan "sangat layak". Hasil penilaian validasi dari ahli materi dikategorikan "sangat layak". Pada uji coba lapangan, hasil penilaian siswa dikategorikan "sangat layak". Berdasarkan hasil penelitian ini, dapat diketahui bahwa media PowerPoint hyperlink interaktif berbasis model pembelajaran kontekstual layak dan efektif untuk digunakan. Hasil penelitian ini memberikan kontribusi bahwa media PowerPoint hyperlink interaktif layak dan efektif untuk digunakan. Produk yang dikembangkan juga memberikan berbagai inovasi media pembelajaran di dalam kelas agar siswa tertarik untuk mengikuti kegiatan pembelajaran.

ABSTRACT

One of the teacher's tasks is to find ways for students to understand the concept of the lesson without experiencing difficulties. This study aims to produce interactive hyperlink PowerPoint media based on contextual learning models that are feasible to use and to determine their effectiveness. This type of research is Research and Development (R&D) with a 3D+I model (Define, Design, Develop, and Implementation). They collect data in this study using walkthroughs, interviews, and questionnaires. This study involves the assessment of material, media, and design experts. Data analysis techniques using qualitative and quantitative descriptive analysis. The media expert validation assessment results were categorized as "very feasible". The results of the validation assessment from design experts were categorized as "very feasible". The results of the validation assessment from material experts were categorized as "very feasible". In the field trial, the student assessment results were categorized as "very feasible". Based on the results of this study, interactive hyperlink PowerPoint media based on contextual learning models is feasible and effective to use. The results of this study contribute that interactive hyperlink PowerPoint media is feasible and effective to use. The products developed also provide various innovative learning media in the classroom so that students are interested in participating in learning activities.

1. INTRODUCTION

Technology is something that cannot be avoided in the progress of this life because technological progress will run by the progress of science (Nurfadilah et al., 2022; Handayani et al., 2023). Technology is used to facilitate work, including in the field of education (Lestari, 2018). In the world of education, the development of information technology began to be felt to have a positive impact because the development of the information technology world of education began to show significant changes (Aspi & Syahrani, 2022; Adisel & Gawdy Prananosa, 2020; Latip, 2020). Educational technology is a discipline of study, theory, means, and practice to facilitate and complete the educational process and also as an

Corresponding author
*E-mail addresses: sitidewimaharani@fkip.unsri.ac.id (Siti Dewi Maharani)

integral process in analyzing problems, finding solutions, finding, and obtaining problem-solving related to all aspects of human learning. by using various learning resources and tools that support learning and education aspects (Anggraeny et al., 2020). The technological development of the times has an impact on education participants, this is what encourages education in Indonesia to be more innovative and creative so as not to be left behind in the global world. Advances in information and communication technology should be able to provide a positive flow to the world of education if used properly (Farida et al., 2019; Utami & Muqowim, 2020). Learning media is part of technology that has an important role in the learning process. Interesting and interactive learning media is needed so that the learning process takes place optimally because it can foster student interest and motivation to learn (Syahroni et al., 2020; Anitasari & Dyah Utami, 2022; Anggraeni et al., 2021). Interactivity is perhaps the most distinguishable feature of modern media technology that allows users to take several actions that control information flow instead of passively receiving it, providing various interaction techniques—e.g., users can swipe, zoom, and mouse over the content on a website and click through several layers of hyperlinks to open hidden content (Oh & Sundar, 2016). PowerPoint is one of the technology tools that used teachers as the media of learning (Aziz et al., 2020; Mudasih & Subroto, 2019; Rahiem, 2021). PowerPoint is a learning media that is quite easy to make and apply to students regarding the learning materials that will be delivered. When used effectively, PowerPoint can be combined with tables, illustrations, radiologic and other images, sound, and video to enhance the learning process (Collins, 2004; Awan, 2022; Sari et al., 2023). One of its features is hyperlinks which are used to create shortcuts to other slides in the same document. The hyperlink can turn a passive learning experience into an active one, students will better remember learning points and might even find the experience more enjoyable (Stacy & Thiel, 2017; Mutanaffisah et al., 2021; Ika et al., 2021). Based on the research of Elpira & Ghufron (2015), known that it is proven that learning using PowerPoint media can significantly affect student interest and learning outcomes. The research of Nugraha et al. (2021), also revealed that the use of PowerPoint media was proven to be effective in learning triangular area material to increase the learning interest of Class IV Primary School students.

The use of models in learning has a very significant role in determining the success of learning because learning will be more directed and interesting and can organize the class into an active and fun class (Bali, 2020). Many learning models can be used in the learning process, one of which is the contextual teaching and learning model. Contextual Teaching and Learning is a learning model that directs academic material to students' daily lives (Soleha et al., 2021; Budiman et al., 2021). The use of contextual teaching and learning makes students more interested and motivated in learning because students see the real-world relevance of what they are learning (Smith, 2010; Hakim et al., 2020). Research from Yulia et al. (2019), shows that there are significant differences in understanding concepts between students facilitated by contextual learning modules and learning with contextual settings because by applying the CTL learning model students will be able to relate the lessons presented to real-life to further strengthen students' involvement in the material taught. Research results from Hasani (2016), also show that students with high critical thinking skills in the contextual model get better scores than students in non-contextual learning.

Based on interviews with classroom teachers, it is known that some or some students think that learning theme 9 is rich in my country, and sub-theme 1 is considered less interesting. Therefore, teachers need to find ways how students can understand the concept as a whole, without experiencing difficulties. This shows that the learning of theme 9 of the wealth of my country sub-theme 1 needs to be improved to improve understanding of concepts in learning. Misconceptions of knowledge when conveyed at one level of education can result in basic misunderstandings at a higher level of education (Novitasari, 2016; Wahdaniah et al., 2021). Students expect interactivity as an important component of instruction, and technology makes it possible to provide them with anytime, anywhere content and interaction (Maggio et al., 2012; Jaelani et al., 2020). Utilization of interactive hyperlink PowerPoint media through this contextual teaching and learning model as a center for student activities that allow teachers to examine and correct problems experienced by students, and communicate both individually and in groups. The results of tests and questionnaire show that incorporating PowerPoint multimedia on demand into the teaching and learning process is recommended in this study because it increases motivation and effectiveness of learning and retention for participant (Chen, 2012; Virgiawan & Harimurti, 2021). Based on previous interviews and research, the aim of this research is to develop interactive PowerPoint hyperlinks based on contextual learning models.

2. METHOD

The type of development research is Research & Development (R&D). The resulting product will be assessed by material, media, and design experts. In data collection, the research subjects were students

of class IV B. Later on, students as subjects of data collection will be tested on a limited basis for 9 students using the product developed, namely interactive hyperlink PowerPoint media based on contextual teaching and learning models on the theme of 9 the richness of my country. sub-theme 1 of the wealth of energy resources in Indonesia. In this development research, the researcher takes the 3D + I (Define, Design, Develop, and Implementation) model. In the define stage, the researcher conducts a needs analysis and identifies student abilities, resources, and facilities at the school. Next, in the design stage, the researcher collects the materials to be used in the form of pictures and videos and makes an initial design. Furthermore, at the development stage, researchers carry out product development and product validation. Finally, at the implementation stage, researchers conducted field trials and concluded. Collecting data in this study using walkthroughs, interviews, and questionnaires. To carry out product trials, the product must be declared eligible. Learning media is said to be valid if it meets the requirements (Izhar et al., 2022; Mutia & Mulyawati, 2021).The eligibility criteria and product effectiveness will be presented in Table 1.

Table 1. Product Eligibility and Effectiveness Criteria

No	Result (%)	Category
1	76 – 100	Very Feasible/Effective
2	56 – 75	Very Feasible/Effective
3	40 – 55	Very Feasible/Effective
4	0 – 39	Very Feasible/Effective

(Raibowo et al., 2020)

Based on the assessments of material, media, and design experts, researchers will find out whether interactive hyperlink PowerPoint media based on the contextual teaching and learning model is feasible or not and the value of the trial phase researchers will determine the level of effectiveness of interactive hyperlink PowerPoint media based on contextual teaching models and learning.

3. RESULT AND DISCUSSION

Result

In the define stage, the researcher conducts need analysis and data collection. Based on the results of needs analysis and data collection, it is concluded that the development of interactive hyperlink PowerPoint media based on the contextual teaching and learning model is very much needed in the learning process. Based on interviews with classroom teachers, it is known that some or some students think that learning theme 9 is rich in my country, and sub-theme 1 is considered less interesting. Therefore, teachers need to find ways how students can understand the concept as a whole, without experiencing difficulties. This shows that the learning of theme 9 of the wealth of my country sub-theme 1 needs to be improved to improve understanding of concepts in learning. The classroom teacher revealed that the development of this model-based media will increase the attractiveness of students in the learning process while adding new information from the material being studied and learning will be more effective and efficient in its implementation.

At the design stage, the researcher collects any media materials that will be used. The media materials that the researcher uses are videos and pictures. Adding images to interactive media is a great way to connect visual learners and visual interest to your interactive media (Osmani & Sánchez, 2017; Limin & Kundiman, 2023). Video in media development is useful for clarifying and deepening the material being studied. The image is used as an ingredient in making the display background on the product to be made. The pictures and videos taken have been adapted to the learning materials and the characteristics of the pictures and videos for children. The images and videos collected are part of the initial design in this study which aims to create various supporting elements as a necessity in the product being developed. The audio used is the researcher's voice, which the researcher records using a smartphone. The recording is done in stages starting from the initial slide to the end of the product. The flowchart is a method to describe the stages of problem-solving by presenting certain symbols that are easy to understand (Andika, 2012). There are 7 main menus in interactive hyperlink PowerPoint media based on a contextual learning model that was developed including profiles, evaluations, materials, indicators, objectives, basic competencies, and main competencies. Learning materials consist of 2 subjects, namely SBdP and Social Studies. Each main menu refers to 1 Material. Interactive hyperlink PowerPoint media based on the contextual teaching and learning model that was developed has 42 slides that can be used for 6 meetings.

At the development stage, the researcher made a product in the form of interactive hyperlink PowerPoint media based on a contextual teaching and learning model. The development results are presented in Figure 1.

Figure 1. Development Results Snippets

In the product developed, there are 2 subjects, namely IPS and SBDP. Product development in each subject has been by the basic competencies, indicators, and purpose of each subject. Evaluation is also given to measure the level of understanding of each subject. After the development of the media, the researchers then validated the products that had been produced. Validation is carried out by media, material, and design experts. Expert validation was carried out to determine whether the interactive hyperlink PowerPoint media product based on the contextual teaching and learning model developed was feasible or not so that it could be used in class IV by students. Assessments made by media and design experts are about the opening display, sound quality, image quality, video quality, color, text and technological advances. The assessment carried out by material experts is about the suitability of basic competencies, indicators, objectives, and learning materials. Based on the number of calculations of the three aspects assessed by the validator, namely media, design and material, the results of the validation table for both experts and practitioners showed in Table 2.

Table 2. Expert Assessment Results

Expert	Percentage	Category
Media	88,57%	Very Feasible
Design	90,00%	Very Feasible
Material	92,50%	Very Feasible

The acquisition of percentage of media validation assessments by experts is 88.57% in the very feasible category, while the percentage of learning design validation assessments is 90.00% in the very feasible category and finally, the percentage of material validation assessments is 92.50% in the very feasible category. Based on the validator's assessment of the developed media products, the media made are valid and suitable for use in the learning process in the classroom. The product is categorized as valid if the average percentage of the questionnaire given to the material, media, and design expert is at least 80% (Rulyansah & Sholihati, 2018; Mahardika & Siswoyo, 2021). However, there are several revisions provided by experts. The revisions and improvements made by the researcher showed in Figure 2.

Figure 2. Revised Results

The revision given is in the form of discrepancies or errors in writing and animation that are not appropriate. After the researcher revises the product that has been suggested by the validator, the product that the researcher develops is feasible or valid to be used in the learning process, especially on the specified theme, namely theme 9 of the richness of my country, sub-theme 1 of the wealth of energy resources in Indonesia. In this field trial, the researchers took a sample of 9 students of class IV B. In knowing the effectiveness of the students, the researchers experimented by teaching the interactive PowerPoint hyperlink media that the researchers made to the students. The following are the results of field trials at the implementation stage. It is emphasized that a product is categorized as effective if the average percentage of the questionnaire given reaches a minimum value of 80% (Rulyansah & Sholihati, 2018; Mahardika & Siswoyo, 2021). Based on this, it was found that the results of the student respondents after the trial was carried out, obtained an average of 4.29 or 86%. Assesment Result showed in Figure 3.

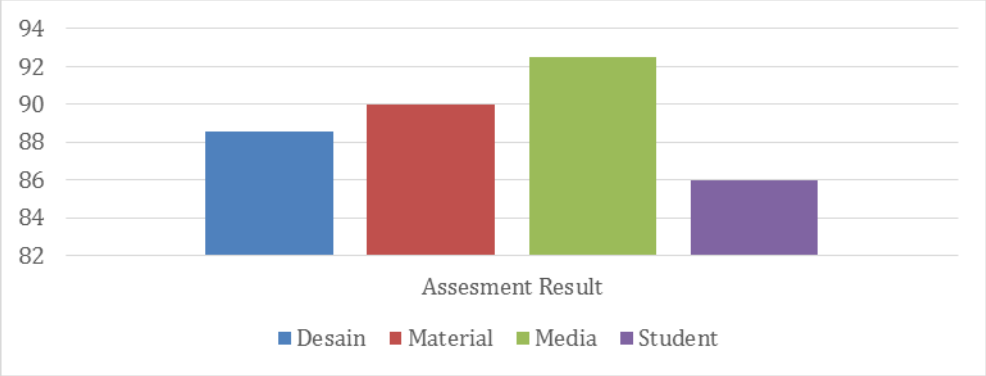

Figure 3. Assessment Result

Based on the results of the researcher's observations, it is known that students are interested and enthusiastic in learning. So with the acquisition of these data, it can be concluded that the use of interactive hyperlink PowerPoint media based on the contextual teaching and learning model is included in the very effective criteria. This is evidenced by the enthusiasm of students in using PowerPoint as a means of learning for students.

Discussion

The development of interactive hyperlink PowerPoint media based on the contextual teaching and learning model applied in this study is an effort to improve the learning process of students to make it

more interesting and effective. Effective learning is characterized by its emphasis on active student empowerment (Fakhrurrazi, 2018; Asnawi et al., 2023). Effective learning is a process of change in a person's cognitive, behavioral and psychomotor from the learning outcomes he gets from his own experience and from his environment that brings certain effects, meanings and benefits (Yusuf, 2018; Luamba & Tandapai, 2022; Kartini et al., 2022). The use of hyperlinks in PowerPoint provides opportunities for students to do activities that influence student behavior and psychomotor to be more enthusiastic about learning. The validation stage that has been carried out on the expert review, shows that the PowerPoint media is valid or feasible to use. The acquisition the percentage of media validation assessments by experts, namely 88.57%, while the percentage of learning design validation assessments is 90.00% and finally the percentage of material validation assessments is 92.50%. By using PowerPoint to its full potential, it is possible to guide student interactions while still allowing student choice and multiple examples (Dunbar, 2017; Mariana et al., 2021). The use of PowerPoint helps teachers in delivering learning materials to students easily so that the teaching and learning process is more effective and efficient (Afandi, 2017; Amalina, 2019).

At the field trial stage, the results were obtained based on filling out the questionnaires that the researchers gave to students after the trials gave good results. The percentage of trial results obtained is 86% which can be categorized as very effective. The use of Hyperlink power points makes students focus and happy during learning, especially students who are reluctant to share their insights or arguments in class and seem more willing to explain their choices, arguments, or experiences during class activities and after (Meibauer & Aagaard Nøhr, 2017; Pramesti et al., 2021). An integrative thematic approach using hyperlink PowerPoint media carried out by teachers on students has increased and it can be said that this media can improve student learning outcomes (Hakim, 2021). The use of hyperlinks in PowerPoint provides opportunities for students to have many activities in class so that students who are usually silent become interested in participating in learning. Learning through multimedia presentations with this hyperlink function can help teachers and students easily, cheaply, simply, impressively, gives the impression of a real experience from the text, and grows character (Charlina & Rasdana, 2022; Pendi, 2020). Learning media using CTL can help in the delivery of more optimal material and create a fun learning process and arouse student learning enthusiasm (Purnianingrum & Manuaba, 2022).

The research showed that the use of PowerPoint media can increase the interest and learning achievement of student (Muflikah et al., 2022; Saputri & Estiastuti, 2018). Other research also shows that the use of PowerPoint media makes learning interest increase and is in the high category (Susanti et al., 2020). The memory retention of students who are taught using learning video media is better than students who are taught using PowerPoint media (Gowasa et al., 2019). This is in line with the results of the study which based on the results of observations, students showed enthusiasm for using PowerPoint media as a means of learning for students. To achieve student involvement to be effective and efficient in learning requires various supports in the teaching and learning process. For example, the nature of students, teachers, learning situations, learning programs, and learning facilities (Syaparuddin et al., 2020; Saputra et al., 2021; Wijaya et al., 2022). Learning using PowerPoint media makes it easier for students to learn because it is easy to use, small file size, practical and does not require a lot of quota fees to access learning (Parnabhakti & Puspaningtyas, 2021).

The use of the Contextual Teaching and Learning model has a positive effect on student learning outcomes (Angelia et al., 2018). In line with this research, learning using the Contextual Teaching and Learning model is very effective with the use of interactive hyperlink PowerPoint media. CTL has an impact on student learning outcomes because the CTL model can provide views to students about what they see and learn and feel in their environment and then relate it to each material being taught (Welerubun et al., 2022). The contextual approach in learning by including events or objects from students' daily lives, it can help students respond to any problem effectively (Irwan & Hasnawi, 2021). The positive influence of the Contextual Teaching and Learning model on students must be a reference for educators to use this model in learning so that the learning process and results become more effective and optimal. The research show that adopting an interactive e-book teaching mode with a contextual learning model for learning can trigger learners' deep motives, and therefore improve their learning achievement (Sung et al., 2019). The results also show that the level of effectiveness of android-based earning media containing contextual learning on problem-solving skills can be said to be effective because the classical mastery value gets a percentage of 76.67% (Yani et al., 2021). Traditional screen media have not provided the social cues a real person can offer, such as contingent eye gaze, responsiveness to the viewer, or incorporating personal details (e.g., the viewer's name). In contrast, interactive media can offer the contingency and responsiveness of a skilled adult scaffolder in a way that supports children's learning (Troseth et al., 2016; Nurfadhillah et al., 2021). The use of interactive multimedia for teacher and student communication has a positive impact because there is an increase in test results by 27.7% by changing the

method from conventional to interactive multimedia-based e-learning method (Chandra Wijaya, 2019). The use of interactive technology in learning can provide positive outcomes for learning such as motivation, learning outcomes, and problem-solving. The use of contextual models also provides real experiences in learning so that learning becomes more effective. The results of this study contribute that interactive hyperlink PowerPoint media is feasible and effective to use. The product of this research contributes to educators using learning media that have been developed by learning. The products developed also provide a variety of learning media innovations in the classroom to make students interested in participating in learning activities. This research conducted field trials with not too many students due to conditions that did not allow many students to come to school. So the researcher suggests to other researchers be able to conduct field trials with a larger number of students.

4. CONCLUSION

The development of interactive hyperlink PowerPoint media can be declared feasible based on the validator's assessment of the three aspects assessed, namely design, material, and media. The assessment obtained from the validation of media experts is 88.57% which is categorized as very feasible. Then the acquisition of an assessment from the validation of learning design experts is 90.00% which is categorized as very feasible. Furthermore, the material expert validation assessment is 92.50% which is categorized as very feasible. So it can be concluded that the interactive hyperlink PowerPoint media based on the contextual teaching and learning model is very feasible to use in the learning process.

5. REFERENCES

Adisel, & Gawdy Prananosa, A. (2020). Penggunaan Teknologi Informasi dan Komunikasi dalam Sistem Manajemen Pembelajaran pada Masa Pandemi Covid 19. *Journal Of Administration and Educational Management (ALIGNMENT)*, *3*(1), 1–10. https://doi.org/10.31539/ALIGNMENT.V3I1.1291.

Afandi, A. (2017). Media ICT Dalam Pembelajaran Matematika Menggunakan Powerpoint Interaktif dan Ispring Presenter. *Jurnal Terapan Abdimas*, *2*(0), 19–26. https://doi.org/10.25273/JTA.V2I0.972.

Amalina, N. (2019). Evaluasi Program Desain Pembelajaran Pendidikan Agama Islam Melalui Model Context, Input, Process, Product (CIPP). *Kelola: Journal of Islamic Education Management*, *4*(2), 127–148. https://doi.org/10.24256/KELOLA.V4I2.870.

Andika, J. (2012). Pembangunan Sistem Informasi Pendataan Rakyat Miskin Untuk Raskin. *Jurnal Speed*, *9*(2), 72–81. https://doi.org/10.3112/speed.v2i4.885.

Angelia, V., Laihat, L., & Toybah, T. (2018). Model Pembelajaran Contextual Teaching and Learning Pada Materi Energi dan Perubahannya Terhadap Hasil Belajar IPA Siswa Kelas III SDN 24 Palembang. *Jurnal Inovasi Sekolah Dasar: Kajian Pengembangan Pendidikan*, *5*(2), 151–159. https://doi.org/10.36706/JISD.V5I2.8271.

Anggraeni, W. S., Alpian, Y., Prihamdani, D., & Winarsih, E. (2021). Pengembangan Multimedia Pembelajaran Interaktif Berbasis Video untuk Meningkatkan Minat Belajar Siswa Sekolah Dasar. *Jurnal Basicedu*, *5*(6), 5313–5327. https://doi.org/10.31004/BASICEDU.V5I6.1636.

Anggraeny, D., Nurlaili, D. A., & Mufidah, R. A. (2020). Analisis Teknologi Pembelajaran dalam Pendidikan Sekolah Dasar. *FONDATIA*, *4*(1), 150–157. https://doi.org/10.36088/FONDATIA.V4I1.467.

Anitasari, W. R., & Dyah Utami, R. (2022). Implementasi Media Articulate Storyline dalam Pembelajaran sebagai Penunjang Pelaksanaan Kurikulum 2013 di Sekolah Dasar. *Jurnal Basicedu*, *6*(4), 5926–5935. https://doi.org/10.31004/BASICEDU.V6I4.3167.

Asnawi, Mulyahati, B., & Fransyaigu, R. (2023). Penguatan Kompetensi Guru Dalam Pelatihan Pembuatan Bahan Ajar "E-Komik" di Sekolah Dasar. *Community Development Journal : Jurnal Pengabdian Masyarakat*, *4*(1), 407–412. https://doi.org/10.31004/CDJ.V4I2.12255.

Aspi, M., & Syahrani. (2022). Profesional Guru Dalam Menghadapi Tantangan Perkembangan Teknologi Pendidikan. *Adiba: Journal Of Education*, *2*(1), 64–73.

Awan, O. A. (2022). Analysis of Common Innovative Teaching Methods Used by Radiology Educators. *Current Problems in Diagnostic Radiology*, *51*(1), 1–5. https://doi.org/10.1067/J.CPRADIOL.2020.12.001.

Aziz, I. N., Ani, Y., & Dewi, S. (2020). The Use of Powerpoint As Media of Language Teaching on Students' Speaking Skill . *Humanities & Social Sciences Reviews*, *8*(1), 344–358. https://doi.org/10.18510/hssr.2020.8145.

Bali, M. M. E. I. (2020). Penerapan Model Pembelajaran Two Stay Two Stray dalam Meningkatkan Keaktifan Belajar Pebelajar. *Muróbbî: Jurnal Ilmu Pendidikan*, *4*(1), 29–42.

https://doi.org/10.52431/MUROBBI.V4I1.225.
Budiman, A., Samani, M., Rusijono, Setyawan, W. H., & Nurdyansyah. (2021). The Development of Direct-Contextual Learning: A New Model on Higher Education. *International Journal of Higher Education*, *10*(2), 15–26. https://doi.org/10.5430/ijhe.v10n2p15.
Chandra Wijaya, M. (2019). Dampak Penggunaan Media Pembelajaran Berbasis Multimedia Interaktif pada Komunikasi Pengajar dan Siswa di Bandung . *Jurnal Pekommas*, *4*(1), 53–60. https://doi.org/10.30818/jpkm.2019.2040106.
Charlina, C., & Rasdana, O. (2022). Pemanfaatan Hyperlink untuk Multimedia Presentasi pada Pembelajaran Teks Anekdot. *GERAM*, *10*(1), 100–108. https://doi.org/10.25299/GERAM.2022.VOL10(1).9538.
Chen, Y.-T. (2012). A Study of Incorporating Multimedia Technology in PowerPoint on Demand. *The New Education Review*, *27*(1), 173–183.
Collins, J. (2004). Education Techniques for Lifelong Learning . *RadioGraphics*, *24*(4), 1177–1183.
Dunbar, L. (2017). The Power of PowerPoint in the Music Classroom. *Journal of General Music Education*, *31*(2), 36–39. https://doi.org/10.1177/1048371317742112.
Elpira, N., & Ghufron, A. (2015). Pengaruh Penggunaan Media Powerpoint Terhadap Minat dan Hasil Belajar IPA Siswa Kelas IV SD. *Jurnal Inovasi Teknologi Pendidikan*, *2*(1), 94–104. https://doi.org/10.21831/TP.V2I1.5207.
Fakhrurrazi. (2018). Hakikat Pembelajaran yang Efektif. *At-Tafkir*, *11*(1), 85–99. https://doi.org/10.32505/AT.V11I1.529.
Farida, F., Suherman, S., & Zulfikar, S. (2019). Peningkatan Kemampuan Pemahaman Konsep Himpunan Melalui Pembelajaran Matematika dengan Media Articulate Studio'13. *JSHP : Jurnal Sosial Humaniora dan Pendidikan*, *3*(1), 20–28. https://doi.org/10.32487/JSHP.V3I1.536.
Gowasa, S., Harahap, F., & Suyanti, R. D. (2019). Perbedaan Penggunaan Media Powerpoint dan Video Pembelajaran Terhadap Kemampuan Berpikir Tingkat Tinggi dan Retensi Memori Siswa Pada Mata Pelajaran Ipa Di Kelas V SD. *JURNAL TEMATIK*, *9*(1), 19–27.
Hakim, A. (2021). Penggunaan Media Belajar Powerpoint Hyperlink Untuk Meningkatkan Hasil Belajar Tematik Integratif Tentang Ciri-Ciri Makhluk Hidup Siswa Kelas Iii Sdn Simomulyo V/102 Surabaya. *e- Jurnal Mitra Pendidikan*, *5*(11), 858–874. https://doi.org/10.52160/E-JMP.V5I11.881.
Hakim, R., Ritonga, M., Khadijah, & Susanti, W. (2020). Implementation of Contextual Teaching and Learning in Islamic Education at Madrasah Diniyah . *Jour of Adv Research in Dynamical & Control Systems*, *12*(2), 3326–3332.
Handayani, V. A., Tarsila, H., Hidayati, E., Saputri, R., & Parero, J. (2023). Persepsi Masyarakat Kota Batam Terhadap Transformasi Digital Payment. *JURNAL SITEBA*, *1*(2), 60–75. https://doi.org/10.23971/JAQ.V4I1.1442.
Hasani, A. (2016). Enhancing Argumentative Writing Skill through Contextual Teaching and Learning. *Educational Research and Reviews*, *11*(16), 1573–1578. https://doi.org/10.5897/ERR2016.2806.
Ika, C., Budhayanti, S., & Anindyta, P. (2021). Pelatihan Pembelajaran Matematika Berbasis IT di SD Xaverius Metro Lampung. *Prosiding SENAPENMAS*, 855–868. https://doi.org/10.24912/PSENAPENMAS.V0I0.15113.
Irwan, I., & Hasnawi, H. (2021). Analisis Model Pembelajaran Contextual Teaching and Learning dalam Meningkatkan Hasil Belajar PPKn di Sekolah Dasar. *EDUKATIF : JURNAL ILMU PENDIDIKAN*, *3*(1), 235–245. https://doi.org/10.31004/EDUKATIF.V3I1.343.
Izhar, G., Wardani, K., & Nugraha, N. K. (2022). The Development Enviromental Literacy Media Learning for Elementary School Student. *Journal of Innovation in Educational and Cultural Research*, *3*(3), 397–404. https://doi.org/10.46843/JIECR.V3I3.116.
Jaelani, A., Fauzi, H., Aisah, H., & Yulianti Zaqiyah, Q. (2020). Penggunaan Media Online Dalam Proses Kegiatan Belajar Mengajar PAI Dimasa Pandemi Covid-19 (Studi Pustaka dan Observasi Online). *Jurnal IKA PGSD (Ikatan Alumni PGSD) UNARS*, *8*(1), 12–24. https://doi.org/10.36841/PGSDUNARS.V8I1.579.
Kartini, Asnharullah, & Wicaksono, D. (2022). Pengaruh Aplikasi Pembelajaran Online dan Kebiasaan Belajar Dari Rumah Terhadap Hasil Belajar. *Instruksional*, *4*(1). https://doi.org/10.24853/instruksional.4.1.%p.
Latip, A. (2020). Peran Literasi Teknologi Informasi dan Komunikasi Pada Pembelajaran Jarak Jauh Di Masa Pandemi Covid-19 . *EduTeach : Jurnal Edukasi dan Teknologi Pembelajaran*, *1*(2), 108–116. https://doi.org/10.37859/EDUTEACH.V1I2.1956.
Lestari, S. (2018). Peran Teknologi dalam Pendidikan di Era Globalisasi. *EDURELIGIA; JURNAL PENDIDIKAN AGAMA ISLAM*. https://doi.org/10.33650/edureligia.v2i2.459.

Limin, S., & Kundiman, R. S. (2023). Peranan Media Pembelajaran Berbasis Audio Visual Dalam Menunjang Minat Belajar Mahasiswa Pada Mata Kuliah Sejarah Musik. *Psalmoz : A Journal of Creative and Study of Church Music*, *4*(1), 16–26. https://doi.org/10.51667/JPSALMOZ.V4I1.1114.

Luamba, A., & Tandapai, A. (2022). Peningkatan Hasil Belajar Siswa dengan Menerapkan Metode STEAM Pada Mata Pelajaran Pendidikan Agama Kristen Kelas X IPA 1 di SMA GKST 1. *UEPURO: Jurnal Ilmiah Teologi dan Pendidikan Kristiani*, *2*(1), 156–169.

Maggio, M. P., Hariton-Gross, K., & Gluch, J. (2012). The Use of Independent, Interactive Media for Education in Dental Morphology. *Journal of Dental Education*, *76*(11), 1497–1511. https://doi.org/10.1002/J.0022-0337.2012.76.11.TB05412.X.

Mahardika, C., & Siswoyo, A. A. (2021). Pengembangan Media Pembelajaran Kotak Komponen Ekosistem (KOKOSIS) untuk Sekolah Dasar. *JUDIKDAS: Jurnal Ilmu Pendidikan Dasar Indonesia*, *1*(1), 39–50. https://doi.org/10.51574/JUDIKDAS.V1I1.184.

Mariana, E., Novita, Wardany, K., & Sari, R. P. (2021). Pelatihan Pemanfaatan Smartphone Android Sebagai Media Pembelajaran Bagi Orang Tua Kelurahan Sidokerto Kecamatan Bumi Ratu Nuban. *Indonesia Berdaya*, *2*(2), 121–126. https://doi.org/10.47679/IB.2021108.

Meibauer, G., & Aagaard Nøhr, A. (2017). Teaching Experience: How to Make and Use PowerPoint-Based Interactive Simulations for Undergraduate IR Teaching. *Journal of Political Science Education*, *14*(1), 42–62. https://doi.org/10.1080/15512169.2017.1377083.

MUDASİH, İ., & SUBROTO, W. T. (2019). Comparison of Student Learning Outcomes Through Video Learning Media with Powerpoint. *International Journal of Educational Research Review*, *4*(2), 183–189. https://doi.org/10.24331/IJERE.517997.

Muflikah, B., Kusuma, V. A., & Aman, A. (2022). The Use of Powerpoint-Based Interactive Plywood Gamelan in Learning Local Sound Art in Elementary Schools. *Journal of Innovation in Educational and Cultural Research*, *3*(3), 463–470. https://doi.org/10.46843/JIECR.V3I3.124.

Mutanaffisah, R., Ningrum, R., & Widodo, A. (2021). Ketepatan pemilihan pendekatan, metode, dan media terhadap karakteristik materi IPA. *Jurnal Inovasi Pendidikan IPA*, *7*(1), 12–21. https://doi.org/10.21831/JIPI.V7I1.32622.

Mutia, W. S., & Mulyawati, I. (2021). Pengembangan Media Pembelajaran Matematika Pada Materi Bangun Ruang Melalui Animasi Power Point Terhadap Siswa Kelas V SDN Parung Panjang 06. *Elementary School: Jurnal Pendidikan dan Pembelajaran ke-SD-an*, *8*(2), 351–360. https://doi.org/10.31316/ESJURNAL.V8I2.1514.

Novitasari, D. (2016). Pengaruh Penggunaan Multimedia Interaktif Terhadap Kemampuan Pemahaman Konsep Matematis Siswa. *Jurnal Pendidikan Matematika & Matematika*, *2*(2), 8–18. https://doi.org/10.24853/fbc.2.2.8-18.

Nugraha, F. A., Nur'aeni, E., Suryana, Y., & Muharram, M. R. W. (2021). Efektivitas Media Powerpoint dalam Pembelajaran Materi Luas Daerah Segitiga untuk Meningkatkan Minat Belajar Peserta Didik di Sekolah Dasar. *EDUKATIF : JURNAL ILMU PENDIDIKAN*, *3*(5), 2760–2768. https://doi.org/10.31004/EDUKATIF.V3I5.931.

Nurfadhillah, S., Damayanti Tantular, L., Syafitri, H. A., Fauzan, M. I., & Haq, A. S. (2021). Analisis Pengembangan Media Interaktif Berbasis Power Point pada Pembelajaran Jarak Jauh di MI Darussaman. *PENSA*, *3*(2), 267–279. https://doi.org/10.36088/PENSA.V3I2.1351.

Nurfadilah, Wahyuni, I., & Subaida, I. (2022). Pengaruh Pengetahuan Investasi dan Kemajuan Teknologi Terhadap Keputusan Investasi Dengan Minat Investasi Sebagai Variabel Intervening (Studi Mahasiswa Prodi Manajemen Universitas Abdurachman Saleh Situbondo). *Jurnal Mahasiswa Entrepreneurship (JME)*, *1*(8), 1630–1644. https://doi.org/10.36841/JME.V1I8.2209.

Oh, J., & Sundar, S. S. (2016). User engagement with interactive media: A communication perspective. *Why Engagement Matters: Cross-Disciplinary Perspectives of User Engagement in Digital Media*, *1*(1), 177–198. https://doi.org/10.1007/978-3-319-27446-1_8/COVER.

Osmani, F., & Sánchez, C. (2017). Hyperlinking Content and Fun: Creating Interactive PowerPoint Games for the ESL/EFL Classroom. *TESL Reporter*, *50*, 17–17.

Parnabhakti, L., & Puspaningtyas, N. D. (2021). Persepsi Peserta Didik Pada Media Powerpoint Dalam Google Classroom. *Jurnal Ilmiah Matematika Realistik*, *2*(1), 18–25. https://doi.org/10.33365/JI-MR.V2I1.1062.

Pendi, H. Z. (2020). Pengembangan Multimedia Interaktif Dalam Meningkatkan Minat Belajar Siswa Pada Mata Pelajaran Bahasa Inggris Kelas VII di SMP Negeri 11 Kota Jambi. *Jurnal Literasiologi*, *3*(1), 139–156. https://doi.org/10.47783/LITERASIOLOGI.V3I1.57.

Pramesti, P. D., Dibia, I. K., & Ujianti, P. R. (2021). Media Pembelajaran Daring Interaktif Berbasis Power Point dengan Fungsi Hyperlink. *Jurnal Pedagogi dan Pembelajaran*, *4*(2), 258–267. https://doi.org/10.23887/JP2.V4I2.36524.

Purnianingrum, G. A. N. T., & Manuaba, I. B. S. (2022). Media Pembelajaran E-Mading Berbasis Contextual Teaching and Learning pada Tematik Subtema Bagaimana Tubuh Mengolah Makanan. *Jurnal Penelitian dan Pengembangan Pendidikan*, *6*(2), 191–201. https://doi.org/10.23887/JPPP.V6I2.46165.

Rahiem, M. D. H. (2021). Storytelling in early childhood education: Time to go digital. *International Journal of Child Care and Education Policy*, *15*(1), 1–20. https://doi.org/10.1186/S40723-021-00081-X/FIGURES/3.

Raibowo, S., Adi, S., & Hariadi, I. (2020). Efektivitas dan Uji Kelayakan Bahan Ajar Tenis Lapangan Berbasis Multimedia Interaktif. *Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan*, *5*(7), 944–952. https://doi.org/10.17977/JPTPP.V5I7.13726.

Rulyansah, A., & Sholihati, M. (2018). Pengembangan Modul Berbasis Kecakapan Hidup pada Pelajaran Matematika Sekolah Dasar. *MUST: Journal of Mathematics Education, Science and Technology*, *3*(2), 194–211. https://doi.org/10.30651/MUST.V3I2.2088.

Saputra, N., Yustitia, V., Tobing, M. T., & Ili, L. (2021). Strategi Pembelajaran Daring Sebagai Alternatif Proses Aktivitas Belajar Siswa SD Di Masa Covid- 19. *Naturalistic: Jurnal Kajian dan Penelitian Pendidikan dan Pembelajaran*, *5*(2b), 911–920. https://doi.org/10.35568/NATURALISTIC.V5I2B.1221.

Saputri, S. M., & Estiastuti, A. (2018). Pengembangan Komik Berbasis Multimedia Powerpoint Dengan Model Inquiry IPS Kelas IV. *Joyful Learning Journal*, *7*(3), 29–38. https://doi.org/10.15294/jlj.v7i3.24582.

Sari, S. M., Ma'arij, M. Z., & Adila, D. R. (2023). The Effectiveness of Multimedia-based Learning Media on the Achievement of Health Students' Competences: A Literature Study. *KnE Medicine*, *2023*, 25–38–25–38. https://doi.org/10.18502/KME.V3I1.12695.

Smith, B. P. (2010). Instructional Strategies in Family and Consumer Sciences: Implementing the Contextual Teaching and Learning Pedagogical Model. *Journal of Family & Consumer Sciences Education*, *28*(1), 23--38. https://doi.org/10.30738/trihayu.v1i3.845.

Soleha, F., Akhwani, A., Nafiah, N., & Rahayu, D. W. (2021). Model Pembelajaran Contextual Teaching And Learning untuk Meningkatkan Hasil Belajar Pkn di Sekolah Dasar. *Jurnal Basicedu*, *5*(5), 3117–3124. https://doi.org/10.31004/BASICEDU.V5I5.1285.

Stacy, G. S., & Thiel, S. G. (2017). Use of Hyperlinks in PowerPoint Presentations as an Educational Tool. *Academic Radiology*, *24*(10), 1318–1324. https://doi.org/10.1016/J.ACRA.2017.03.018.

Sung, H. Y., Hwang, G. J., Chen, C. Y., & Liu, W. X. (2019). A contextual learning model for developing interactive e-books to improve students' performances of learning the Analects of Confucius. *Interactive Learning Environments*, *30*(3), 470–483. https://doi.org/10.1080/10494820.2019.1664595.

Susanti, E., Ritonga, M., & Bambang. (2020). Pengaruh Penggunaan Media Powerpoint Terhadap Minat Belajar Bahasa Arab Siswa. *Arabiyatuna : Jurnal Bahasa Arab*, *4*(1), 179–192. https://doi.org/10.29240/jba.v4i1.1406.

Syahroni, M., Dianastiti, F. E., & Firmadani, F. (2020). Pelatihan Media Pembelajaran Berbasis Teknologi Informasi untuk Meningkatkan Keterampilan Guru dalam Pembelajaran Jarak Jauh. *International Journal of Community Service Learning*, *4*(3), 170–178. https://doi.org/10.23887/IJCSL.V4I3.28847.

Syaparuddin, Meldianus, & Elihami. (2020). Strategi Pembelajaran Aktif Dalam Meningkatkan Motivasi Belajar PKn Peserta Didik. *Mahaguru: Jurnal Pendidikan Guru Sekolah Dasar* , *1*(1), 30–41. https://doi.org/10.33487/MGR.V1I1.326.

Troseth, G. L., Russo, C. E., & Strouse, G. A. (2016). What's next for research on young children's interactive media? *Journal of Children and Media*, *10*(1), 54–62. https://doi.org/10.1080/17482798.2015.1123166.

Utami, V. A., & Muqowim, M. (2020). Pengintegrasian Nilai-Nilai Keislaman Dengan Pembelajaran TIK (Teknologi Informasi dan Komunikasi) Pada Siswa Sekolah Dasar. *JEMARI (Jurnal Edukasi Madrasah Ibtidaiyah)*, *2*(2), 76–83. https://doi.org/10.30599/JEMARI.V2I2.665.

Virgiawan, R., & Harimurti, S. M. (2021). Pemanfaatan Media Dalam jaringan (daring) Pada Mata Kuliah Islam Rahmatan lil Alamin. *Refleksi Pembelajaran Inovatif*, *3*(1), 365–384. https://doi.org/10.20885/RPI.VOL3.ISS1.ART5.

Wahdaniah, Syamsuddin, A., & Sirajuddin. (2021). Pengaruh Model Conseptual Understanding Procedures Terhadap Pemahaman Konsep Matematika Peserta Didik Sekolah Dasar. *JUDIKDAS: Jurnal Ilmu Pendidikan Dasar Indonesia*, *1*(1), 1–14. https://doi.org/10.51574/JUDIKDAS.V1I1.162.

Welerubun, R. C., Wambrauw, H. L., Jeni, J., Wolo, D., & Damopolii, I. (2022). Contextual Teaching and Learning in Learning Environmental Pollution: The Effect On Student Learning Outcomes. *Prima*

Magistra: Jurnal Ilmiah Kependidikan, *3*(1), 106–115. https://doi.org/10.37478/JPM.V3I1.1487.

Wijaya, A. A., Syarifuddin, & Asmi, A. R. (2022). Learning Media Based on Local History in Improving the Quality of Distance Learning. *Journal of Education Research and Evaluation*, *6*(4), 748–758. https://doi.org/10.23887/JERE.V6I4.46484.

Yani, A., Prihatin, I., Hodiyanto, H., & Sumiati, S. (2021). Android-Based Learning Media Design with Contextual Learning to Develop Problem-Solving Skills. *Jurnal Didaktik Matematika*, *8*(2), 148–159. https://doi.org/10.24815/JDM.V8I2.18555.

Yulia, P., Dewi, A., & Hengki Primayana, K. (2019). Effect of Learning Module with Setting Contextual Teaching and Learning to Increase the Understanding of Concepts. *International Journal of Education and Learning*, *1*(1), 19–26. https://doi.org/10.31763/ijele.v1i1.26.

Yusuf, B. B. (2018). Konsep Dan Indikator Pembelajaran Efektif. *Jurnal Kajian Pembelajaran dan Keilmuan*, *1*(2), 13–20. https://doi.org/10.26418/jurnalkpk.v1i2.25082.