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Community Service: Developing Web-Based Interactive Digital Books to Improve Learning Outcomes at MIN 2 Palangka Raya

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***Abstract**, This collaborative community service activity aims to improve the learning outcomes of grade IV students at MIN 2 Palangka Raya City using web-based interactive digital books developed by PGMI IAIN Palangka Raya students. This activity is carried out collaboratively, where students design learning media with the guidance of lecturers who also act as expert validators. The activity stage begins with the identification of needs through observations and interviews at partner schools, especially on the theme "Look Around You" in Indonesian language subjects. Students then developed interactive teaching materials that integrated text, images, audio, and other multimedia elements using digital platforms. Media validation was conducted by four expert lecturers with very feasible results: material experts (94%), design experts (96%), classroom teachers (71%), and field trials (91%). The t-test showed a significant increase in learning outcomes (t = 6.60) with an N-Gain score of 1.00 in the high category. This program shows that collaboration between lecturers and students in developing learning media can have a real positive impact on the quality of basic education and can be a sustainable model of academic empowerment.*

***Keywords:** community service, elementary school, interactive digital books, learning outcomes, lecturer-student collaboration*

1. INTRODUCTION

The implementation of web-based digital books in Indonesia faces various challenges, ranging from uneven infrastructure to low digital literacy. According to Yossinta and Ratnasari (2022), many schools in remote areas experience limited internet access and technological devices, which are major barriers to the use of web-based media. In addition, it is important to train teachers in utilizing educational technology to ensure effective implementation of digital books. Nevertheless, government efforts in providing internet networks and teacher training programs are ongoing to support the adoption of technology in education.

The development of information and communication technology has changed the way people access, process, and disseminate information. In education, digital technology provides a great opportunity to create a learning process that is more interactive, engaging and relevant to the needs of today's students. One of the innovations of interest is the development of web-based interactive digital books. These digital books not only replace the function of printed books as a source of information, but also provide multimedia features and interactivity that can enhance students' learning experience.

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Web-based interactive digital books are modern learning media that utilize technology to provide a more engaging learning experience. It combines various multimedia elements, such as videos, animations and interactive quizzes, which can be accessed through the internet. This digital book allows students to learn flexibly without time and place restrictions. In addition, the use of multimedia elements is proven effective in increasing student engagement during the learning process, making the material easier to understand, and reducing boredom.

This service aims to develop a web-based interactive digital book designed to improve student learning outcomes. With a responsive design and integration of multimedia elements, this book is expected to meet the needs of 21st century learning as well as being a solution to the limitations of conventional media.

A number of studies have shown that the use of web-based digital books has a positive impact on learning motivation, student engagement and learning outcomes. For example, Kurniawan et al. (2024) reported that students who used web-based digital books showed a 30% increase in learning evaluation scores compared to students who used printed media. Another work by Supardi & Sennen (2022) highlights how this technology can encourage students to be more active and independent in learning, especially in the midst of the post-pandemic distance learning trend.

Studies show that the use of web-based digital books contributes positively to student learning outcomes. Rizal & Syarif (2023) reported that students who used interactive digital books experienced a 20% increase in learning motivation and evaluation results compared to students who used conventional learning media. In addition, the addition of gamification features, such as rewards and challenge levels, can significantly increase student engagement. This media also allows students to learn independently with the help of automatic evaluation features, such as quizzes with immediate feedback.

2. METHOD

This community service activity was conducted through a collaborative mentoring model involving PGMI students and FTIK IAIN Palangka Raya lecturers. The primary objective was to assist students in developing interactive digital teaching materials for elementary school learning. The mentoring process was structured in the following stages:

1. **Initial Coordination and Needs Assessment**: The team identified learning challenges at MIN 2 Kota Palangka Raya, particularly in delivering the “Observe Your Surroundings” topic. This stage also included coordination with school stakeholders.

2. **Mentoring and Technical Assistance**: PGMI students received intensive mentoring from four lecturers—**M. Syabrina, M.Pd., Istiyati Mahmudah, M.Pd., Rahmad, M.Pd., and Zaitun Qamariah, M.Pd.**—who acted as both mentors and expert validators. They guided students in designing interactive learning media suited to the local context.
3. **Field Implementation**: PGMI students applied the developed media in actual classroom settings at MIN 2 Kota Palangka Raya, under the supervision of the mentoring lecturers.
4. **Evaluation and Reflection**: The impact of the community service was evaluated based on students' responses and improvements in classroom engagement, followed by reflective sessions with all participants to gather insights for future program development. This method ensured the integration of academic support and field experience while empowering students to contribute to elementary education through technology-based learning innovations.

The activity was carried out from February 01 to 09, 2025, at MIN 2 Palangka Raya City Class IV. The methodology used is service and development (R&D), which aims to evaluate the development of teaching materials while determining the feasibility of the product being developed. R&D was chosen because this approach allows the researcher not only to develop the product, but also to ensure that the product fits the evolving learning needs. This method has been proven effective in integrating learning innovations with field needs through structured and measurable stages.

This development study is designed to produce innovative and effective products, emphasising a structured and comprehensive development process. Each step in the development is explained in detail, starting from the needs analysis to the final evaluation stage. In addition, the development process also involves collaboration with various parties, such as material experts, design experts, teachers, and students, to ensure that the products produced are truly relevant and acceptable to users. This supports the view that the involvement of various stakeholders in product development can improve the quality of the final product as well as its relevance to learning needs.

The main focus of this study is to improve the quality of learning through carefully designed teaching materials. Evaluation of the final product not only looks at aspects of feasibility, but also effectiveness in improving student learning outcomes. In each stage, revisions are made based on input from experts and field trials, so that the resulting product meets the predetermined quality standards. This continuous revision is an important element in

development to ensure that the product not only meets quality standards, but is also able to have a positive impact on learning outcomes.

This service adopted the ADDIE model, which consists of five main steps: analysis, design, development, implementation, and evaluation. Each step in this model has a crucial role in ensuring that the product developed not only meets the learning objectives but can also be applied effectively in various educational contexts. As a learning system design model, ADDIE is considered one of the easiest models to understand and implement in a systematic and sequential manner. The success of this model lies in its logical and integrated structure of steps, allowing developers to maintain the quality and relevance of the product throughout the development process.

The steps in this model are designed to provide clear guidance so that developers can more easily identify needs, design solutions, develop products, implement them in the field, and evaluate the results. The evaluation stage in ADDIE, for example, allows for adjustments and revisions based on feedback received, so that the final product truly meets learning needs. In addition, ADDIE is also flexible to be applied to various types of learning media, including digital teaching materials and interactive media, which are increasingly relevant to modern learning needs.

This model is an ideal choice for service and development in the field of education because it can be adapted to various conditions and needs. By applying ADDIE, developers can ensure that each stage supports each other to achieve optimal results, both in terms of product feasibility and effectiveness.

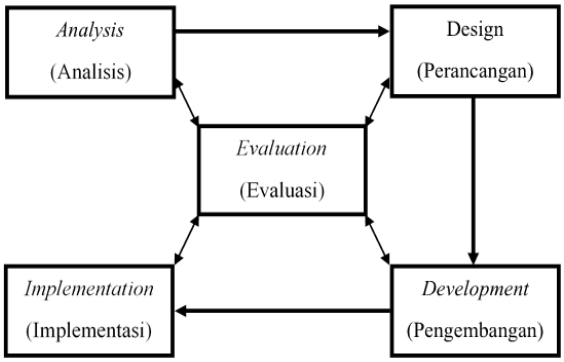


Figure 1. ADDIE model

This service uses various techniques to collect data, namely interviews, observations in the school environment, and the use of questionnaires. These techniques were chosen to ensure that the information obtained is comprehensive and in-depth, so that it can describe the conditions, student needs, and the effectiveness of the teaching materials developed. Interviews are used to get direct perspectives from teachers and students regarding learning needs, while

observations provide a more real picture of the situation and conditions of learning in the classroom, the combination of interview and observation techniques is very important in educational services because it can produce more accurate and contextual data.

The use of questionnaires complements the two previous techniques by providing more structured quantitative data. Questionnaires were used to collect responses from students, teachers, and experts related to the validation and feasibility test of the developed products. This technique allows researchers to identify common patterns in the responses of service participants as well as evaluate the feasibility of teaching materials based on certain criteria . This approach is in line with the opinion of Fajriah & Anggereini (2016), which states that the use of questionnaires as data collection instruments in development services can increase the reliability of product evaluation results.

By combining interviews, observations, and questionnaires, this service is able to collect data that is not only relevant but also in-depth, covering both qualitative and quantitative perspectives. This strategy aims to provide a solid foundation for the development of teaching materials that meet students' needs and are relevant to modern learning contexts.

In the expert validation process, data was also collected in the form of criticisms, suggestions, and comments from experts regarding teaching materials on Indonesian language material "Look Around." The questionnaire was used as a data collection instrument in this development and was given to the test subjects. This instrument includes a material expert evaluation to assess the suitability of the content of the teaching materials, a design expert evaluation to review the visual elements and layout, and an assessment of the fourth grade teacher of MIN 2 Kota Palangka Raya to obtain practitioners' views on the effectiveness of the teaching materials. In addition, questionnaires were also given to students at the field trial stage to obtain direct responses regarding their level of engagement and understanding of the teaching materials. The questionnaires were systematically designed to gather comprehensive feedback on the quality and suitability of the products developed.

The method contains the type of method or type of approach used, a description of qualitative and/or quantitative data, data collection procedures, and data analysis techniques. In simple terms, convey the scientific way of looking for and obtaining data and have a connection with the procedures for performing service and technical service written in clear, concise, and concise language, not theoretical, but with practical use.

3. RESULTS AND DISCUSSION

Results

This experiment involves field trials as well as validation by experts, which serves as a crucial step in the development of teaching materials. The main purpose of this process is to assess the extent to which the developed interactive media can produce learning materials that are suitable for the needs of students and the conditions of the existing learning environment. Validation by experts aims to ensure that teaching materials meet quality standards before being used in teaching. As explained by Rahayu Budi Astuti, Supeno, and Ary Purwantiningsih (2024), validation is an important step to evaluate the effectiveness of teaching materials from various aspects, including the suitability of content and design, so as to improve the quality of learning. In addition, as also stated by Muhammad Azhar, Hakmi Wahyudi, Destia Yolanda (2024), the validation process ensures that teaching materials are accessible and well understood by students in a technology-based context, making them relevant and practical for use in learning. Therefore, validation is an essential step in ensuring that the learning products produced are not only effective, but also applicable in supporting education.

1. Material Expert

First of all, material validation was conducted. The results of the validation are reflected in the diagram below, which shows the material expert's assessment of the interactive learning media

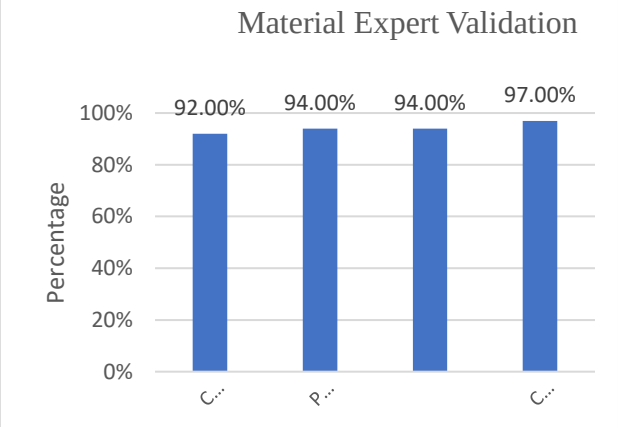
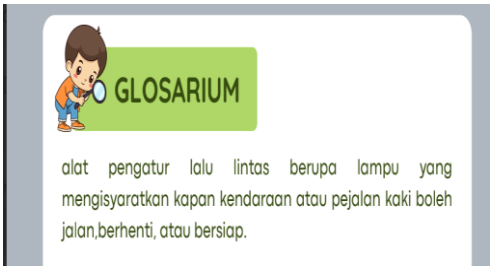
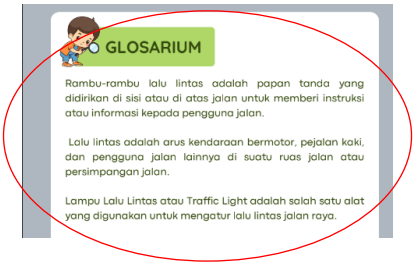


Figure 2: Graph of Material Expert Assessment

The results of the material expert validation are shown in Figure 2, that the development of digital teaching materials in the form of interactive learning media for Indonesian language material about See Around class IV at MIN-2 Palangka Raya City in the aspect of content feasibility of 92.00%, presentation feasibility aspect of 94.00%, language feasibility aspect of 94.00%, contextual feasibility aspect of 97.00% or very feasible. Feedback from experts was used by researchers to improve the product:

Table 1. Suggestions for improvement from material experts

No.	Before	After
1		
	Add More Glossary	

2. Design Expert

Furthermore, validation from design experts, the diagram below illustrates the assessment given by design experts on teaching materials

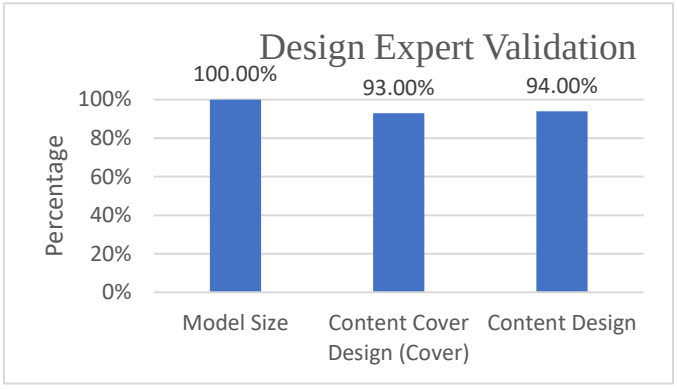
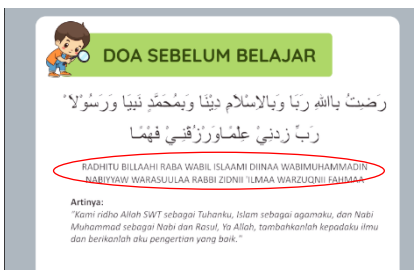


Figure 3: Graph of design expert assessment

Based on the results of design expert validation in Figure 3, the development of digital teaching materials in the form of interactive learning media for Indonesian language material about See Around class IV at MIN-2 Palangka Raya city for model size is 100%, while the cover design is 93.00%, and the content design is 94.00% or very feasible.

Feedback from experts was used by researchers to improve the product.

Table 4. Suggestions for improvement from media experts

No.	Before	After
1		

Remove Latin From Study Prayer

3. Teacher Assessment

Teachers as practitioners provide an assessment of the teaching materials developed as shown in the figure. The results of the field test are shown in the graph below.

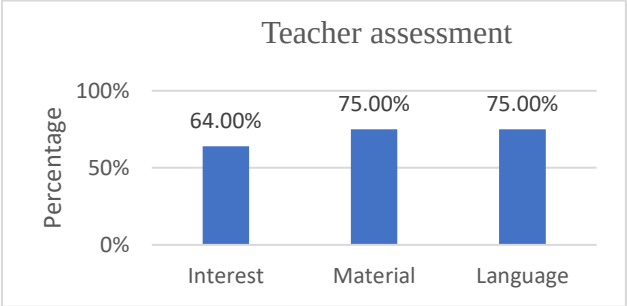


Figure 4: Teacher Assessment Chart

The teacher's assessment above shows that digital teaching materials in the form of interactive learning media are qualified as "feasible" with an average value of 71%% and can be used in field trials.

4. Field Trial Results

The test was given to class IV C students as many as 28 students. The results of the field test are shown in the graph below.

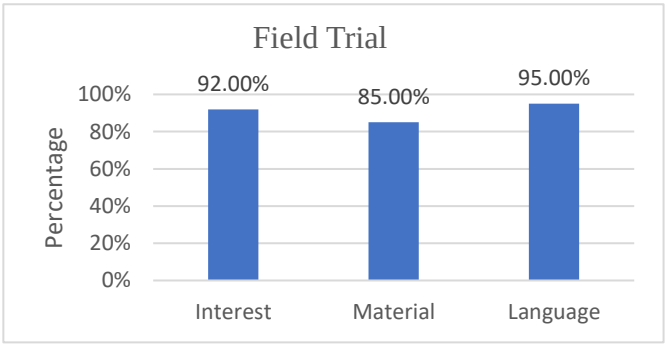


Figure 5: Field Trial Assessment Chart

Based on the previous graph, that digital teaching materials in the form of interactive learning media obtained a qualification of "very feasible" with an average value for all aspects of the assessment of 91%, which indicates that students can benefit significantly from android-based electronic teaching materials as interactive media throughout the learning process.

Discussion

The implementation of this community service project demonstrated the significant potential of **collaborative partnerships between lecturers and PGMI students** in enhancing educational practices in elementary schools. Rather than focusing only on the technical process

of creating educational tools, this project emphasized the **holistic role of mentorship** and the **empowerment of PGMI students** to directly impact teaching and learning outcomes. The collaborative approach ensured that the product, an interactive digital learning media, not only met the pedagogical standards but also aligned with the real needs of teachers and students at MIN 2 Kota Palangka Raya.

Mentorship by FTIK IAIN Palangka Raya lecturers, M. Syabrina, M.Pd., Istiyati Mahmudah, M.Pd., Rahmad, M.Pd., and Zaitun Qamariah, M.Pd., played a crucial role in guiding the PGMI students throughout the design and implementation stages. As **expert validators**, these lecturers provided critical feedback, validating both the content and the format of the digital learning material. Their professional input ensured that the material was academically sound, aligned with curriculum standards, and suitable for fourth-grade students, who are part of the Alpha generation with an inclination for digital learning.

The implementation of the project involved PGMI students directly applying their learning in the classroom environment. This provided a unique opportunity for the students to translate theoretical knowledge into practice and gain invaluable hands-on experience. This stage of the project was essential not only for the students' professional growth but also for the teachers and students at MIN 2 Kota Palangka Raya, who were introduced to new, technology-driven teaching strategies. The **interactive nature of the learning media**, enhanced with multimedia elements like videos, animations, and clickable links to external resources such as YouTube, significantly contributed to creating a more engaging and dynamic learning experience.

Throughout the **development stage**, PGMI students, under the supervision of their mentors, created the digital learning media by first crafting storyboards and flowcharts, which were instrumental in ensuring the coherence and structure of the content. These materials were then enriched with interactive multimedia features to maintain students' interest and cater to their preferences for visually stimulating content. The role of the lecturers, especially in providing **real-time feedback** during these stages, was essential in helping students refine the product to meet high educational standards.

At the evaluation stage, the project revealed clear improvements in student learning outcomes. **Statistical data** from the pretest and posttest indicated a significant increase in student performance, further supported by a high N-Gain value of 1.00. These quantitative results, combined with **qualitative observations** of heightened student enthusiasm and improved teacher perceptions, indicated the success of the project in achieving its primary goal—enhancing student understanding of the learning material using digital tools.

This collaborative effort between PGMI students and lecturers also showed a **positive impact on the local community**, particularly within the educational system of MIN 2 Kota Palangka Raya. Teachers reported a higher level of engagement from their students, and the use of interactive digital learning media was seen as a step forward in modernising classroom teaching methods. The integration of **multimedia and interactive elements** into the classroom allowed for a more **student-centred approach**, where students actively engaged with the learning process, resulting in better retention and understanding of the material.

Furthermore, this initiative **encouraged a more reflective approach to teaching**, with both teachers and PGMI students considering how digital tools could be used effectively in the classroom to cater to the diverse needs of students. Teachers were not just passive recipients of the technology; they became active participants in the process, **evaluating the effectiveness of the learning materials** and suggesting improvements. This collaborative feedback loop, involving both teachers and students, not only led to the **enhancement of teaching materials** but also contributed to **building the capacity of teachers** to integrate technology into their pedagogical practices.

Additionally, **the mentoring process** provided PGMI students with an opportunity to develop professional skills such as critical thinking, problem-solving, and teamwork. They were also able to gain a deeper understanding of the challenges and opportunities in the educational landscape, which will better prepare them for their future roles as educators. By taking on both the responsibilities of content creators and facilitators, the PGMI students contributed significantly to the success of the project.

The project's **success has broader implications** for the future of education in Palangka Raya and beyond. It highlights the importance of **collaborative community service projects** where higher education institutions, such as IAIN Palangka Raya, play an active role in shaping the educational experience of both students and teachers. Moreover, it demonstrates the potential of using **interactive digital learning media** to bridge the gap between traditional classroom methods and modern technology, offering a more engaging and effective approach to learning.

The **N-Gain test** results also suggest that interactive digital media has a strong potential to enhance learning outcomes, especially when it is designed to cater to the interests and learning preferences of today's digital-native students. These results emphasize that such initiatives should be scaled and replicated in other educational settings, particularly in schools with similar demographic and technological challenges. However, it is important to note that while the results are promising, **continuous improvement and refinement** of the materials

and the teaching approach are necessary to keep up with technological advancements and evolving student needs.

In conclusion, the collaboration between PGMI students and IAIN Palangka Raya lecturers not only benefited the students at MIN 2 Kota Palangka Raya but also contributed to the professional development of the students involved in the project. By engaging in this community service initiative, the students gained valuable insights into educational practices, while the school community benefited from the application of innovative teaching materials designed to improve student learning outcomes.

4. CONCLUSION AND SUGGESTION

This community service program successfully produced a digital teaching material in the form of an interactive learning media for the topic *"Observe Your Surroundings"* in the Indonesian language subject for fourth-grade elementary students. Developed using the ADDIE model, this program involved PGMI students as content creators and IAIN Palangka Raya lecturers as mentors and expert validators. The media were evaluated through observations, interviews, questionnaires, and classroom trials. The results showed that the product met high feasibility and effectiveness standards, with an overall feasibility score of 88%. Detailed evaluations from content experts (94%), design experts (96%), teachers (71%), and field trials (91%) supported its quality. A t-test value of 6.60 and an N-Gain score of 1.00 indicate a significant improvement in student learning outcomes.

The integration of multimedia elements such as music, video, animation, and graphics proved to enhance student engagement and motivation, aligning with the characteristics of digital-native learners. Moreover, this collaborative model of community service demonstrates the potential of combining student innovation with lecturer supervision to generate impactful educational solutions.

Suggestions:

1. Future initiatives should continue to empower students to engage in the development of digital teaching materials, reinforcing their creative and professional skills.
2. Interactive learning media like this should be more widely implemented in elementary schools to improve the learning experience and outcomes.
3. Continuous mentoring from academic staff is essential to support the refinement and sustainability of such innovations.
4. It is important to establish regular evaluation mechanisms to ensure that the media remains relevant, effective, and adaptable across different educational contexts.

REFERENCES

Adzani, Fajar, Amal Taqiyuddin, and Ani Nur Aeni. "PENGEMBANGAN E-BOOK INTERAKTIF 'QURANIC QUEST' TERKAIT MATERI MENGAJI DAN MENGKAJI SURAH AT-TIN PADA PEMBELAJARAN PAI KELAS 4 SD." *Elementeris: Jurnal Ilmiah Pendidikan Dasar Islam* 6, no. 1 (2024): 49–59.

Aprianto, Dwi, and Agus Wahyudi. "Integrasi Manajemen Kurikulum, Pengembangan Profesional Guru, Dan Teknologi Pendidikan Dalam Meningkatkan Hasil Belajar Siswa." *Jurnal Review Pendidikan Dan Pengajaran (JRPP)* 6, no. 3 (2023): 4414–24.

Astuti, Rahayu Budi, Supeno Supeno, and Ary Purwantiningsih. "Validitas Dan Kepraktisan Bahan Ajar IPAS Berbasis Multirepresentasi Untuk Meningkatkan Keterampilan Kolaborasi Siswa Sekolah Dasar." *Jurnal Pendidikan: Riset Dan Konseptual* 8, no. 4 (2024): 877–87.

Azhar, Muhammad, Hakmi Wahyudi, and Destia Yolanda. "Integrasi Teknologi Dalam Buku Ajar: Menyongsong Keterampilan Abad 21." *Uluwwul Himmah Educational Research Journal* 1, no. 1 (2024): 43–55.

Azri, Azri, and Qaulan Raniyah. "Peran Teknologi Dan Pelatihan Guru Dalam Meningkatkan Kualitas Pendidikan." *Jurnal Pendidikan Sosial Dan Humaniora* 3, no. 4 (2024): 4859–84.

Cahyadi, Rahmat Arofah Hari. "Pengembangan Bahan Ajar Berbasis ADDIE Model." *Halaqa: Islamic Education Journal* 3, no. 1 (2019): 35–42.

Cholilah, Mulik, Anggi Gratia Putri Tatuwo, Shinta Prima Rosdiana, and Achmad Noor Fatirul. "Pengembangan Kurikulum Merdeka Dalam Satuan Pendidikan Serta Implementasi Kurikulum Merdeka Pada Pembelajaran Abad 21." *Sanskara Pendidikan Dan Pengajaran* 1, no. 02 (2023): 56–67.

Fadillah, Yuda Al, and Alifa Rafli Akbar. "Strategi Desain Pembelajaran Adaptif Untuk Meningkatkan Pengalaman Belajar Di Era Digital." *Jurnal Pendidikan Sains Dan Teknologi Terapan| E-ISSN: 3031-7983* 1, no. 4 (2024): 354–62.

Fajriah, Zuli Lailatul, and Evita Anggereini. "Pengembangan Edu Komik Sebagai Bahan Ajar Berbasis Pendidikan Karakter Pada Materi Interaksi Mahluk Hidup Dan Lingkungannya Di Sekolah Menengah Pertama." *Biodik* 2, no. 1 (2016).

Fathoni, Anang, Bayu Prasodjo, Winarni Jhon, and Dewanto Muhammad Zulqadri. "Media Dan Pendekatan Pembelajaran Di Era Digital: Hakikat, Model Pengembangan & Inovasi Media Pembelajaran Digital," 2023.

Handoko, Suryawan Bagus, Sumanta Sumanta, and Karman Karman. "Konsep Pengembangan Sumber Belajar." *Jurnal Pendidikan Dan Konseling (JPDK)* 4, no. 6 (2022): 11275–86.

Huraerah, Ahmad Junaedy Abu, Abdurrahman Wahid Abdullah, and Alimuddin Rivai. "Pengaruh Teknologi Informasi Dan Komunikasi Terhadap Pendidikan Indonesia." *Journal of Islamic Education Policy* 8, no. 2 (2024).

Inawati, Anis, and Durinta Puspasari. “Pengembangan Media Pembelajaran Interaktif Game Ular Tangga Berbasis Unity 3D Pada Mata Pelajaran Kearsipan Kelas X OTKP Di SMKN 4 Surabaya.” *Jurnal Pendidikan Administrasi Perkantoran (JPAP)* 9, no. 1 (2021): 96–108.

Intaniasari, Yossinta, and Ratnasari Dyah Utami. “Menumbuhkan Budaya Membaca Siswa Melalui Literasi Digital Dalam Pembelajaran Dan Program Literasi Sekolah.” *Jurnal Basicedu* 6, no. 3 (2022): 4987–98.

Kurniati, Annisah. “Pengembangan Modul Matematika Berbasis Kontekstual Terintegrasi Ilmu Keislaman.” *Al-Khwarizmi: Jurnal Pendidikan Matematika Dan Ilmu Pengetahuan Alam* 4, no. 1 (2016): 43–58.

Kurniawan, Ahmad Aldhi, Novian Dini Rahmawati, and Kartiko Dian. “Pengaruh Media Pembelajaran Interaktif Canva Terhadap Hasil Belajar IPAS Pada Peserta Didik Kelas IV Sekolah Dasar.” *Jurnal Inovasi, Evaluasi Dan Pengembangan Pembelajaran (JIEPP)* 4, no. 2 (2024): 179–87.

Magdalena, Ina, Tini Sundari, Silvi Nurkamilah, Nasrullah Nasrullah, and Dinda Ayu Amalia. “Analisis Bahan Ajar.” *Nusantara* 2, no. 2 (2020): 311–26.

Maharani, Yuli. “Efektivitas Multimedia Pembelajaran Interaktif Berbasis Kurikulum 2013.” *Indonesian Journal of Curriculum and Educational Technology Studies* 3, no. 1 (2015): 31–40.

Mattawang, Muh Rizal, and Edy Syarif. “Dampak Penggunaan Kahoot Sebagai Platform Gamifikasi Dalam Proses Pembelajaran.” *Journal of Learning and Technology* 2, no. 1 (2023): 33–42.

Mubarok, Ikhtiromal, Innany Mukhlishina, and Tyas Deviana. “Pengembangan Media Interaktif Cyrcle Arction Materi Unsur Lingkaran Kelas VI SD Muhammadiyah 9 Malang.” *Jurnal Cendekia: Jurnal Pendidikan Matematika* 8, no. 1 (2023): 153–69.

Ningtiyas, Tri Wahyu, Punaji Setyosari, and Henry Praherdiono. “Pengembangan Media Pop-up Book Untuk Mata Pelajaran Ipa Bab Siklus Air Dan Peristiwa Alam Sebagai Penguatan Kognitif Siswa.” *Jurnal Kajian Teknologi Pendidikan* 2, no. 2 (2019): 115–20.

Nur, Fitri Fauziah, and Sofi Mutiara Insani. “Evaluasi Kurikulum Sekolah Dasar Dalam Menilai Efektifitas Dan Relevansi Pembelajaran Di Sdn Sirnaraja.” *Pendas: Jurnal Ilmiah Pendidikan Dasar* 9, no. 2 (2024).

Nurhikmayati, Iik, and M Gilar Jatisunda. “Pengembangan Bahan Ajar Matematika Berbasis Scientific Yang Berorientasi Pada Kemampuan Berpikir Kritis Matematis Siswa.” *Mosharafa: Jurnal Pendidikan Matematika* 8, no. 1 (2019): 49–60.

Patty, Jusak, and Jeny Lekatompessy. “Pelatihan Penggunaan Teknologi Artificial Intelligence (AI) Dalam Pembelajaran Bagi Para Guru SD Negeri Tiakur.” *Jurnal Pengabdian Masyarakat: Pemberdayaan, Inovasi Dan Perubahan* 4, no. 3 (2024).

Purmadi, Ary, and Herman Dwi Surjono. "Pengembangan Bahan Ajar Berbasis Web Berdasarkan Gaya Belajar Siswa Untuk Mata Pelajaran Fisika." *Jurnal Inovasi Teknologi Pendidikan* 3, no. 2 (2016): 151–65.

Ramadhani, Naisya, Wafna Jannata Ulya, Septina Berlian Nustradamus, Fina Fakhriyah, and Erik Aditia Ismaya. "Sistematic Literature Riview: Peran Media Pembelajaran Interaktif Dan Konvensional Pada Proses Pembelajaran Di Sekolah Dasar." *Student Scientific Creativity Journal* 1, no. 5 (2023): 99–114.

Ramdani, Agus, A Wahab Jufri, and Jamaluddin Jamaluddin. "Pengembangan Media Pembelajaran Berbasis Android Pada Masa Pandemi Covid-19 Untuk Meningkatkan Literasi Sains Peserta Didik." *Jurnal Kependidikan: Jurnal Hasil Pengabdian Dan Kajian Kepustakaan Di Bidang Pendidikan, Pengajaran Dan Pembelajaran* 6, no. 3 (2020): 433–40.

Ronaldo, Gito, Ridwan Syukri, Pramudiyanti Pramudiyanti, and Pramita Sylvia Dewi. "Pengembangan LKPD Berbasis Discovery Learning Materi Transformasi Energi Pada Pembelajaran IPA Kelas IV SD." *Jurnal Ilmu Pendidikan Islam* 24, no. 03 (2024): 372–79.

Rustandi, Andi. "Penerapan Model ADDIE Dalam Pengembangan Media Pembelajaran Di SMPN 22 Kota Samarinda." *Jurnal Fasilkom* 11, no. 2 (2021): 57–60.

Rusyada, Gozin Najah, I Nyoman Switrayana, and Syafira Mahfuzi Ardiyati. "Designing Interactive Multimedia Computer Graphics Using The 4D Method as Self-Directed Learning for Students." *Indo-MathEdu Intellectuals Journal* 4, no. 3 (2023): 2478–88.

Santoso, Farhan Aldino. "Dampak Penggunaan Gawai Terhadap Pembelajaran Siswa Sd." *Edukatif: Jurnal Ilmu Pendidikan* 2, no. 1 (2020): 49–54.

Sulistyowati, Sulistyowati, Istiyati Mahmudah, Muhammad Syabrina, Nur Inayah Syar, Rahmad Rahmad, and Abdul Wahid. "PENGEMBANGAN BAHAN AJAR DIGITAL PADA MATA PELAJARAN IPAS KELAS IV DI MI/SD." *As-Sibyan* 7, no. 1 (2024): 35–52.

Sumilat, Juliana, and Ivane Watulangkow. "Pengembangan Media Pembelajaran Interaktif Berbasis Teknologi Di Kelas Iv Sd Negeri Gogagoman." *YUME: Journal of Management* 8, no. 1 (2025): 20–24.

Supardi, Kanisius, and Eliterius Sennen. "Strategi Pengadopsian Teknologi Dalam Pembelajaran Integratif Dan Kolaboratif Pasca-Pandemi COVID-19." *Jurnal Literasi Pendidikan Dasar* 3, no. 1 (2022): 35–50.

Surachman, Arie, Desfita Eka Putri, and Adi Nugroho. "Transformasi Pendidikan Di Era Digital Tantangan Dan Peluang." *Journal of International Multidisciplinary Research* 2, no. 2 (2024): 52–63.

Syach, Dhinendra Choirum Min Alfi, and Listyaningsih Listyaningsih. "PENGEMBANGAN MEDIA PEMBELAJARAN INTERAKTIF BERBASIS GAME VISUAL NOVEL PADA MATA PELAJARAN PENDIDIKAN PANCASILA DI SMA NEGERI 20 SURABAYA." *Kajian Moral Dan Kewarganegaraan* 11, no. 4 (2023): 788–98.

Waruwu, Marinu. “Metode Pengabdian Dan Pengembangan (R&D): Konsep, Jenis, Tahapan Dan Kelebihan.” *Jurnal Ilmiah Profesi Pendidikan* 9, no. 2 (2024): 1220–30.

———. “Pendekatan Pengabdian Pendidikan: Metode Pengabdian Kualitatif, Metode Pengabdian Kuantitatif Dan Metode Pengabdian Kombinasi (Mixed Method).” *Jurnal Pendidikan Tambusai* 7, no. 1 (2023): 2896–2910.

Zhafirah, Tsurayya, Maria Erna, and R Usman Rery. “Development of E-Module Based on Problem Based Learning (Pbl) in Hydrocarbon Material.” *Al-Ishlah: Jurnal Pendidikan* 12, no. 2 (2020): 216–29.