THE DEVELOPMENT OF DIGITAL FLIPBOOK MEDIA IN ENHANCING STUDENTS RELIGIOUS CHARACTER

Mita Kusumaningsih[1]
Universitas Islam Negeri K.H. Abdurrahman Wahid Pekalongan, Indonesia
(mitakusumaningsih@mhs.uingusdur.ac.id)

Dicky Anggriawan Nugroho
Universitas Islam Negeri K.H. Abdurrahman Wahid Pekalongan, Indonesia
(dicky.anggriawannugroho@uingusdur.ac.id)

Mohammad Syaifuddin
Universitas Islam Negeri K.H. Abdurrahman Wahid Pekalongan, Indonesia
(mohammad.syaifuddin@uingusdur.ac.id)

Ahmad Ta'rifin
Universitas Islam Negeri K.H. Abdurrahman Wahid Pekalongan, Indonesia
(ahmad.tarifin@uingusdur.ac.id)

Keywords:	ABSTRACTS
Digital Flipbook Media, Religious Character Education, Interactive Learning Media, Character Education in Vocational Schools, ADDIE Model	**Background:** In the context of rapid technological advancements and the transition from Industry 4.0 to 5.0, character education faces new challenges. **Purpose:** To address these, this study develops and tests the effectiveness of digital flipbook media in enhancing the religious character of 10th-grade students at SMK Negeri 1 Warungasem. **Method:** Using the Research and Development (R&D) approach with the ADDIE model (Analysis, Design, Development, Implementation, Evaluation), the study assesses the feasibility and impact of the flipbook media. **Result:** Results from expert evaluations show high feasibility, with media experts rating it at 88%, material experts at 94.29%, and small-scale trials at 97.14%. Large-scale trials also yielded a strong feasibility rating of 90.58%. Pretest and posttest scores revealed significant improvement in students' religious character, with average scores increasing from 51.85 to 78.89. Statistical analysis, including a paired samples t-test (t = 9.113, p = 0.000), confirmed the media's effectiveness. **Conclusion:** This study demonstrates that digital flipbook media is a highly effective tool for enhancing students' religious character, offering an engaging and interactive approach to character education.

---

[1] Correspondence author

A. INTRODUCTION

In the era of globalization and disruptive innovation, the rapid technological advancements marking the transition from Industry 4.0 to 5.0 (Kim et al., 2020) have significantly impacted character education. Character education has become crucial to counterbalance the potential negative effects of technological progress. In the school environment, students as both subjects and objects of education greatly require the role of teachers to develop good character (Fikri, 2019).

According to Ki Hajar Dewantara in the Taman Siswa Congress (Ananda et al., 2022), education is an effort to nurture the character, mind, and body of a child. This means that education encompasses all efforts by the government to shape students into competent, virtuous, moral, and patriotic individuals. This view aligns with the goals of the Merdeka Belajar curriculum, which aims to develop students with the Pancasila student profile characterized by devotion to God Almighty, global diversity, noble character, independence, creativity, critical thinking, and cooperation (Aini, 2022).

As the educational landscape evolves, teachers are required to hone their pedagogical skills and integrate technology into the learning process. Teachers must master the use of technology and possess the competence to supervise students in using technology beneficially (Nguyen & Hargittai, 2024). However, studies show that the use of ICT in Indonesia has not yet reached 50%, with only 46% of 28,000 teachers having ICT skills and implementing them at level 1 (Wardhani et al., 2023). This results in many learning modules still being created in print form, which tends to be boring for students (Dewi & Lestari, 2020).

Teacher habituation in applying technology is crucial in this digital era. One effort to enhance student learning motivation is by creating electronic modules that are engaging, such as digital flipbooks that include audio, video, and animations (Pixyoriza & Widyawati, 2024). Flipbook software can convert PDF files into digital books with pages that can be turned automatically, thereby improving student literacy (Eka et al., 2024).

Previous research by Dayanti et al. (2021) indicates that flipbook media has advantages over other learning media because it presents not only text but also animations, videos, and sound. Research by Aprilia (2021) shows that contextual science flipbook media effectively enhances students' critical thinking skills. Additionally, research by Kumalasani & Eilmelda (2022) found that flipbook-based e-modules effectively improve thematic learning outcomes, enabling students to better understand the material.

While previous studies have demonstrated the effectiveness of digital flipbook media in the learning process, this study focuses on its use to enhance the non-academic aspect of students, specifically religious character education. The decline in religious character in Indonesia, evidenced by moral degradation, bullying, brawls, and sexual harassment, underscores the need for new innovations in character education (Salsabila & Priatmoko, 2023).

Instilling religious character in education is urgent amidst the current character issues. Religious character, encompassing moral, ethical, and spiritual values, can provide a strong foundation for shaping virtuous and responsible individuals (Saingo, 2023). Religious character education not only helps students develop good attitudes and behaviors but also strengthens their integrity and mental resilience in

facing contemporary challenges (Atin & Maemonah, 2022). With a strong religious character, students can become individuals who positively contribute to society and uphold morality amidst the temptations of modernity.

Therefore, developing flipbook learning media is essential to enhance student engagement in an interesting, interactive, and comprehensible learning experience. This media also aims to introduce religious character values to students in an engaging manner, providing easy access anytime and anywhere.

B. METHOD

The research method should be included in the Introduction. The method contains an explanation of the research approach, subjects of the study, the conduct of the research procedure, the use of materials and instruments, data collection, and analysis techniques.

The research method employed in this study is Research and Development (R&D), aimed at producing a specific product and testing its effectiveness. The model used for designing and developing the product is the ADDIE model by Branch (Analysis, Design, Development, Implementation, and Evaluation) (Sugiyono, 2020). The subjects of this study are 10th-grade students in class 10A at SMK Negeri 1 Warungasem, Batang.

The research procedure consists of five stages: Analysis, Design, Development, Implementation, and Evaluation. Analysis, this stage involves identifying needs, objectives, characteristics, student conditions, and supporting resources (Sugiyono, 2020). The researcher conducts interviews with teachers and student representatives to determine the needs that will serve as the basis for product development.

Design, this stage includes steps to create the design of the predetermined product (Sugiyono, 2020). A blueprint for the digital flipbook media, which serves as a reference for product creation, is developed during this phase.

Development, this stage involves the development and trial testing of the created product (Sugiyono, 2020). The product is developed based on the established design and then validated by media experts (Putri & Sibuea, 2014) and subject matter experts (Devellis, 2017) using assessment instruments as follows:

Table 1. Media Expert Questionnaire

Indicator	Item Numbers
Media	1, 2, 3, 4
Readability	5, 6, 7, 8
Image Quality	9, 10, 11
Media Usage	12, 13, 14
Media Effectiveness	15, 16, 17

Table 2. Subject Matter Expert Questionnaire

Indicator	Item Numbers
Accuracy of Content	1
Importance of Content	2
Completeness of Content	3

Student Understanding	4
Balance of Content	5
Learning Opportunities	6
Relevance of Content	7

After the product has been validated by experts, it is tested on a small scale involving 7 students using the following assessment instrument (Mali, 2021):

Table 3. User Questionnaire

Indicator	Item Numbers
Ease of Product	1
Product Usage	2
Product Effectiveness	3
Importance of Content	4
Product Relevance	5
Formation of Religious Character	6
Application of Religious Values	7

For expert validation and small-scale testing, the categorization of scores is based on the following table (Sugiyono, 2020):

Table 4. Categories

Percentage	Category
X > 87,75	Very Feasible
62,75 < X < 87,75	Feasible
37,75 < X < 62,75	Not Feasible
X < 37,75	Very Not Feasible

Implementation, this stage involves the execution and management of the developed product. The digital flipbook media is implemented with the research subjects, which are the 10th-grade students in class 10A at SMK Negeri 1 Warungasem, Batang. Prior to implementation, a pretest is conducted, and after implementation, a posttest and a large-scale questionnaire are administered.

Evaluation, this stage includes assessing feasibility and effectiveness in terms of process, results, and feedback (Sugiyono, 2020). In this study, feasibility is analyzed through large-scale testing using the user questionnaire instrument outlined in Table 3. Effectiveness is analyzed through preliminary tests (validity and reliability), classical assumption tests (normality and homogeneity), and hypothesis testing using paired sample t-tests, with indicators according to Glock & Stark as referenced in (Arofah et al., 2021), as shown in Table 5.

Table 5. Instrument Tests

Indicator	Item Numbers
Belief	1, 2
Religious Practice	3, 4
Experience	5, 6
Religious Knowledge	7, 8
Practice	9, 10

The hypotheses in this study are as follows:

H_a: Digital flipbook media is effective in enhancing students' religious character.

H_o: Digital flipbook media is not effective in enhancing students' religious character.

C. RESULT AND DISCUSSION

Analysis

Based on interviews with 10th-grade students and the religious studies teacher at SMK Negeri 1 Warungasem, Batang, the need for digital flipbook media to enhance students' religious character was identified. Students expressed a need for more interactive and engaging learning media, while the religious studies teacher noted a lack of student interest in religious material and the ineffectiveness of current learning media. It is anticipated that digital flipbooks can offer a varied teaching method, boost interest and motivation, and present religious material-particularly related to religious character-in a more engaging and comprehensible manner. This needs assessment provides a strong foundation for developing learning media aimed at improving the religious character of 10th-grade students at SMK Negeri 1 Warungasem, Batang.

Design

In the design phase, the researcher created a flowchart to facilitate the development of digital flipbook media aimed at enhancing students' religious character.

Figure 1. Product Design Flowchart
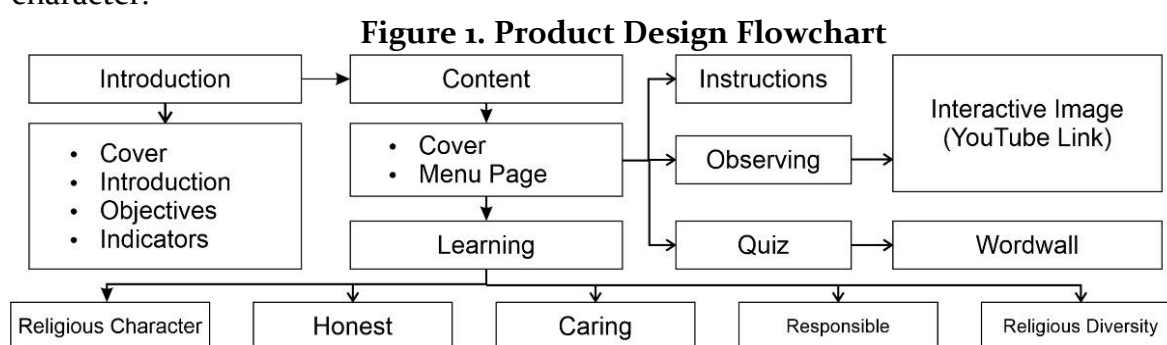
Development

Digital Flipbook on Religious Character, created using the Hyzine platform, consists of two main sections. The initial section includes the cover, introduction, objectives, and indicators of religious character achievement such as honesty, compassion, responsibility, and respect for religious diversity. The content section features the cover, a menu page with learning options covering various aspects of religious character, and interactive elements such as images linked to YouTube

videos, usage instructions, and integrated quizzes with Wordwall. The link to the flipbook product can be viewed as follows: https://heyzine.com/flip-book/523a567efb.html
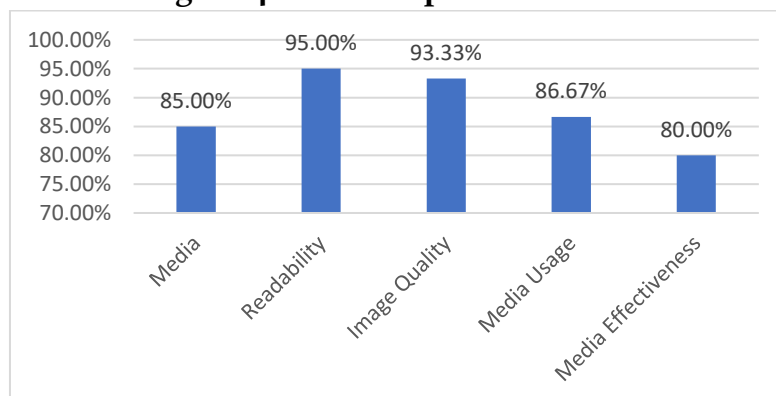
Figure 2. Initial Section

Figure 3. Content Section

After the product was developed, the next step was validation by media experts. The validation results are as follows:

Figure 4. Media Expert Validation

From the media expert validation, the indicators received the following ratings: media 85%, readability 95%, image quality 93.33%, media usage 86.67%, and media

effectiveness 80%. Overall, the average rating from the media expert validation was 88%, which is categorized as highly feasible. Next, the product was validated by subject matter experts, and the results were as follows:

Figure 5. Subject Matter Expert Validation
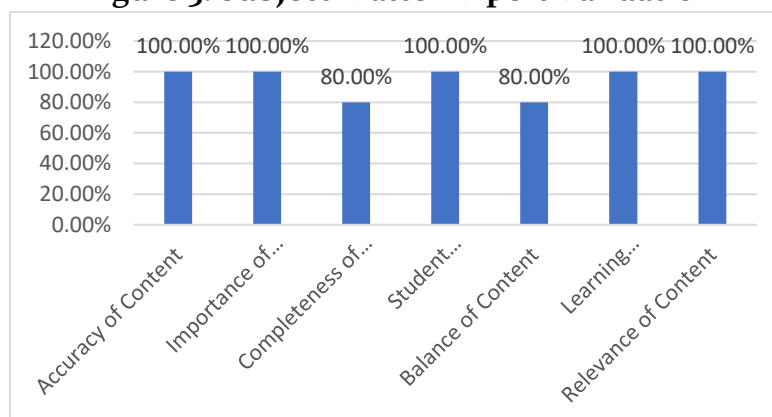
The subject matter expert validation showed the following results: material accuracy 100%, material importance 100%, material completeness 80%, student comprehension 100%, material balance 80%, learning opportunities 100%, and material relevance 100%. Based on these results, the average score was 94.29%, which is categorized as highly feasible.

The evaluations from both media experts and subject matter experts categorized the developed product as highly feasible, making it suitable for a small-scale trial with a small group of students, consisting of 7 students. The results of the small-scale trial are as follows:

Figure 6. Small-Scale Trial
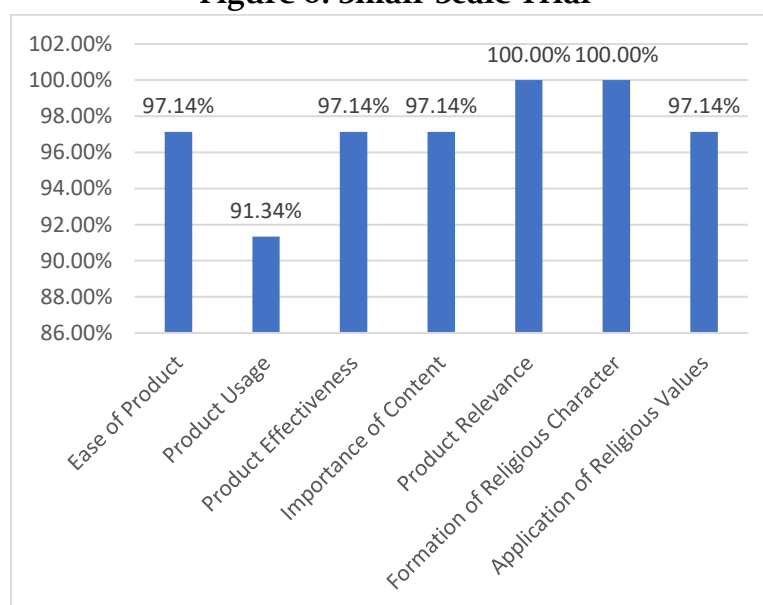
The small-scale trial of the product yielded the following detailed ratings from various indicators: product ease of use 97.14%, product usage 91.34%, product effectiveness 97.14%, material importance 97.14%, product relevance 100%, formation of religious character 100%, and application of religious values 97.14%.

Overall, the small-scale trial received an average score of 97.14%, which is categorized as highly feasible.

Implementation

After validation by experts and testing on a small scale, the digital flipbook product was deemed feasible and ready for implementation with the 10A grade students of SMK Negeri 1 Warungasem, Batang, comprising 27 students. Prior to implementation, a pretest was conducted to measure the students' initial religious character. After the digital flipbook was applied, user questionnaires and a posttest were distributed to analyze the feasibility and improvement in students' religious character.

Evaluation
Feasibility of the Developed Digital Flipbook

In the large-scale trial, the assessment questionnaires from the research subjects provided the following results:

Figure 7. Large-Scale Trial
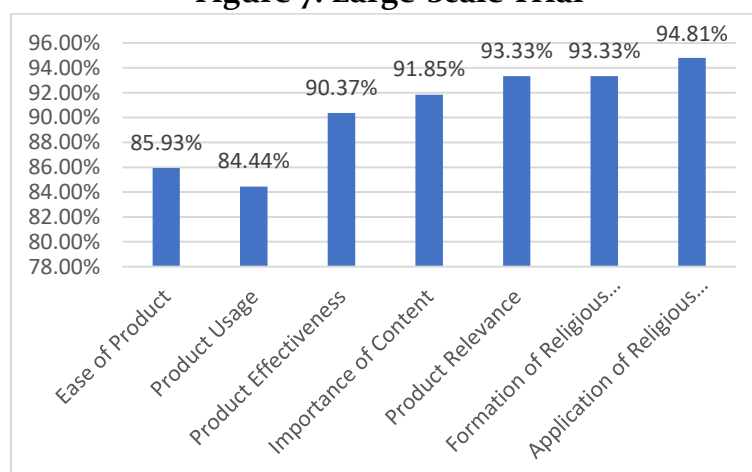
From the diagram of the large-scale trial, the scores for the indicators are as follows: product ease of use 85.93%, product usage 84.44%, product effectiveness 90.37%, material importance 91.85%, product relevance 93.33%, formation of religious character 93.33%, and application of religious values 94.81%. Overall, the large-scale trial received an average score of 90.58%, which is categorized as highly feasible. It can be concluded that the developed product, namely the digital flipbook on religious character, is feasible for use and can help improve students' religious character.

The Effectiveness of the Digital Flipbook Media in Enhancing Students' Religious Character
Instrument Testing

Instrument testing is the initial step to measure the effectiveness of the digital flipbook media in enhancing students' religious character. During the instrument test, the validity and reliability of the test instruments were measured. The sample

used was from outside the main research subjects, specifically class 10B of SMK Negeri 1 Warungasem, Batang, consisting of 27 students. The following are the results of the SPSS calculations regarding the validity of the test instruments:

Table 6. Validity

No Item	1	2	3	4	5	6	7	8	9	10
R-Value	0.4429	0.4448	0.4293	0.4293	0.5281	0.4225	0.4686	0.5751	0.5736	0.5751

From the calculations, it is known that the calculated r-value is greater than the r-table value (df = 27-2 = 25), which is 0.3809. Therefore, it can be concluded that all 10 items in the test instrument are valid. Next, the reliability test results obtained with the help of SPSS are as follows:

Table 7. Reliability

Cronbach's Alpha	N of Items
0,639	10

Based on the table, the Cronbach Alpha value from the reliability test is 0.639, indicating that the test instrument is considered reliable as it exceeds the benchmark value of 0.600 (Sugiyono, 2014). With the test instrument confirmed as valid and reliable, it was then distributed to the main research subjects, and the statistical description of the obtained scores is as follows:

Table 8. Statistical Description

	N	Minimum	Maximum	Mean	Std. Deviation
Pretest	27	30	90	51.85	15.451
Posttest	27	60	100	78.89	13.960
Valid N (listwise)	27				

It is observed that, among the 27 research subjects, the average pretest score is 51.85, and the average posttest score is 78.89. This indicates an improvement in students' religious character.

Classical Assumption Testing

Classical assumption testing is used to analyze whether the data meet the basic assumptions. This study includes normality and homogeneity tests. The following are the results of the normality test using the Kolmogorov-Smirnov method with SPSS assistance:

Table 8. Normality

Sig. Pretest	Sig. Posttest
0,148	0,85

Based on the Kolmogorov-Smirnov test results, the significance values for the pretest and posttest normality tests are greater than 0.05 (with a 5% significance level). Therefore, it can be concluded that the data are normally distributed. Next, the results of the homogeneity test using SPSS are as follows:

Table 9. Homogeneity

Reference Value	Sig.
0,05	0,7

Based on the table, the significance value is 0.7, which is greater than 0.05 (with a 5% significance level). Thus, it can be concluded that the data are homogeneous and the analysis can proceed to hypothesis testing.

Hypothesis Testing

Hypothesis testing is conducted to measure the effectiveness of the digital flipbook media in improving students' religious character. The following are the results of the hypothesis test using a paired samples t-test with SPSS assistance:

Table 10. T-Test

Paired Samples Test								
		Paired Differences						
		Mean	Std. Dev	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Posttest - Pretest	38,519	21,962	4,227	29,831	47,206	9,113	26	0,000

Based on the t-test results, the t-value obtained is 9.113, which is greater than the t-table value of 2.0555 (df = 26), and the significance value is 0.000, which is less than 0.05. This indicates that the alternative hypothesis (H_a) is accepted and the null hypothesis (H_o) is rejected, concluding that the digital flipbook media is effective in enhancing the religious character of students in class 10A at SMK Negeri 1 Warungasem, Batang. The statistical description shows that the average pretest score was 51.85 and the average posttest score was 78.89, indicating a significant improvement in students' religious character.

The effectiveness of the digital flipbook media can be assessed using indicators from Glock & Stark: Belief, Religious Practice, Experience, Religious Knowledge, and Application. The average score increase from pretest to posttest demonstrates that the digital flipbook successfully enhanced students' belief, religious practice,

religious experience, religious knowledge, and application of religious values. The significant improvement across all these indicators confirms the digital flipbook's effectiveness in improving students' religious character.

These findings are consistent with research by Zahra et al. (2024), which developed flipbook media to enhance student character and found it valid and effective, with an average expert rating of 4.6. Research by Qomah & Khosiyono (2022) also indicates that computer-based flipbook media can improve student motivation and learning outcomes. Additionally, Yusuf et al., (2022) found that fable-based flipbook media was highly feasible and effective in enhancing students' understanding of moral messages. These studies support the conclusion that flipbook media not only improves academic understanding but also helps in character development, aligning with the results of this study.

D. CONCLUSION

This study demonstrates that the development of digital flipbook media is effective in enhancing the religious character of students in class 10A at SMK Negeri 1 Warungasem, Batang. The media's feasibility was rated as very good by media experts (88%), subject matter experts (94.29%), small-scale testing (97.14%), and large-scale testing (90.58%). The pretest analysis before using the media showed an average score of 51.85, while the posttest score after using the media reached 78.89, indicating a significant improvement in students' religious character. The hypothesis test using a paired samples t-test yielded a t-value of 9.113, which exceeds the t-table value of 2.0555, with a significance value of 0.000, which is less than 0.05. This confirms that Ha is accepted and Ho is rejected, indicating the effectiveness of the digital flipbook media. Although the findings are positive, the study has limitations in sample size and material variation. Therefore, recommendations for future research include expanding the sample size, developing material variations, and exploring the long-term impact on religious character as well as other non-academic aspects.

REFERENCES

Aini, D. K. "Merdeka Belajar Dalam Pandangan Ki Hadjar Dewantara Dan Relevansinya Bagi Pengembanagan Pendidikan Karakter." *Jurnal Filsafat Indonesia 3,* no. 3 (2022): 95–101.

Aprilia, T. "Efektivitas Penggunaan Media Sains Flipbook Berbasis Kontekstual untuk Meningkatkan Kemampuan Berfikir Kritis Siswa." *Jurnal Penelitian Ilmu Pendidikan, 14,* no. 1 (2021): 10–21. https://doi.org/10.21831/jpipfip.v14i1.32059

Arofah, L., Andrianie, S., & Ariyanto, R. D. "Skala Karakter Religius Sebagai Alat Ukur Karakter Religius Bagi Siswa Sekolah Menegah Kejuruan." *Jurnal PINUS: Jurnal Penelitian Inovasi Pembelajaran 6,* no. 2 (2021): 16–28.

Atin, S., & Maemonah, M. "Internalisasi Nilai-Nilai Karakter Religius Melalui Pembelajaran Akidah Akhlak Di Madrasah Ibtidaiyah." *EDUKASI: Jurnal Penelitian Pendidikan Agama Dan Keagamaan 20,* no. 3 (2022): 323–337. https://doi.org/10.32729/edukasi.v20i3.1302

Dayanti, Z. R., Respati, R., & Gyartini, R. "Pengembangan Bahan Ajar Elektronik Flipbook Dalam Pembelajaran Seni Rupa Daerah Siswa Kelas V Di Sekolah Dasar." *Journal of Elementary Education 04,* no. 05 (2021): 5.

DeVellis, R. F. *A modern approach to measurement and evaluation: Concepts and methods.* SAGE Publications. 2017.

Dewi, M. S. A., & Lestari, N. A. P. "E-Modul Interaktif Berbasis Proyek Terhadap Hasil Belajar Siswa." *Jurnal Imiah Pendidikan Dan Pembelajaran 4, no. 3 (2020): 433–441.*

Eka, A., Cahya, A., Hamid, A., & Tamwifi, I. "Penerapan media pembelajaran PAI berbasis Flipbook untuk penguatan literasi peserta didik di sekolah." *Ta'dibuna 13, no. 2 (2024):* 86–101. https://doi.org/10.32832/tadibuna.v13i2.15542

Fikri, A. "Pengaruh Globalisasi dan Era Disrupsi terhadap Pendidikan dan Nilai-Nilai Keislaman." *Sukma: Jurnal Pendidikan 3,* no. 1 (2019): 117–136. https://doi.org/10.32533/03106.2019

Hao Nguyen, M., & Hargittai, E. "Digital disconnection, digital inequality, and subjective well-being: a mobile experience sampling study." *Journal of Computer-Mediated Communication 29, no.* 1 (2024). https://doi.org/10.1093/jcmc/zmad044

Kim, J.-Y., Jung, E. Y., Chung, H., Kim, J.-O., & Lee, T.-W. "*A Case Study on Novel-Engineering-based Maker Education Program for Pre-service Teachers.*" 2020: 1–5. https://doi.org/10.1142/9789811228001_0001

Kumalasani, M. P., & Eilmelda, Y. "Analisis Efektivitas Penggunaan E-Modul Berbasis Aplikasi Flipbook Pada Pembelajaran Tematik Di SD." *Jurnal Pemikiran Dan Pengembangan Sekolah Dasar (JP2SD) 10,* no. 1 (2022): 39–51. https://doi.org/10.22219/jp2sd.v10i1.20175

Mali, S. "Pengembangan Multimedia Terhadap Pengajaran Pendidikan Agama Kristen

Pada Masa Pandemi Covid-19." *Inculco Journal of Christian Education 1, no. 2* (2021): 95–106. https://doi.org/10.59404/ijce.v1i2.20

Putri, I. P., & Sibuea, A. M. "Pengembangan Media Pembelajaran Interaktif pada Mata Pelajaran Fisika." *Jurnal Teknologi Informasi & Komunikasi Dalam Pendidikan 1, no. 2* (2014): 145–155.

Qomah, I., & Khosiyono, B. H. C. "Pengembangan Media Pembelajaran Interaktif Berbasis Komputer melalui Flipbook untuk Meningkatkan Motivasi dan Hasil Belajar Siswa SD pada Pembelajaran Tematik." *Tuladha: Jurnal Pendidikan Dasar 1, no. 1* (2022): 48–59.

Rizky Asrul Ananda, Mufidatul Inas, & Agung Setyawan. "Pentingnya Pendidikan Karakter pada anak Sekolah Dasar di Era Digital." *Jurnal Pendidikan, Bahasa Dan Budaya 1, no. 1* (2022): 83–88. https://doi.org/10.55606/jpbb.v1i1.836

Saingo, Y. A. "Internalisasi Nilai-Nilai Karakter Religius Melalui Pembelajaran Pendidikan Agama Kristen di SD Inpres Lili." *Apostolos: Journal of Theology and Christian Education 3, no. 1* (2023): 1–14. https://doi.org/10.52960/a.v3i1.176

Salsabila, & Priatmoko, S. "Pembentukan Karakter Religius Siswa Sekolah Dasar Melalui Implementasi Budaya Sekolah." *ZAHRA: Research And Tought Elmentary School Of Islam Journal 4, no. 2* (2023): 98.

Sugiyono. *Metode Penelitian & Pengembangan Research and Development*. ALFABETA. 2020.

Wardhani, J. D., Katoningsih, S., Asmawulan, T., Nasywa, N. M., & Mahaeswari, A. C. "Penguatan Keterampilan dengan Stimulasi Literasi Berbasis TIK bagi Guru Ikatan Guru Aisyiyah Bustanul Athfal (IGABA) Kartasura." *Buletin KKN Pendidikan 5, no. 1* (2023): 12–20. https://doi.org/10.23917/bkkndik.v5i1.22722

Yusuf, N., Setyawan, H., Immawati, S., Santoso, G., & Usman, M. "*Pengembangan Media Flipbook Berbasis Fabel untuk Meningkatkan Pemahaman Pesan Moral pada Peserta Didik di Sekolah Dasar*." (2023): *6*(5), 8314–8330.

Zahra, T. A., Dewi, R. K., Lestari, D. A., & Nugraha, R. G. "Pengembangan Media Pembelajaran Flipbook "Karakter Anak Bangsa, Indonesia Beradab" untuk Meningkatkan Karakter Siswa Sekolah Dasar." *JURNAL BASICEDU 8, no. 1* (2024): 615–623.