The Development of Google Sites Learning Media Integrated with Islamic Values to Improve Religious Characters and Critical Thinking Skills

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Abstract

This research aims to determine the characteristics of Google Sites learning media integrated with Islamic values on Static Electricity material and its impact on the improvement of religious characters and critical thinking skills. The research method used is R&D with the ADDIE type. The research results show that the Google Sites learning media integrated with Islamic values on Static Electricity material is very valid for use. The validation scores from media and material experts were 4.38 and 4.42, respectively, with very valid criteria. The results of the data analysis show the N-Gain test results for 1 religious characters indicator with a high criterion and 7 religious character indicators with a medium criterion. The results of the N-Gain test for critical thinking skills showed 3 indicators with high criteria and 2 indicators with medium criteria. The results of the t-test for religious characters and critical thinking skills show a significant difference between the pretest and posttest scores. Based on the research results, the Google Sites learning media integrated with Islamic values on Static Electricity material is valid, usable, and can enhance the religious characters and critical thinking skills of the students.

How to Cite

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INTRODUCTION

The education system must be adjusted so that the younger generation can respond to and solve the challenges they will face in the future, as science and technology continue to evolve to address the ever-changing challenges of life. Science education must be facilitated to develop creative thinking, critical thinking, and problem-solving skills (Iskandar et al., 2018). Students are expected to understand natural phenomena through problem-solving and scientific methods, as well as to emulate how scientists discover new facts (Agustini, 2020).

According to Diani (2014), science subjects help students develop character and build a systematic understanding of nature. The success of the learning process is influenced by students, teachers, media, learning strategies, curriculum, and learning resources. The quality of education is determined by the combination of all elements present in the learning process (Dolong, 2016). With the availability of learning media, the interaction between teachers and students will become easier, making the learning activities more efficient and effective (Puspita et al., 2017). Learning media must capture the interest of students. According to Hanik et al. (2018), the purpose of using media during the learning process is to enable students to form their own concepts.

Education is carried out as a human effort to develop their personality in accordance with the values of character and the culture of society (Annas et al., 2024). Efforts made to improve character education by establishing Permendikbud number 20 of 2018 concerning five main principles: religious, nationalist, integrity, mutual cooperation, and independence (Onde et al., 2020). Religious character is the most important main character for humans, serving as the relationship of human belief with God Almighty and as the foundation that regulates the relationship between humans and all of His creations (Aswat et al., 2021). The development of religious characters in education is essential for humans to become true humans (Nurihsan, 2016).

According to Purwati et al. (2018), Islamic values are still insufficiently integrated into secondary education, particularly in science subjects. This integration activity involves the application of relevant Quranic verses to the subjects being taught (Nuryantini, 2018). Integrated science learning with Islamic values builds strong, complementary, and confirming theories (Kazwaini et al., 2021). Science and religion can be considered as two different worlds that can support each other in explaining the truth and understanding the universe (Nurjanah et al., 2018).

Integrating Islamic values into science education will give students the ability to master knowledge and technology while strengthening their faith and piety (Ramadhani, 2020). In the research conducted by Nurjanah et al. (2018), the use of thematic teaching materials integrated with Islamic values and science can enhance the religious characters of students. Imamuddin et al. (2023) wrote that Mathematics learning that integrates Islamic values can enhance the religious characters of students. In another study conducted by Azizah (2021), the integration of Islamic values in social studies learning within the 2013 curriculum can enhance students' religious characters. From several studies, it can be concluded that learning that integrates Islamic values can enhance the religious characters of students.

The 21st-century education paradigm focuses on teaching students skills relevant to the modern world (Muhali et al., 2019). Critical thinking skills are one of the essential elements that learners must possess to face the challenges of the 21st century. Critical thinking skill is a component of higher-order thinking skills, also known as HOTS (Higher Order Thinking Skills). HOTS is a very important way of thinking that involves analysis, synthesis, association, and drawing conclusions, which enables people to generate creative and productive ideas (Ernawati, 2017). Indicators of critical thinking according to Ennis (2011) are 1) providing simple explanations; 2) building basic skills; 3) drawing conclusions; 4) making further explanations; and 5) organizing strategies and tactics.

In field research, students' critical thinking skills still need to be improved. There is a need for innovation in learning that can help students think critically. A study by Zulhelmi et al. (2017) found that interactive learning can enhance students' ability to think critically. According to the research by Wahyuni et al. (2022), the development of interactive learning media with narratable stories on solar system material can enhance students' critical thinking skills with positive learning outcomes. Additionally, according to Syahdiani's (2015) research, the development of interactive media can improve students' learning outcomes and enhance critical thinking skills. Web-based learning is one of the advancements in education in the digital era. According to the research by Alfian et al. (2024), interactive web applications enhance analysis, evaluation, and problem-solving skills through HOTS questions and discussion forums. Web-based media also en-

courages students to be more active in analyzing information and thinking critically based on data (Arifin et al., 2024). According to the research by Elisabeth et al. (2025), which developed Android-based learning media for earth change material, the results show that this media is effective in enhancing students' critical thinking skills through an interactive approach and the use of technology familiar to the students.

One of the digital platforms that can be used in website creation is Google Sites. Google Sites is one of the tools Google provides for website creation. Google Sites is very easy to manage and use because the menu features are easy to understand and familiar (Harsanto, 2014). Google Sites can connect with other Google products such as Google Docs, Google Forms, Google Sheets, Google Drive, Google Calendar, YouTube, and others (Arief, 2017).

The development of Google Sites as a learning media to enhance critical thinking skills aligns with the research conducted by Hidayati et al. (2024), which indicates that the use of Google Sites as a learning medium is effective in improving students' critical and creative thinking abilities. Students' evaluations of Google Sites are also very positive, indicating that this media can be an engaging and effective learning resource. Technology-based learning media such as Google Sites can enhance students' critical thinking skills by providing ease of access and interactivity (Hwang et al., 2015). A research conducted by Halim et al. (2024) found that the use of digital media in education can enhance conceptual understanding and critical thinking skills. This is in line with research showing that the use of technology in learning can enhance critical thinking skills (Pradana et al., 2024).

The development of Google Sites learning media has been widely researched, but there has not been many researches on the development of Google Sites learning media that integrate subjects with Islamic values to enhance religious character, which is an important trait needed to face future challenges. Based on a research by Diani et al. (2018), Physics learning media based on Islamic literacy helps students understanding physical material and it is expected to enhance their faith in Allah SWT, their personality, and noble character. The results of a study by Ayu et al. (2019) state that by integrating Islamic values into science learning, Powtoon learning media can identify students' discipline. In the research findings of Utama et al. (2019), the integration of Islamic values into science education can cre-ate more meaningful learning atmosphere so that it is able to ease students to learn. Aziz et al. (2019) wrote that the integration of Islamic values in social studies can develop critical thinking skills, making all learning activities more meaningful and ensuring that learning outcomes are long-lasting. Ulya et al. (2023) wrote that science learning tools integrated with Islamic values can enhance students' critical thinking skills.

This platform allows teachers to present lessons that are not only informative but also contain moral and ethical values in accordance with Islamic teachings (Cansoy et al., 2017). These studies developed learning media by integrating Islamic values but have not yet measured religious character. Religious character is important to develop as a shield in responding to the rapid development of the times that threatens the decline of students' morality and character (Muhammad, 2021). Based on the background presentation, it is necessary to conduct a research that develops Google Sites learning media integrated with Islamic values that aims to enhance students' critical thinking skills and religious character.

METHOD

This research is RnD (Research and Development). The ADDIE model consists of Analysis, Design, Development, Implementation, and Evaluation. The ADDIE development method is chosen because this model has the advantage that at each stage, the product is evaluated and revised to ensure it is appropriate and produces a valid product. The design of Google Sites learning media integrated with Islamic values to enhance religious characters and critical thinking skills is based on the results of curriculum analysis, learning objectives (ATP), indicators, as well as the needs of teachers and students. The testing of the Google Sites learning media integrated with Islamic values was conducted on 9th-grade students at SMP IT Bina Amal for the 2024/2025 academic year, consisting of one experimental class and one control class with a total of 82 students.

The research instruments include (1) analyzing the characteristics of the media with a media validation questionnaire, materials, test instruments, teaching modules, religious characters, and student responses; (2) a religious character questionnaire to measure religious characters; (3) measuring critical thinking skills with 10 critical thinking skill questions. Indicators of religious characters can be seen in Table 1 (Rahmawati, 2019).

Table 1. Indicators of Religious Characters

	Indicators	Description
1.	Faithful	Belief in Allah, angels, prophets, scriptures, the Day of Judgment, and destiny
2.	Obedience to Allah SWT	Obedient in following the commands of Allah SWT and avoiding His prohibitions
3.	Gratitude	Grateful for the blessings given by Allah
4.	Sincerity	Doing something only hoping for the consent of Allah SWT
5.	Honesty	Conveying everything as it is
6.	Discipline	Carrying out daily activities with discipline
7.	Respecting others	Always respecting others as much as is proper
8.	Caring for oneself and the surrounding environment	Maintaining and taking care of oneself and the surrounding environment

The indicators of critical thinking skills according to Ennis (2011) are presented in Table 2.

Table 2. Indicators of Critical Thinking Skills

Aspect	Description
Providing a simple explanation	Focusing questions, analyzing opinions, asking and answering challenging questions
Building Skills Basic	Considering the credibility (criteria) of a source, observing and considering observation results
Concluding	Making deductions and considering deduction results, making induction and considering induction results, making and determining the results of the consideration
Making an explanation further explanation	Defining terms, considering a definition, and identifying assumptions
Strategy and tactics	Deciding on an action and interacting with others pleasantly, logical strategies, rhetorical strategies, and presentation.

The technique for analyzing feasibility instruments uses construct validity testing with expert judgment techniques. Content of the material, media feasibility, and validation are conducted by lecturers, science subject teachers, and tahfidz teachers as experts. Teaching module instruments, critical thinking skills questions, religious character questionnaires, and response

questionnaires are validated by teachers and lecturers as experts using a Likert scale of $1-5$. After averaging, the expert validation results were analyzed using questionnaire analysis techniques and described descriptively as shown in Table 3 (Riduwan, 2022).

Table 3. Validity Categories

Average Score	Category of Validity
$4.21-5.00$	very valid
$3.41-4.20$	valid
$2.61-3.40$	quite valid
$1.81-2.60$	less valid
$1.00-1.80$	not valid

If the average result of an item falls into the "valid" or "very valid" category, then the item is deemed suitable for use. However, if there are items that fall into the "quite valid" category or lower, those items need to be revised or removed according to the validators' recommendations.

The religious characters of the students were obtained from questionnaires administered to all students in the experimental and control classes. The students' religious character questionnaire analysis was guided by a rubric that had been created using a 1-4 Likert scale. After the pretest and posttest scores were calculated for both the control and experimental classes, the increase in the average religious character of the students before and after the learning was analyzed using the normalized gain derived from the pretest and posttest scores obtained by the students.

$$\text{N-gain} = \frac{S_{postest} - S_{pretest}}{S_{maksimum} - S_{pretest}}$$

Interpretation of the <g> value obtained using Hake's criteria (Majdi et al., 2018) with classification as shown in Table 4.

Table 4. Interpretation of the value <g>

<g>	Criteria
$0.70 \leq \text{<g>} \leq 1.00$	high
$0.30 \leq \text{<g>} < 0.70$	medium
$\text{<g>} < 0.30$	low

The results were obtained from the pretest and posttest scores to analyze critical thinking skills. After the pretest and posttest scores were calculated for both the control and experimental classes, the extent of the improvement in students' critical thinking skills was analyzed using

normalized gain (Normalized Gain) similar to the religious character. In addition to analyzing N-Gain, the influence of Google Sites learning media integrated with Islamic values on students' religious characters and critical thinking skills, measured using a t-test, is also analyzed.

The learning program is said to have an impact on the improvement of students' religious characters and critical thinking skills, as observed from the t-test which is higher than the t-table ($t > t_{table}$) with degrees of freedom (df) = n – 1 and a significance level of α = 5%. Therefore, Ho is rejected, and Ha is accepted, where Ho states that there is no influence between the development of Google Sites learning media integrated with Islamic values on religious characters and critical thinking skills, while Ha states that there is an influence between the development of Google Sites learning media integrated with Islamic values on the improvement of religious characters and critical thinking skills.

RESULT AND DISCUSSION

Google Sites learning media integrated with Islamic values on Static Electricity material is obtained through several stages, namely setting learning objectives according to learning outcomes, determining the number of meetings, designing a storyboard for learning media for each meeting from apperception, worksheets to be completed by students, learning material according to learning objectives, practice questions, summaries, and a glossary. Learning Outcomes on the created media are that students understand the relationship between magnetic and electrical phenomena to solve daily challenges, including using environment-friendly electrical energy sources. The search for creating Static Electricity material integrated with Islamic values was conducted by looking for references in books and articles. The verses of the Qur'an found to be integrated with the Static Electricity material are from Surah Al-Zalzalah verses 7-8, Surah Yasin verse 36, Surah Al-Hujurat verse 13, Surah Al-Baqarah verses 1-5, Surah Al-Baqarah verses 19-20, Surah Ar-Ra'd verses 12-13, and Surah Ar-Rum verse 24. After the identification of the material and the integration of the Quranic verses are completed, the next stage is the creation of the storyboard.

The design stage of the Google Sites media appearance is carried out by determining the background appearance, font type, font size, illustrative images, and overall media appearance. The background appearance adjusts to the text on Google Sites media. The type of font used also matches the text of the displayed material. Figure 1 is the cover view on the developed Google Sites media. The media development link can be accessed at https://bit.ly/MPILISTRIKSTATIS.

Figure 1. Google Sites Media Cover and QR code to access the media

The Google Sites media is designed to include learning objectives, apperception, Students' Worksheet (LKPD), LKPD submission link, ice breaking, learning materials, practice questions, glossary, and a button to return to the homepage. The creation of Google Sites learning media not only utilizes the features of Google Sites but also incorporates applications such as Canva, YouTube, Phet Simulation, Quiziz, Google Drive, and Google Form. The Google Sites learning media that has been compiled was then validated by expert validators, namely two lecturers, three junior high school science teachers, and one tahfidz teacher who has memorized the 30 Juz of the Qur'an and possesses good religious capacity. After the material validation was analyzed, based on the validity criteria from Azwar (2012) and Riduwan (2015), all indicators in the material validation were classified as valid to very valid, with an average score ranging from 4.17 to 4.75. In addition to material validation, media validation was also conducted. For the design and content of the media, the average score was > 4.20, thus meeting the criteria for being very valid. Overall, from the validation of the media and materials, the development of Google Sites-based learning media integrated with Islamic values is very valid to use in education. Improvements are still being made based on the suggestions and feedback from expert validators so that the development of Google Sites learning media integrated with Islamic values can be even better.

Teaching modules, students' response

questionnaires, religious questionnaires, and critical thinking skills test instruments were also validated by expert validators. The validation results received an average score of > 4.20, thus meeting the criteria for being very valid and suitable for use in the research. The religious character questionnaire was given as a pretest and posttest to both the experimental and control classes. The N-Gain method is used to measure the level of learning effectiveness by looking at the increase in religious character scores between the pretest and posttest. The N-Gain of the control and experimental classes is shown in Figure 2.
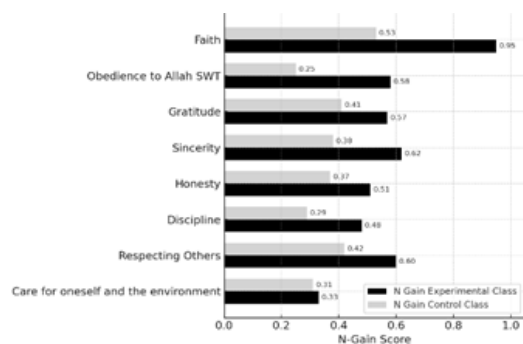

Figure 2. N-Gain Results of Religious Character

Figure 2 shows that the experimental class's N-Gain is higher than that of the control class. In the experimental class, the N-Gain for the character of faith in God is 0.95, which means the improvement is high, while the other 7 characters, namely the characters of obedience to God, gratitude, sincerity, honesty, discipline, respecting others, and care for oneself and the surrounding environment, show moderate improvement. In the control class, the N-Gain for 6 religious characters, namely faith in God, gratitude, sincerity, honesty, respect for others, and care for oneself and the surrounding environment, showed moderate improvement, while for 2 religious characters, namely obedience to God and discipline, it showed low improvement.

The normality test is used to determine whether the data is normally distributed or not, so that a decision can be made on which t-test to use. The t-test is used to examine whether there is a difference in the religious character of students based on their pretest and posttest scores. The normality test used the Shapiro-Wilk type because the number of respondents in each class was below 50. The significance value in the Shapiro-Wilk test for the experimental class before treatment was 0.225, indicating that the value $0.119 > 0.05$, which means the data is normally distributed, whereas after treatment, the signifi-

cance value was 0.035 (< 0.05), meaning the data is not normally distributed. As for the control class, both before and after the treatment, the significance values obtained were 0.427 and 0.098 respectively, both above 0.05, indicating that the data is normally distributed.

The testing used a significance level of 0.05 or a confidence level of 95%. From the data analysis, the significance value of the nonparametric Wilcoxon t-test in the experimental class is 0.011 (< 0.05), so it can be concluded that there is a difference between the pretest and posttest results of the religious character of the students in the experimental class. This indicates an influence of using Google Sites as a learning medium integrated with Islamic values in the Static Electricity material. The t-test for the control class showed a significance value of 0.000 (< 0.05), so it can be concluded that there is a difference between the pretest and posttest results of the religious character of the control class students. This indicates that there is an influence of integrated Islamic value learning on Static Electricity material in the control class, although not as significant as in the experimental class.

In general, the religious character of students in the experimental class showed a more even and significant improvement compared to the control class. This indicates that the Google Sites learning media, designed by incorporating Islamic values, not only enhances cognitive aspects but also encourages students' internalization of moral and spiritual values. This result is in line with the research by Wulandari et al. (2020), which states that digital media based on Google Sites developed with character value content can enhance students' independence and learning discipline, as well as shape positive character. Additionally, research by Rahayu et al. (2021) also states that learning integrated with religious values can enhance students' affective engagement, including religious character.

Islam-integrated learning has great potential to enhance students' religious character. In the study conducted by Nurjanah et al. (2018), the use of thematic teaching materials integrated with Islamic values and science can enhance the religious character of students. Imamuddin et al. (2023) wrote that Mathematics learning that incorporates Islamic values can enhance the religious characters of students. In another study conducted by Azizah (2021), the integration of Islamic values in social studies learning within the 2013 curriculum can enhance the religious characters of students. From several studies, it can be concluded that learning that integrates Is-

lamic values can enhance the religious characters of students. Research by Wulandani et al. (2023) shows that Google Sites as a learning medium for Islamic Religious Education (PAI) in elementary schools is effectively develops students' morals. Overall, the results of this study indicate that the integration of Islamic values in education is an effective strategy for enhancing religious character.

For the critical thinking skills test instrument, an analysis of question validity, reliability testing, question discrimination, and difficulty level testing was conducted, resulting in 10 questions that are valid, reliable, have good discrimination, and moderate difficulty level, which were administered in the pretest and posttest. The improvement in students's critical thinking skills was tested with N-Gain, the results of which are shown in Figure 3.
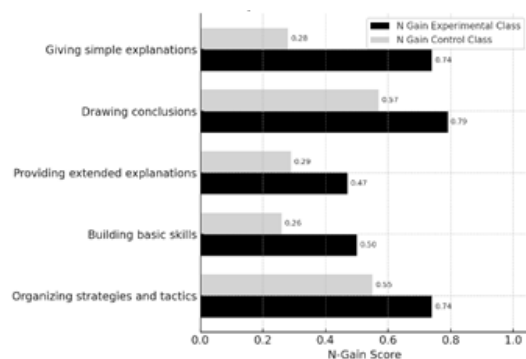

Figure 3. N-Gain Results of Critical Thinking Skills

Figure 3 shows that the highest N-Gain value in the experimental class on the summarizing indicator is 0.79, which falls into the high category according to Hake's classification (1999), while the control class only reaches 0.57 (medium category). On the indicator of providing simple explanations, organizing strategies, and tactics, the experimental class showed an N-Gain value of 0.74 (high category), while the control class showed only 0.28 (low category) for the simple explanation indicator and 0.55 (medium category) for the organizing strategies and tactics indicator. These results show that the learning implemented in the experimental class can facilitate students in developing critical thinking skills, especially in formulating conclusions, explaining information systematically, and designing problem-solving strategies. For the indicators of making further explanations and building basic skills in the experimental class, the N-Gain values were 0.47 and 0.50 (moderate category), higher than the control

class which only reached 0.29 and 0.26 (low category).

To determine the t-test used in data processing, the pretest and posttest values were first tested for normality, and the pretest significance value in the Shapiro-Wilk test for the experimental class was found to be 0.119, with a value of 0.119 > 0.05, indicating that the data is normally distributed, while the posttest significance value was 0.41 (< 0.05), which means that the data is not normally distributed. As for the control class, the pretest and posttest obtained significance values of 0.011 and 0.002 respectively, both of which are below 0.05, indicating that the data are not normally distributed.

Next, a t-test was conducted on the experimental class using a nonparametric test because the data were not normally distributed. The results of the analysis using the Wilcoxon Signed Ranks Test show that there is a significant difference between the pretest and posttest scores in the experimental class with an Asymp. Sig. (2-tailed) value of 0.000 (p < 0.05). This indicates that the developed Google Sites learning media is effective in improving students' critical thinking skills. The negative Z value (-5.581) suggests that most posttest scores were higher than pretest scores, confirming a significant improvement in critical thinking skills. These findings strengthen the evidence that digital technology-based learning can encourage deeper and more meaningful cognitive engagement among learners (Wulandari et al., 2020).

The results of the Wilcoxon Signed Ranks Test in the control class showed an Asymp. Sig. value of 0.000 (p < 0.05), which means there is a significant difference between the pretest and posttest scores. This indicates that the learning taking place in the control class is also capable of enhancing students' critical thinking skills even without using Google Sites-based learning media. A Z value of -5.448 indicates that the improvement occurred consistently among the majority of the students. However, when compared to the experimental class, the increase is relatively lower, as indicated by the smaller N-Gain value. This indicates that the use of digital technology-based learning media is more optimal in developing students' critical thinking skills.

The data analysis results show that interactive media-based learning in the experimental class fosters a learning environment that encourages students to engage in higher-order thinking processes actively. The use of Google Sites media in learning contributes positively to the improvement of students' critical thinking skills. Students

who participated in learning through Google Sites media showed a higher improvement in all critical thinking indicators compared to students in the control class. This is due to the characteristics of Google Sites that allow teachers to present material in a structured, interactive manner, and integrated with various digital media such as videos, images, external links, and interactive quizzes. These features provide a deeper learning experience and stimulate active engagement of students in the processes of thinking, analyzing, and evaluating information.

According to Ennis (2011), critical thinking skills encompass the ability to provide simple explanations, draw conclusions, make further explanations, build basic skills, and organize strategies and tactics. These five aspects can be effectively facilitated through Google Sites because students are given the space to explore information, answer prompting questions, and reflect on their understanding through project-based tasks available on the site. These findings are in line with the research by Wulandari et al. (2020), which states that the use of Google Sites in science education significantly enhances students' critical thinking skills and learning independence. From the research, it can be concluded that Google Sites, which provides flexible, engaging, and indepth learning access, encourages students to understand concepts more comprehensively and critically. In another study conducted by Rahayu et al. (2021), it was shown that learning media that supports exploration and active engagement, such as web-based digital media, can significantly enhance students' critical thinking skills.

Thus, Google Sites not only serves as a platform for delivering content but also as a strategic learning medium for developing critical thinking skills. The ease of access and integration of varied content allows teachers to design challenging, enjoyable, and thought-provoking learning experiences for students. Therefore, the integration of Google Sites in learning, especially on conceptual and applicative materials such as static electricity, is highly relevant to support the achievement of 21st-century competencies.

These results are in line with the research conducted by Sevtia et al. (2022), which found that learning websites based on Google Sites can help students master concepts and critical thinking. In another study with the help of Quiziz, e-learning based on Google Sites can enhance students' thinking skills (Nurmanita, 2022). The use of Google Sites as a learning medium integrated with Islamic values is effective in enhancing students' critical thinking skills. Google Sites provides space for students to explore materials independently and collaboratively through interactive, reflective, and flexible digital access (Nikmah et al., 2021). Thus, the implementation of Google Sites learning media development integrated with Islamic values in Static Electricity material is effective in enhancing critical thinking skills.

CONCLUSION

The Google Sites learning media developed is interactive, easily accessible, and contains Islamic content in the form of Quranic verses related to the concept of Static Electricity. This media is designed according to the characteristics of the students, containing materials, worksheets, videos, images, and exercises that engage students and are highly valid for use. The use of Google Sites as a learning media integrated with Islamic values is effective in enhancing students' religious characters and critical thinking skills.

REFERENCES

Agustini, F. (2020). Integrasi Nilai Karakter Melalui Permainan Tradisional Tarik Tambang Dalam Pembelajaran IPA. *Jurnal Ilmiah Sekolah Dasar,* 4(2), 114-120.

Alfian, M., & Setyowati, D. (2024). Evaluasi penggunaan aplikasi berbasis web dalam mengembangkan kemampuan berpikir kritis siswa. *Upgrade: Jurnal Pendidikan dan Teknologi Informasi*, 11(2), 102–110. https://journal.universitasbumigora.ac.id/index.php/upgrade/article/view/4240

Annas, A., Noveles, A. I., Nikmah, M. K., Muna, N. N., Seviana, R., Khotrunada, V., & Widiastuti, A. (2024). Relevansi nilai-nilai luhur kebudayaan terhadap budi pekerti peserta didik dalam pembelajaran IPS. *Jurnal Ilmiah WUNY*, 6(1), 11-18.

Arief, R. (2017). Aplikasi Presensi Peserta didik Online Menggunakan Google Forms, Sheet, Sites, Awesome Table dan Gmail. *Sntekpan V, Itats, Surabaya*, 137-143.

Arifin, M., & Dewi, L. (2024). Pengaruh Media Pembelajaran Berbasis Web terhadap Keterampilan Berpikir Kritis dan Kemampuan Kognitif. *Buana Pendidikan: Jurnal Fakultas Keguruan dan Ilmu Pendidikan*, 20(1), 55–64. https://kayonmedia.com/jurnal/index.php/bp/article/view/25/0

Aswat, H., Fitriani, B., Sari, E. R., & Muliati, M. (2021). Analisis Pelaksanaan Penguatan Karakter Religius Selama Masa Distance Learning pada Peserta Didik Sekolah Dasar. *Edukatif: Jurnal Ilmu Pendidikan*, 3(6), 4301-4308.

Ayu, D. G., Triwoelandari, R., & Fahri, M. (2019).

Media Pembelajaran Powtoon Terintegrasi Nilai-Nilai Agama Pada Pembelajaran IPA Untuk Mengembangkan Karakter. *Al-Adzka: Jurnal Ilmiah Pendidikan Guru Madrasah Ibtidaiyah*, 9(2), 65-74.

Aziz, H., Nursobah, A., Mahmud, M., & Mansyur, A. S. (2019, April). The Internalization of Islamic Values in Social Sciences Learning. *In 3rd Asian Education Symposium (AES 2018)* (pp. 275-279). Atlantis Press.

Azizah, A. A. M. (2021). Integrasi Nilai-Nilai Keislaman Dalam Pembelajaran IPS Pada Kurikulum 2013. *Elementeris: Jurnal Ilmiah Pendidikan Dasar Islam*, 3(1), 23-35.

Cansoy, R., & Türkoglu, M. E. (2017). Examining the Relationship between Pre-Service Teachers' Critical Thinking Disposition, Problem Solving Skills and Teacher Self-Efficacy. *International Education Studies*, 10(6), 23-35.

Diani, R. (2015). Pengembangan Perangkat Pembelajaran Fisika Berbasis Pendidikan Karakter Dengan Model Problem Based Instruction. *Jurnal Ilmiah Pendidikan Fisika Al-Biruni*, 4(2), 243-255.

Diani, R., & Hartati, N. S. (2018). Flipbook Berbasis Literasi Islam: Pengembangan Media Pembelajaran Fisika Dengan 3D Pageflip Professional. *Jurnal Inovasi Pendidikan IPA*, 4(2), 234-244.

Dolong, J. (2016). Teknik Analisis Dalam Komponen Pembelajaran. *Jurnal Inspiratif Pendidikan*, 5(2), 293-300.

Elisabeth, E., & Mawardi, M. (2025). Pengembangan media pembelajaran perubahan bumi berbasis Android untuk meningkatkan keterampilan berpikir kritis siswa. *Scholaria: Jurnal Pendidikan dan Kebudayaan,* 15(1), 1–12. https://doi.org/10.24246/j.js.2025.v15.i1.p1-12

Ennis, R. H. (2011). *The Nature of Critical Thinking: An Outline of Critical Thinking Disposition and Abilities*. Last Revised. Emeritus Proffessor: University of Illinois.

Ernawati, L. (2017). Pengembangan High Order Thinking (HOT) Melalui Metode Pembelajaran Mind Banking dalam Pendidikan Agama Islam. *In 1st International Conference on Islamc Civilization Ans Society (ICICS)* (Vol. 62253, pp. 189-202).

Hanik, N.R., Hartono S., & Nugroho A.A. (2018). Penerapan Pendekatan Contextual Teaching and Learning Dengan Metode Observasi Untuk Meningkatkan Hasil Belajar Pada Matakuliah Ekologi Dasar. *Jurnal Pendidikan Matematika dan IPA*, 9(2): 127-138.

Hidayati, K., Rahmawati, A., & Wijayanto, D. S. (2024). Effectiveness Of Using Google Sites-Based Learning Media To Improve Critical And Creative Thinking Abilities Of Vocational School Students. *JPPI (Jurnal Penelitian Pendidikan Indonesia)*, 10(3), 632-640.

Hwang, G. J., Wu, P. H., & Chen, C. H. (2019). Seamless Flipped Learning: A Mobile Technology-Enhanced Flipped Classroom with Peer Assessment. *Educational Technology & Society,* 22(1), 1-12.

Imamuddin, M., & Isnaniah, I. (2023). Peranan Integrasi Nilai-Nilai Islam dalam Pembelajaran Matematika. *Kaunia: Integration and Interconnection Islam and Science Journal*, 19(1), 15-21.

Iskandar, R., & Kusmayanti, I. (2018). Pendekatan Science Technology Society: IPA di Sekolah Dasar. *Jurnal Ilmiah Pendidikan Guru Sekolah Dasar*, 2(02).

Kazwaini, K., Nazir, M., Promadi, P., & Sari, D. C. (2021). Nilai Keislaman pada Buku Ajar IPA SMP/MTs untuk Pembentukan Karater Religius Siswa. *Journal of Natural Science and Integration*, 4(2), 277-295.

Majdi, M. K., Subali, B., & Sugianto, S. (2018). Peningkatan Komunikasi Ilmiah Peserta didik SMA melalui model quantum learning one day one question berbasis daily life science question. *UPEJ Unnes Physics Education Journal,* 7(1), 81-90.

Muhali, M. (2019). Pembelajaran inovatif abad ke-21. *Jurnal Penelitian Dan Pengkajian Ilmu Pendidikan: E-Saintika*, 3(2), 25-50.

Muhammad, G., Hasanah, A., & Arifin, B. S. (2021). Proses Manajemen Peserta Didik Dalam Membentuk Karakter Religius. *Atthulab: Islamic Religion Teaching and Learning Journal*, 6(2), 161-174.

Nikmah, S. M., Fauziyah, N., & Huda, S. (2021). Critical Thinking Analysis of Students in Problem Based Mathematics Learning through TBLA. *Journal of Mathematics Education*, 6(2), 102-111.

Nurihsan, A. J. (2016). *Membangun Peradaban Melalui Pendidikan Dan Bimbingan*. Bandung: Refika Aditama.

Nurjanah, F., Triwoelandari, R., & Nawawi, M. K. (2018). Pengembangan Bahan Ajar Tematik Terintegrasi Nilai-Nilai Islam Dan Sains Untuk Meningktakan Karakter Religius Peserta Didik. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 3(2), 178-181.

Nuryantini, A. Y., Karman, K., & Holik, A. (2018). Integration Science and Religion in Physic Subject: An Analysis in Islamc Higher Education. *TARBIYA: Journal of Education in Muslim Society*, 5(1), 12-18.

Onde, M., Aswat, H., Fitriani, B., & Sari, E. R. (2020). Integrasi Penguatan Pendidikan Karakter (PPK) ERA 4.0 Pada Pembelajaran Berbasis Tematik Integratif Di Sekolah Dasar. *Jurnal Basicedu*, 4(2), 268-279.

Pradana, G. Y., Mariana, N., & Anam, R. A. S. (2024). The Influence of the Problem-Based Learning Model Assisted by Google Sites Interactive Multimedia on Critical Thinking Skills in the Science Subject of Grade V Elementary School. *Jurnal Pendidikan Dasar Nusantara*, 10(1), 102-116.

Purwati, N., Zubaidah, S., Corebima, A. D., & Mahanal, S. (2018). Increasing Islamic Junior High

School Students Learning Outcomes Through Integration Of Science Learning And Islamic Values. *International Journal of Instruction*, 11(4), 841–854.

Puspita, A., Kurniawan A.D., & Rahayu H.M. (2017). Pengembangan Media Pembelajaran Booklet Pada Materi Sistem Imun Terhadap Hasil Belajar Peserta didikkelas XI SMA N 8 Pontianak. *Jurnal Bioeducation*, 4(1): 64-73.

Rahayu, R. D. Y., & Yuliati, S. (2021). Peningkatan Keterampilan Berpikir Kritis dan Hasil Belajar Siswa Kelas 4 SD melalui Model Pembelajaran Discovery Learning. *JPDI (Jurnal Pendidikan Dasar Indonesia),* 4(1).

Ramadhani, A. I., Vebrianto, R., & Anwar, A. (2020). Upaya Implementasi Integrasi Nilai-Nilai Islam dalam Pembelajaran IPA di Sekolah Dasar. *Instructional Development Journal*, 3(3), 188-202.

Riduwan, M. B. A. (2022). *Skala pengukuran variabel-variabel penelitian.*

Sevtia, A.F,Taufik, M., & Doyan, A. (2022). Pengembangan Media Pembelajaran Fisika Berbasis Google Sites Untuk Meningkatkan Kemampuan Penguasaan Konsep Dan Berpikir Kritis Peserta Didik SMA. *Jurnal Ilmiah Profesi Pendidikan*, 7(3), 1167-1173.

Syahdiani, S., Kardi, S., & Sanjaya, I. G. M. (2015). Pengembangan Multimedia Interaktif Berbasis Inkuiri Pada Materi Sistem Reproduksi Manusia Untuk Meningkatkan Hasil Belajar

Dan Melatihkan Keterampilan Berpikir Kritis Peserta Didik. *JPPS (Jurnal Penelitian Pendidikan Sains),* 5(1), 727-741.

Ulya, F., Masturi, M., & Partaya, P. (2023). The Development of Science Learning Tools with the SSCS Model Integrated with Islamic Values to Improve Critical Thinking Skills. *Journal of Innovative Science Education*, 12(2), 208-214.

Wahyuni, S., Ridlo, Z. R., & Rina, D. N. (2022). Pengembangan Media Pembelajaran Interaktif Berbasis Articulate Storyline Terhadap Kemampuan Berpikir Kritis Peserta Didik SMP Pada Materi Tata Surya. *Jurnal IPA Dan Pembelajaran IPA*, 6(2), 99-110.

Wulandari, A., Ibrahim, M., & Kurniawan, D. A. (2020). Pengembangan Google Sites untuk Meningkatkan Kemandirian Belajar dan Kemampuan Berpikir Kritis Siswa SMP. *Jurnal Ilmiah Pendidikan Fisika Al-Biruni*, 9(2), 269-282.

Wulandani, R. P., Zahrani, M. P. S., Yasykur, F. J., & Aeni, A. N. (2023). Penggunaan Google Sites dalam Mengembangkan Akhlak Siswa Sekolah Dasar. *Journal on Education*, 5, 15431-15440.

Zulhelmi, Z., Adlim, A., & Mahidin, M. (2017). Pengaruh media pembelajaran interaktif terhadap peningkatkan keterampilan berpikir kritis peserta didik. *Jurnal Pendidikan Sains Indonesia (Indonesian Journal of Science Education),* 5(1), 72-80.