El Midad : Jurnal Jurusan PGMI Vol. 17 No. 1 April 2025
p-ISSN 2087-8389 e-ISSN 2656-4289 p. 151-166
website : http://journal.uinmataram.ac.id/index.php/elmidad email : elmidadpgmi@uinmataram.ac.id

WEB-BASED GENIALLY MEDIA FOR UNDERSTANDING THE FOOD CHAIN MATERIAL IN ELEMENTARY SCHOOLS

[1]Alfie Rahmi Azida, [2]Framz Hardiansyah, [3]Ali Armadi
STKIP PGRI SUMENEP
azidaalfiempie@gmail.com[1] framz@stkippgrisumenep.ac.id[2] aliarmadi@stkippgrisumenep.ac.id[3]

ABSTRAK

Science education in elementary schools faces challenges in teaching complex and abstract materials, such as food chains, which require deep visual and conceptual understanding. This study aims to evaluate the effectiveness of using web-based genetic media in improving students' understanding of food chain material in science learning in elementary schools. This study used a quasi-experimental design with two groups: the experimental group using web-based Genially Media and the control group using conventional learning methods. Data were obtained through pre-tests and post-tests measured by objective test instruments. The results showed that the experimental group experienced a significant increase in understanding, with an average N-gain of 0.66, while the control group only obtained an N-gain of 0.29. The t-test confirmed that the difference between the experimental and control groups was significant ($p = 0.000$). These findings indicate that web-based genetic media improves students' understanding of food chain material. The implications of this study provide a basis for the application of web-based technology in science learning in elementary schools and encourage the development of more interesting and effective interactive learning methods. This study also suggests further research with stronger experimental designs and larger samples.

Keywords: Genially Media, science learning, food chain, web-based learning.

INTRODUCTION

Elementary school education is important in forming the foundation of students' basic understanding of science concepts (Sufia & Vebriyanto, 2024). In this context, Natural and Social Sciences (IPAS) material, especially food chain material, is often challenging for students to understand. The food chain, one of the basic concepts in the ecosystem, involves complex relationships between organisms that act as producers, consumers, and decomposers (Safira, 2024). This concept requires a deep understanding of the roles and interactions between various components in the ecosystem. However, many students have difficulty understanding the food chain due to this concept's abstract and visual nature. Therefore, finding learning methods to simplify the concept and make it easier for students to understand is important. One potential solution to this challenge is using technology in learning, especially interactive and engaging web-based learning media (Nurjannah et al., 2025).

Along with the development of information technology, many innovations in learning utilize web-based media to improve student interaction and understanding (Sihombing et al., 2025). Web-based learning media offers the opportunity to create a more dynamic and enjoyable learning experience, which can affect how students absorb information. One platform that has emerged in this context is Media Genially, which offers interactive visual-based learning tools that create more engaging teaching materials, such as infographics, interactive presentations, and visual diagrams that facilitate the understanding of science concepts. This media has great potential for use in teaching science materials, especially in delivering topics that require visual understanding, such as the food chain (Putricia et al., 2025).

Although there are various studies on the use of technology in education, most of them focus on general technology applications. At the same time, very few examine the specific effects of Media Genially in the context of learning food chain material in elementary schools. Therefore, this study aims to fill the gap in the literature by evaluating the effectiveness of web-based Media Genially in improving students' understanding of food chain material in science learning in elementary schools.

The primary problem students face in learning food chain material in elementary schools is the difficulty in understanding the relationship between various elements in the ecosystem (Juny et al., 2024). Although this material is important in science learning, many students experience difficulties due to its abstract nature and the lack of aids that can help visualize the relationships between organisms in the ecosystem. Often, the teaching methods are conventional and do not utilize technology to clarify complex concepts. Most teachers use learning media limited to textbooks and blackboards, which cannot describe the dynamics of interactions between elements in the food chain interactively and interestingly. The lack of adequate use of visual aids makes it difficult for students to associate elements of the food chain, such as producers, consumers, and decomposers, which are fundamental concepts in the ecosystem (Safitri et al., 2024). In addition, less interactive and engaging learning risks reducing students' motivation and attention to the material. Therefore, web-based learning media, such as Media Genially, which allows interactive content creation with strong visual elements, can solve this problem. However, despite its enormous potential, there has not been much research that specifically explores the influence of genetic media on understanding food chain material in elementary school science learning.

Understanding basic science concepts at the elementary school level cannot be underestimated (Sabrina, 2024). Material such as the food chain serves as an introduction to

further understanding of the ecosystem and as a foundation for students in understanding the relationships between living things and their environment. Therefore, a strong understanding of this material is essential so that students can build more complex knowledge at the next level of education. On the other hand, the challenges in teaching this material require a new approach to make complex concepts easier to understand.

Web-based learning technology, such as Genially Media, creates a more interactive and engaging learning experience (Sakinah et al., 2025). Using this platform, students can learn through interactive images, animations, and presentations that can clarify the relationships between concepts. Therefore, it is important to evaluate how genetic media can improve students' understanding of food chain material and the extent to which this media can increase their motivation and attention to science learning. This research is urgently needed because it is expected to provide useful insights for educators and policymakers in improving the quality of science learning in elementary schools. This research will focus on several main questions that are the focus of the analysis: How effective is web-based genetic media in improving students' understanding of the food chain material in science learning in elementary schools? Can web-based digital media increase students' motivation and interest in learning the food chain material? How does the use of genetic media affect students' understanding of the relationships between elements in the food chain?.

Previous studies have highlighted the importance of using technology in education, especially in science. Research using visual aids and interactive media to teach science concepts has shown positive results (Faizah, 2024). For example, research by (Windri and Usamah, 2024) shows that animation and other visual media can improve students' understanding of complex concepts, such as the food chain. In addition, a study by (Islam, 2024) indicates that interactive web-based media can increase student engagement and motivation in science learning. However, although there is research supporting the use of technology in education, most of these studies do not specifically examine the use of web-based digital media in the context of science learning. Research on the effectiveness of genetic media in improving understanding of food chain material is minimal. Therefore, this study seeks to fill the gap in the existing literature by exploring the use of genetic media as an aid in science learning in elementary schools.

A review of the existing literature found that although many studies have examined the use of technology in education, very few have examined the effect of using digital media in science learning in elementary schools. In addition, although several studies discuss the use of visual media in science learning, little research focuses on how web-based media can be

used specifically to improve students' understanding of the food chain material. This study aims to fill this gap by exploring the influence of genetic media in improving students' understanding of the food chain material in science learning. This study is important for developing web-based learning media in elementary education, especially science teaching. One of the new aspects offered by this study is the application of genetic media, a relatively new platform in education, to improve students' understanding of basic concepts in science. This study also highlights the use of technology in increasing student engagement and motivation in science learning, which has not been widely explored in previous studies. Therefore, this study has significant added value, not only for developing educational science but also for educational practices in elementary schools.

METODOLOGY

This study uses a quantitative approach with a Quasi-Experimental design to test the effectiveness of web-based genetic media in improving understanding of food chain material in science learning in elementary schools. This approach was chosen because it allows us to compare the experimental group using genetic media with the control group using conventional learning methods. Although in the Quasi-Experimental design, randomization is not carried out in selecting samples, this approach can still provide valid information regarding the effect of web-based media on student learning outcomes, mainly because of limited control over external factors that can affect research results in the school environment. The population in this study were fifth-grade elementary school students registered at the school that was the location of the study. The research sample consisted of 40 students divided into two classes, namely the experimental class and the control class. The sample determination was carried out using a purposive sampling technique, where the selection of samples was based on specific considerations relevant to this study, such as students' readiness to use technology and teachers' willingness to apply Genially Media in learning. The instrument used in this study was an objective test consisting of 25 questions designed according to criteria relevant to fifth-grade students' understanding of food chain material. This test includes questions that measure students' knowledge of basic concepts in the food chain, such as the roles of producers, consumers, decomposers, and interactions between elements in the ecosystem. These questions are arranged by considering the level of difficulty that suits the students' abilities and ensuring that they are by the learning objectives. To ensure the validity and reliability of the test instrument, validity and reliability tests are carried out. The validity test aims to ensure that the arranged questions measure what is meant by understanding the food chain material.

In contrast, the reliability test is carried out to evaluate the test results' consistency. In addition, before conducting further analysis, normality and homogeneity tests are carried out to ensure that the data obtained from both groups (experimental and control) are typically distributed and have homogeneous variance. If the data obtained meets the assumptions of normality and homogeneity, then the t-test will be used to test the differences between the experimental and control groups. The t-test was chosen because it can compare two independent groups with normally distributed data and have homogeneous variance. However, if the data is not normally distributed or not homogeneous, then non-parametric tests such as the Mann-Whitney test will be used. This non-parametric test was chosen because it does not rely on normal distribution and homogeneity assumptions, so it is more appropriate for use when the data does not meet these assumptions.

RESULT AND DISCUSSION

This section will present and analyze the study's results on using web-based Genially Media to improve understanding of food chain material in science learning in elementary schools. The results obtained through testing the test instrument, which was conducted on grade V students, will provide a clear picture of the validity, reliability, and effectiveness of using Genially Media in science learning. This study focuses on data analysis that includes reliability, normality, homogeneity tests, and comparisons between the experimental and control groups to see if there are significant differences in students' understanding of the food chain material.

Table 1. reliability test data results

Alpha Cronbach	N of Item
.633	25

Table 1 shows the reliability test results of the test instrument used in this study. The reliability test was conducted to measure the internal consistency of the 25 test items used in the food chain material understanding test. The reliability test results indicated by Cronbach's Alpha value of 0.633 indicate an acceptable level of internal consistency. Cronbach's Alpha values in the range of 0.6 to 0.7 are often considered sufficient for instruments used in social or educational research. However, there is room for improvement to make the instrument more reliable. The Cronbach's Alpha value of 0.633 indicates that the test instrument used in this study has a pretty good level of reliability to measure students' understanding of the food chain material. Although it does not reach the ideal value above 0.7, this figure is still within the tolerance limits accepted for small-scale research in elementary education. In this case, the

test instrument can still be used confidently to measure the intended variable, namely, students' understanding of the food chain concept.

However, these results also indicate that there is potential to improve the instrument's reliability, for example, by revising some questions that may be inconsistent in measuring student understanding or by increasing the number of questions more representative of the concepts being tested. In further research, researchers can consider improving questions with a low level of discrimination so that the test instrument becomes more reliable. After conducting a reliability test, the next step is to analyze the data from the normality test, homogeneity test, and hypothesis test to test whether there is a significant difference between the experimental group using Media Genially and the control group using conventional methods. The results of this reliability test provide an essential foundation to ensure that the test instrument used has sufficient quality to measure the variables to be studied. Thus, the reliability test showing a Cronbach's Alpha value of 0.633 is a strong initial basis for continuing further analysis of the effectiveness of Media Genially in science learning. In addition, this reliability test analysis is essential to ensure that the test instrument used can be trusted to measure changes in students' understanding of the food chain material. With a reliable instrument, the study's results can provide more accurate insights into the impact of web-based technology on science learning in elementary schools.

Table 2. distribution of pre-test data for experimental and control classes

Data	Group	
	Experiment	Control
Lowest Score	5	6
Highest Score	22	22
Mean	10.31	9.33
Median	10.34	10.44
Mode	9	9
Standard of Deviation	4.21	4.01

Table 2 presents the distribution of pre-test data for both research groups, namely the experimental group using web-based Genially Media and the control group using conventional learning methods. This pre-test data was taken to measure the students' initial understanding of the food chain material before the treatment. Analysis of the pre-test results provides an overview of the initial conditions of the two groups that will be compared after applying different learning methods. Based on the data presented, both groups (experimental and control) have a relatively similar range of scores, with the lowest score in the experimental group being five and the control group being 6. This shows that both groups have a fairly comparable score variation before the treatment, with the highest score reaching 22. This

similar range of scores provides confidence that both groups have a similar level of initial understanding before being given the intervention. In terms of mean, the experimental group had an average pre-test score of 10.31, while the control group had a slightly lower average of 9.33. Although the difference in means between the two groups seems small, it is still essential because it indicates that the experimental group is slightly superior in initial understanding of the material. This slight difference is not significant, but it can be a reference to the changes that occur after the treatment. The median and mode for both groups also show almost similar numbers. The experimental group has a median of 10.34 and a mode of 9, while the control group has a slightly higher median of 10.44 and 9. This shows that the distribution of scores for both groups is relatively symmetrical, with a greater concentration of scores around 9-10.

The exact mode value in both groups also indicates that most students are at a similar level of understanding before the treatment. In addition, the standard deviation value measuring the scores' spread in both groups shows relatively comparable variations. The experimental group has a standard deviation of 4.21, while the control group is slightly lower, with a standard deviation 4.01. This shows that although there is variation in scores in both groups, the variation is not too significant. In other words, the level of diversity in students' understanding before the treatment is quite similar, which makes both groups comparable for this study. Overall, the results of this pre-test show that both groups have identical initial conditions regarding understanding the food chain material. This is important because it provides a strong basis for testing whether the implementation of web-based Genially Media in the experimental group will produce significant changes compared to the control group using conventional methods. The slight differences in mean scores and other descriptive statistics indicate that the two groups were at nearly identical starting points, so any differences noted after the treatment can be attributed to the effects of the learning method used.

Table 3. distribution of post-test data for experimental and control classes

Data	Group	
	Experiment	Control
Lowest Score	18	12
Highest Score	28	17
Mean	21.22	12.13
Median	21	11
Mode	21	10
Standard of Deviation	4.27	3.71

Based on the data presented, there is a significant difference between the two groups regarding the range of scores. The experimental group showed the lowest score of 18 and the highest score of 28, while the control group had the lowest score of 12 and the highest score

of 17. The broader range of scores in the experimental group indicates greater variation in learning outcomes in this group, which may indicate a greater change in student understanding after the treatment. On the other hand, the control group showed a narrower range of scores, indicating that student understanding in this group is more focused on the lower scores. In terms of mean, the experimental group had a significantly higher average post-test score of 21.22 compared to the control group, which only obtained an average of 12.13. This difference in average is very significant, indicating that web-based Genially Media has a considerable positive impact on students' understanding of the food chain material. The higher average in the experimental group reflects that students who were taught with this web-based media were better able to understand the concepts of the food chain as a whole compared to students who only used conventional methods. The median and mode statistics for the experimental group also showed higher numbers than the control group. The experimental group had a median of 21 and a mode of 21, indicating that most students in this group achieved fairly good scores, with a high concentration of scores around 21. In contrast, the control group had a lower median of 11 and a mode of 10, indicating that most students in this group scored lower and had less diversity in their understanding of the material.

The experimental group had a standard deviation of 4.27, slightly higher than the control group, which had a standard deviation of 3.71. The higher standard deviation value in the experimental group indicates that although most students scored higher, there was greater diversity in their learning outcomes. This could mean that although Genially Media effectively improved student understanding, its impact may vary from student to student. On the other hand, the control group showed less variability, indicating that most students in this group had more homogeneous results, although their scores were lower overall. Overall, the results of this post-test suggest that the use of web-based Genially Media in the experimental group positively impacts students' understanding of the food chain material. Significant differences in the mean, median, and mode between the experimental and control groups indicate that more interactive and technology-based learning methods provide better results than conventional learning methods. This difference provides strong evidence that web-based technology can effectively improve students' understanding of complex scientific concepts. These results also provide valuable insights for developing more innovative and engaging learning methods in elementary schools.

Table 4. Average Results of N-gain

Group	N-Gain	Note
Experiment	0.66	Moderate
Control	0.29	Low

Based on the results presented in Table 4, the experimental group showed an average N-gain of 0.66, which is included in the moderate category. This N-gain value indicates a significant increase in understanding in the experimental group of students after receiving web-based Genially Media treatment. In other words, using this interactive media increased students' knowledge of the food chain material at a moderate level, which is a positive result considering that the N-gain value reflects a significant change from the pre-test to the post-test. In contrast, the control group showed a much lower average N-gain, namely 0.29, which is included in the low category. These results indicate that although there was an increase in understanding in the control group students, the increase was relatively small and insignificant compared to the experimental group. The low N-gain value in the control group can be interpreted as the conventional learning method used in this group was ineffective enough in improving students' understanding of the food chain material. This also indicates that more interactive and technology-based learning, as applied to the experimental group, has greater potential to improve student learning outcomes. The significant difference between the experimental and control groups regarding N-gain provides strong evidence that web-based Genially Media can improve students' understanding better than traditional learning methods. The higher N-gain in the experimental group indicates that web-based technology can provide a more engaging and practical learning experience, which helps students understand more complex concepts, such as the food chain. Thus, these results suggest that integrating technology into science education can positively impact students' learning achievement and improve elementary school learning quality.

Table 5. T-test Results

	Pre-test (T-test)	Post-test (T-test)
Sig. (2-tailed)	0.389	0.000
α		0.005 (5%)
Description	H1 is rejected	H1 is accepted

Table 5 shows the t-test results for comparing pre-test and post-test data between the experimental group and the control group, which aims to test whether there is a significant difference in the understanding of the food chain material after treatment. The t-test is used to analyze the difference in the average between two groups or two measurement conditions in one group separated by time, which is before and after treatment. The significance value obtained from the t-test will indicate whether the difference occurs by chance or is the result of the treatment applied. In the t-test results for the pre-test, the significance value (sig. 2-tailed) is 0.389, which is greater than the set significance level of 0.005 (5%). In other words, a significance value greater than α (0.005) indicates no significant difference between the

Vol. 17 No. 1 April 2025
p. 151-166
email : elmidadpgmi@uinmataram.ac.id

experimental and control groups in the pre-test. These results suggest that before the treatment, both groups had a similar understanding of the food chain material, and there was no significant difference in the pre-test scores between the two. Thus, the null hypothesis (H0), which states that there is no significant difference between the two groups, is accepted at this stage.

On the other hand, the alternative hypothesis (H1), which states a significant difference in the pre-test, is rejected. However, in the t-test results for the post-test, the significance value (sig. 2-tailed) is 0.000, which is much smaller than the set significance level of 0.005. This very small p-value indicates a significant difference between the experimental and control groups after the treatment. In other words, the difference in post-test scores between the two groups cannot be explained by chance alone. In this case, the alternative hypothesis (H1), which states that there is a significant difference between the two groups after the treatment, is accepted. These results indicate that the use of web-based Genially Media in the experimental group significantly impacts students' understanding of the food chain material compared to the conventional learning method applied to the control group. Overall, the results of this t-test support the finding that the treatment given to the experimental group—namely the use of web-based Genially Media—significantly improved students' understanding of the food chain material. At the same time, the control group that did not receive similar treatment showed no significant difference in student understanding. Thus, the results of this post-test t-test provide strong evidence that web-based technology, especially Media Genially, positively influences student learning outcomes.

Discussion

The results showed that the experimental group using web-based Genially Media had a more significant increase in understanding than the control group. The post-test results in the experimental group showed a significantly higher average value than the control group, with a larger average N-gain (0.66 compared to 0.29 in the control group). This indicates that Genially Media, an interactive web-based learning media, has significantly increased students' understanding of the food chain material. This difference is also supported by the t-test results, which showed that the experimental group experienced a significant change in understanding the material. In contrast, the control group did not experience an important change. The interpretation of these results aligns with learning theories that support the use of technology media in education. One relevant theory is the multimedia theory put forward by (Syalommitha and Fanani, 2025), which states that using visual and verbal media in learning can improve

students' understanding. In this context, web-based Genially Media allows students to interact with learning materials visually through infographics, diagrams, and animations that illustrate the relationships between elements in the food chain (Lasmawan & Kertih, 2025). This Media facilitates more active learning and allows students to obtain information in a more enjoyable and easy-to-understand way (Kasanah, 2023). In addition, these results also support the constructivism theory, which states that effective learning occurs when students can construct their knowledge through direct experience. Genially, Media allows students to explore learning materials independently, activate their engagement with the material, and increase information retention. This more interactive and technology-based learning has successfully overcome students' challenges in understanding abstract and complex food chain material (Rahayu et al., 2023). Although the differences between the two groups were significant, the results of this study also revealed that the control group showed a slight increase in understanding the material. This could indicate that conventional learning methods, although not as effective as web-based media, still positively impact student understanding. This slight increase may be due to students' engagement in class discussions or using other classroom aids, although their engagement was more limited compared to interactive web-based methods.

This study significantly contributes to developing technology-based learning theory, particularly in elementary school science learning. The results support the argument that using interactive web-based media can improve students' understanding of complex material. Abstract concepts in natural science, such as the food chain, can be more easily understood with visual media that clearly and attractively depicts the interactions between elements in an ecosystem.

In theory, these results strengthen the concept developed in multimedia theory, which shows that learning media that combine visual and textual elements can improve students' understanding (Hardiansyah, Armadi, et al., 2024). Genially, Media, which provides interactive infographics, animations, and diagrams, allows students to directly see the relationships between elements in the food chain, enriching their understanding with various visual representations. Thus, the results of this study contribute to the further development of multimedia and interactive learning theories, as well as the application of technology in elementary education. In terms of practice, these findings have important implications for developing learning methods in elementary schools. Using web-based Genially Media can be

an effective alternative to improve the quality of science learning, especially in teaching materials that require deep visual and conceptual understanding. With evidence that web-based technology can improve students' experience, schools can consider integrating digital media into their curriculum, focusing on more interactive and engaging learning (Hardiansyah, Sukitman, et al., 2024). However, although the results of this study indicate the effectiveness of Media Genially, it is essential to remember that implementing technology in elementary schools requires adequate infrastructure support, such as stable internet access and devices that students can use. Therefore, the application of the results of this study in the field requires attention to the aspect of resources available in schools.

Although the results of this study provide valuable insights into the use of Media Genially in learning, several limitations need to be considered in interpreting the results. One major limitation is the quasi-experimental design used in this study. Without randomization in the selection of experimental and control groups, the results of this study may be influenced by other factors that cannot be controlled. For example, differences in student backgrounds or differences in the skills of teachers who teach can affect student learning outcomes, which may not fully reflect the effects of the treatment given.

In addition, the relatively small sample size (only 40 students) is also a limitation of this study. Although these findings provide valuable insight, the small sample size limits the generalization of the results to a larger population. Larger studies with a broader sample size can provide stronger and more reliable results. Another limitation lies in the test instrument used in this study. The test consisting of 25 questions may not be fully comprehensive in measuring students' understanding of the food chain material. A more diverse test instrument, for example, by including problem-solving-based questions or practical assignments, may provide a more complete picture of the extent to which students understand the concept. Based on the results of this study and the existing limitations, there are several suggestions for future research. First, further research should use an experimental design with randomization to ensure that the differences in results between the experimental and control groups are genuinely caused by the treatment given and not by uncontrolled external factors. Using a stronger experimental design will increase the study's internal validity and allow for better generalization of the results. In addition, further research can involve a larger sample to improve the external validity of the findings. A larger sample size will provide a more

representative picture of the impact of using Genially Media in elementary school science learning. This broader study can also include various grade levels and student backgrounds to explore whether the results obtained can be generalized to a more diverse population. Another suggestion is to develop a more comprehensive and diverse test instrument that measures students' understanding through multiple-choice questions and includes more in-depth problem-solving or project-based questions. This more holistic instrument can provide a more accurate picture of students' knowledge of the food chain material.

The application of digital technology in education, especially in science learning, has social and ethical implications that must be considered. First, adopting technology such as web-based Genially Media requires adequate school infrastructure, especially in less developed areas. Inequality in access to technology can lead to disparities in the quality of education between schools that have access to technology and those that do not. In addition, using technology in learning also brings challenges related to student data privacy and security. Using digital platforms for learning can involve collecting students' data, which requires careful management to ensure that the data is adequately protected. Therefore, schools and developers of learning media must ensure that they comply with applicable regulations regarding safeguarding students' data. Ethically, technology in education must also ensure that it supports the diversity of students' learning styles and provides equal learning opportunities for all students, regardless of their social and economic backgrounds. Therefore, it is essential to ensure that all students, without exception, have equal access to technology-based learning aids that can improve their learning outcomes.

CONCLUSION

This study evaluates the effectiveness of using web-based Genially Media in improving understanding of food chain material in elementary school science learning. Based on the study results, the use of Genially Media has a significant positive impact on students' understanding, with the experimental group using web-based media showing a greater increase than the control group using conventional learning methods. The t-test and N-gain analysis results showed that the experimental group experienced a moderate increase in understanding (N-gain = 0.66), while the control group only showed a low increase (N-gain = 0.29). These findings support multimedia and constructivism learning theories, emphasizing the importance of interactive and visual media in supporting student understanding. Web-based Genially Media, with its

interactive and visual features, can facilitate students in understanding abstract concepts, such as the food chain, in a more enjoyable and easy-to-understand way. In addition, the results of this study also emphasize the importance of technology integration in elementary school science learning to increase student engagement and understanding. However, this study has some limitations, such as the quasi-experimental design that does not allow for randomization and the small sample size. Nevertheless, these findings provide significant contributions to the development of technology-based learning media in elementary education and a strong foundation for further research that can develop and deepen understanding of the use of technology in education.

REFERENCES

Faizah, H. A. (2024). *Pengembangan Media Pembelajaran in-Slides Berbasis Genially Pada Mata Pelajaran Pai Materi Dakwah Islam Wali Songo Kelas X* …. Universitas Nahdlatul Ulama SunanGiri.https://repository.unugiri.ac.id:8443/id/eprint/5643/%0Ahttps://repository.unugiri.ac.id:8443/id/eprint/5643/3/BAB I.pdf

Hardiansyah, F., Armadi, A., Ar, M. M., & Wardi, M. (2024). Analysis of Field Dependent and Field Independent Cognitive Styles in Solving Science Problems in Elementary Schools. *Jurnal Penelitian Pendidikan IPA*, *10*(3), 1159–1166. https://doi.org/10.29303/jppipa.v10i3.5661

Hardiansyah, F., Sukitman, T., Wahdian, A., & Hodairiyah, H. (2024). The Use of Differentiated Digital Learning Models to Enhance Science Problem-Solving in Elementary Schools. *AL-ISHLAH: Jurnal Pendidikan*, *16*(2), 1462–1474. https://doi.org/https://doi.org/10.35445/alishlah.v16i2.5087

Islam, J. B. P. A. (2024). Penggunaan Platform Genially dan Pengaruhnya Terhadap Hasil Belajar Mata Pelajaran PAI Di SMK Negeri 2 Semarang. *Jurnal Budi Pekerti Agama Islam*, *2*(3).

Juny, T., Br, A., Suciawati, H., & Tamba, N. (2024). *Pengembangan Media Pembelajaran Permainan Ular Tangga Digital Pada Materi Organ Peredaran Darah Kelas V Sd Negeri 065013 Medan Development of Game Learning Media Digital Snakes and Ladders on Materials Class Blood Circulation Organs V State School 065013* (Vol. 3, pp. 1–12). UNIVERSITAS QUALITY.

KASANAH, N. (2023). *Pengembangan Media Pembelajaran Digital Flashcard Genially dalam Meningkatkan Kosakata pada Materi Kind of Deseases and Equipment di Kelas V MI*. UNIVERSITAS NAHDLATUL ULAMA SUNAN GIRI. https://repository.unugiri.ac.id:8443/id/eprint/3715/%0Ahttps://repository.unugiri.ac.id:8443/id/eprint/3715/14/BAB I.pdf

Lasmawan, I. W., & Kertih, I. W. (2025). Pengembangan Media Pembelajaran Interaktif Berbasis Web dengan Genially Materi Karakteristik Geografi Indonesia kelas V Sekolah Dasar. *JIIP-Jurnal Ilmiah Ilmu Pendidikan*, *8*(1), 148–152.

Nurjannah, N., Ndari, N., Awaludin, A., & Fizen, F. (2025). Pengembangan Media Pembelajaran Berbasis Genially untuk Meningkatkan Minat Belajar Sejarah Siswa di SMAN 2 Woja. *Jurnal Pendidikan Dan Pembelajaran Indonesia (JPPI)*, *5*(1), 290–298.

Putricia, N. D., Arsyanti, K., Puteri, N. D., Arif, A., & Hakim, L. (2025). Pengembangan Media Pembelajaran Handout Akuntansi Keuangan Berbasis Android Guna Mendukung Pendidikan Era Society 5.0. *Jurnal Genta Mulia*, *16*(1), 16–26.

Rahayu, W. P., Hidayat, R., Zutiasari, I., Rusmana, D., Indarwati, R. A. A., & Zumroh, S. (2023). Peningkatan kemampuan membuat media pembelajaran dengan bantuan website Genially pada guru-guru SMK Islam Batu. *Universitas*, *1*, 6.

SABRINA, M. (2024). *Pengaruh Model Pembelajaran Tgt Menggunakan Media Pembelajaran Berbantuan Genially Terhadap Kemampuan Pemahaman* …. UIN RADEN INTAN LAMPUNG. http://repository.radenintan.ac.id/31874/%0Ahttp://repository.radenintan.ac.id/31874/1/Skripsi Sabrina Mahyuni BAB 1 %265.pdf

Safira, S. (2024). PENGEMBANGAN MEDIA PERMAINAN LUDO BERBASIS GENIALLY PADA PEMBELAJARAN IPS MATERI NEGARA-NEGARA ASEAN KELAS VI SEKOLAH DASAR. *Jurnal Penelitian Pendidikan Guru Sekolah Dasar*, *12*(10).

Safitri, A., Arafah, A. A., Septika, H. D., Makmun, M., Hidayat, T., & Sukriadi, S. (2024). Pengembangan media pembelajaran Smart Apps Creator terintegrasi Genially pada materi penjumlahan bilangan cacah kelas IV sekolah dasar. *Jurnal Pendidikan MIPA*, *14*(4), 889–896.

Sakinah, H. L., Ni'mah, A., Sulthoniyah, I., & Arisona, D. (2025). Science-gamification: Bentuk gamifikasi dan implementasi dalam pembelajaran IPA. *Jurnal Kajian Pendidikan IPA*, *5*(1), 15–22.

Sihombing, N. P., Asrial, A., & Asmiyunda, A. (2025). Pengembangan Media Pembelajaran Interaktif Terintegrasi Kearifan Lokal Pada Materi Asam Basa di SMA. *Jurnal Penelitian, Pendidikan Dan Pengajaran: JPPP*, *6*(1), 28–36.

Sufia, N., & Vebriyanto, R. (2024). Efektivitas Penggunaan Media Web Genially Berbasis Model E-Learning dengan Tema Zakat dalam Islam. *Borneo Journal of Islamic Education*, *4*(2), 185–201.

Syalommitha, E. P., & Fanani, A. (2025). Pengaruh Model Giving Question And Getting Answer (GQGA) Berbantuan Media Digital Genially Terhadap Motivasi Belajar Siswa Dalam Pembelajaran IPAS Materi Lapisan Bumi di Sekolah Dasar. *Jurnal Pendidikan Dasar Flobamorata*, *6*(1), 146–154.

Windri, E., & Usamah, A. (2024). Penerapan Media Wordwall untuk Mengetahui Hasil Belajar Siswa dalam Pembelajaran PPKN di SDN Suryalaya. *Innovative: Journal Of Social Science Research*, *4*(4), 16880–16887.