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EFFECTIVENESS OF GENIALLY WEBSITE AS A SCIENCE LEARNING MEDIA ON THE EARTH AND SOLAR SYSTEM TOPIC

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ABSTRACT

Interactive learning media can be utilized in science learning which is made through software, i.e. Genially website. The Genially website media is supposed to be one of the creative and innovative online learning media that can be implemented in the science learning process. This study is intended to assess the effectiveness of the genially website as a science learning media on earth and solar system material. The method used is quantitative experiment with the type of pre-experiment design research and conducted at SMP Negeri 2 Tanggulangin precisely in class VII-A, this study only uses the experimental class. 31 students were used as samples and made observations, tests, and also questionnaires as tools for data collection. Observations were used to determine the teacher's ability to condition classroom learning, and student activity. Tests were used to determine student learning outcomes by giving 25 multiple choice questions. Questionnaires were used as a measuring tool for student responses regarding the learning media used. The results indicated that the effectiveness of the genially website as a science learning media on the material of the earth and solar system was not effective due to the low student learning outcomes with the N-Gain score reaching 54.83%. To conclude, the use of the Genially website as a science learning media for the Earth and Solar System material was less effective. Therefore, it is necessary to repeat the use of the Genially website media in the learning process so that students are more familiar and their learning outcomes can improve well.

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Introduction

Learning is a form of activity between teachers and students in the classroom. During learning, teachers are required to create a pleasant classroom atmosphere, therefore teachers need to use strategies such as implementing interesting teaching methods, providing constructive responses, and creating an environment that supports student involvement. One of the strategies used is by implementing learning media in it. Learning media is essentially a component or supporting facility used to stimulate students so that the learning process occurs. There are three categories of learning media, namely audio media, visual media, and audiovisual media. Learning media can be used to support learning in the classroom or outside the classroom (Aryani 2009). The use of media makes learning more attractive to students, makes it easier for students to understand the material more easily, saves time and energy, and can also improve the quality of learning outcomes. The use of learning media is adjusted to the characteristics of the learning material. The role of learning media both physically and technically in its use is not intended to replace the teacher's teaching method, but can help teachers achieve learning goals (Rusli 2021). The selection of the right learning media can increase effectiveness and efficiency in a learning process (Nurfadhillah et al. 2021)

Learning media in 21st century education is a tool that uses technology as a means of learning. Media that combines technology is called digital media, digital media is media that combines text, sound effects, and music through the help of technology. Digital media assisted by technology can create interactive learning media by presenting audio, visual, or audiovisual content (Lillihata et al. 2022). Learning media supported by information technology aims to provide convenience to teachers and students. The use of technology-based media can also improve the quality of the learning process in response to the increasing need for information that is not available in the school environment (Khairini and Yogica 2021). The use of information technology-based learning media has brought about various positive changes in learning methods and learning atmospheres that have a significant impact on students.

The use of learning media has been widely used in schools to support the learning process. This learning media can be used in various fields of study, one of which is in science learning. In science learning, students are equipped with the ability to apply scientific principles to practice. Science is a study that consists of complex materials (Sa'diyah 2023). The use of learning media can be part of a plan to improve and make education effective in science learning. Some learning media that have been implemented in science learning are phet, wordwall, canva, and other interactive learning media. Science learning on the earth and solar system requires learning media to help students achieve an understanding of the learning material, either in the form of videos or image media to support students in being able to understand the material presented well. Science teachers can benefit greatly from the use of learning media because it allows students to absorb materials that are difficult for them to understand (Ichsan et al. 2018).

Observation results at SMP Negeri 2 Tanggulangin with science teachers. Quiziz and Liveworksheets learning media have been implemented at SMP Negeri 2 Tanggulangin. According to the science teacher, the use of learning media in the classroom by teachers and students must be developed and improved in order to improve the active and enjoyable learning process. The learning outcomes of these students continue to be assessed below standard. Based on the mid-term exam results, the researcher found that 31% of the 223 seventh grade students scored above the KKM, while the other 69% scored below the KKM. The science learning outcomes of seventh grade students at SMP Negeri 2 Tanggulangin can be said to be still below standard.

The use of learning media has a positive effect on students' learning techniques, talents, and self-confidence. This learning media can help students retain the knowledge taught in addition to supporting teachers in making the learning process more successful (Tri Wulandari and Adam Mudinillah 2022). Interactive learning media can be utilized in science learning which is made through software, namely the Genially website. The Genially website media is one of the creative and innovative online learning media (Afifah, Kurniaman, and Noviana 2022). This Genially website has several diverse features including presentations, animations, gamification, infographics, images, and learning videos. The gamification feature on the Genially website is a characteristic that distinguishes it from other

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learning media (Suspito et al. 2023). The Genially website offers various visual and interactive features that allow the creation of more interesting content, such as infographics and interactive presentations. When compared to Quizizz, which focuses more on game-based quizzes, and Liveworksheet which provides interactive worksheets. The Genially website provides more flexibility in design and media. Its main advantage is its ability to create immersive visual experiences and integrate various multimedia elements. Through the genially website, educators have access to interactive learning media that is very easy to use. Students have access to learning media that inspires and motivates them to learn (Kholis 2022).

Research according to Khoirun Ni'mah shows a comparison of percentages and increases before and after the influence, and it can be concluded that interest in learning in class has increased after applying the Genially website media in online learning of Indonesian with an increase of 17.94% (Khoirun Ni'mah, Warsiman, and Hermiati 2022). Research conducted by Ratniati revealed that the use of the Genially website platform media which focuses on the snake and ladder game is feasible to use by obtaining an average score from the three experts, namely 4.15% in the feasible category and the response from students obtained a percentage of 88.30% in the very practical category (Ratniati and Harahap 2022). The development of learning media using the Genially website was previously used by Enstein which was oriented towards gamification by obtaining a very good assessment from validator experts (Enstein, Bulu, and Nahak 2022).

This study shows novelty with previous research, in this study the researcher used a quantitative experimental research method with a pre-experimental design research type where the sample used was one group or less. In previous studies using a research method with a quasi-experimental research type which required two classes, namely the control class and the experimental class. This study focuses on the material of the earth and the solar system which is one of the important topics in science because the material is still abstract which cannot be observed directly by students so that the use of genially learning media is needed to make it easier for students to understand the material (Mamin, Nur, and Arif n.d.). This study is important to do to determine the effectiveness of using the genially website as a learning tool. This study is intended to assess the effectiveness of the genially website as a science learning media on the material of the earth and the solar system.

Research Methods

This study applies a quantitative experimental method with a pre-experimental design research type. This study compares the results of pretest and posttest scores distributed to the same group. The study was conducted at SMP Negeri 2 Tanggulangin with a research population of grade VII students divided into 7 classes with a total of 223 students. The sample of this study was 31 grade VII A students at SMP Negeri 2 Tanggulangin. Sampling applied the random sampling technique. Data collection techniques through observation, tests and questionnaires. Teachers were assessed for their ability to manage classroom learning using observation sheets and student activities were also assessed using observation sheets. The test was used to compare student learning achievement before and after using the Genially website media. The Genially website media can be accessed via the following link: https://view.genial.ly/658264a3f042b50014734332/interactive-content-untitled-genially. The test was in the form of multiple choice questions totaling 25 questions.

The response from the use of the Genially website learning media given to students can be assessed through a questionnaire (Taufiq, Dewi, and Widiyatmoko 2014). The research instruments used include: teacher ability observation sheets in managing the class, student activity observation sheets, learning outcome tests, and student response questionnaires. Learning tools include: teaching modules, LKPD, Genially website learning media. Learning tools and instruments are validated by experts in their fields. The data analysis technique uses descriptive statistics. The following guidelines can be used as an analysis of research results.

The analysis of teachers' ability to manage learning in the classroom is calculated using the average value from the observation sheet, then the percentage is calculated and categorized in Table 1 as follows.

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Table 1. Observation Sheet for Teachers' Ability to Manage Kelas

Interval Persentase	Category
P > 90%	Very Good
80% ≤ p < 90%	Good
70% ≤ p < 80%	Enough
P < 70%	Less

The observation results that have been recorded on the student observation sheet are used to analyze the level of student involvement during the learning process. This observation was carried out from the beginning to the end. After that, the results were calculated as follows according to the categories in Table 2.

Table 2. Student Activity Observation Sheet

Interval Persentase	Category
p ≥ 80%	Very Good
60% ≤ p < 80%	Good
40% ≤ p < 60%	Enough
20% ≤ p < 40%	Bad
p ≥ 20%	Very Bad

Analysis of student learning outcomes, with categories in Table 3 shows how well the performance of learning media using the Genially website is in evaluating student learning outcomes using the N-Gain Score.

Table 3. Student Learning Outcome Test

Nilai N-gain	Category
g > 0,7	High
0,3 < g < 0,7	Medium
g < 0,3	Low

Data on the use of the Genially website learning media provided to students were obtained through analysis of student answers or surveys. Responding to questions containing the following alternatives, respondents chose one of the following answers that they believed to be correct (Table 4).

Table 4. Student Response Questionnaire

Penilaian	Category
80% - 100%	Very Good
60% - 79,99%	Good
40% - 59,99%	Enough
20% - 39,99%	Bad
0% - 19,99%	Very Bad

Science learning with a genially website on earth and solar system material is said to be effective if the teacher's ability to manage the class is at least in the good category, student activity is at least in the good category, the increase in learning outcomes is at least in the medium category, and student responses are at least in the good category (Bistari 2018).

Results and Discussion

This study aims to assess the effectiveness of the Genially website as a science learning medium for the earth and solar system material. The research data are described into four components, namely, teacher ability in managing the class, student activities, learning outcome tests, and student responses.

The teacher's ability to manage the class is measured based on the indicators contained in the teaching module based on the cooperative learning syntax. The teacher's ability to manage learning in the classroom was observed by two observers who conducted three meetings using the learning implementation observation sheet that had been prepared by the researcher. The data obtained are shown in Table 5.

Table 5. Observation Data on Teachers' Ability to Manage Classrooms

Indikator	Meeting 1	Meeting 2	Meeting 3	Average	Category
Introduction	100	84,38	84,38	89,58	Good
Core	92,87	90	87,50	90,12	Very Good
Conclusion	100	83,33	79,17	87,50	Good

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The results of the observation of the assessment of teacher ability in managing classroom learning are also reviewed from each learning syntax, the results of the preliminary indicator are 89.58 with a good category, the core indicator is 90.12 with a very good category, and 87.50 on the closing indicator with a good category. From the average results of the three indicators, a value of 89.06 was obtained and can be categorized as good. The learning process is very dependent on the teacher, the role of the teacher in managing classroom learning is very important. The teacher acts as a facilitator, including the teacher as a leader, model, planner, and as a guide (Zein 2016). A teacher's creativity is the main thing in learning, as well as a challenge for a teacher. Teachers must be able to make the learning process more enjoyable so that learning objectives can be achieved (Hasyim 2014). A fun teaching and learning process does not happen automatically. Instead, teachers must design the management and learning facilities to achieve it. The application of appropriate learning media can improve students' abilities and competencies, more innovative delivery of materials will make it easier for students to understand what the teacher is teaching, and also avoid boredom during the learning process (Supartini et al. 2016).

Student activities are activities carried out in the classroom during the learning process, and these activities will affect student learning outcomes. These student activities are also measured using indicators contained in the teaching module that are in accordance with the learning syntax. Observations of student activities were carried out during three meetings. There were four observers in observing student activities, each of whom observed students in each study group. The results of these observations were used to measure students' contributions to the Genially website media on the material of the earth and the solar system using observation sheets. The observation data can be seen in Table 6.

Table 6. Student Activity Observation Result Data

Indikator	Meeting 1	Meeting 2	Meeting 3	Average	Category
Introduction	82,46	82,66	84,07	83,06	Very Good
Core	81,82	73,60	75,89	77,10	Good
Conclusion	85,08	76,61	78,23	79,97	Good

Based on table 6. discusses student activities carried out in 3 meetings, with preliminary indicators getting an average of 83.06 in the very good category, core indicators in the good category getting an average of 77.10, and closing indicators in the good category with an average of 79.79 on. The achievement of student activities in the learning process is said to be effective or successful with a percentage of 60% to 80% with a minimum good category. The most prominent student activities are students learning to use the Genially website together with their groups to answer LKPD, students discussing with their groups to answer LKPD. Increased student activities will affect student learning outcomes (Putri, Juliani, and Lestari 2017). Student activities are observed during the learning process. Student activities can be assessed through their participation in the learning process. The learning process can be carried out independently or with study groups (Iswadi and Herwani 2021).

The learning process using the Genially website media is said to be running well as seen from the average at each meeting. In this case, it can be stated that student activities in classroom learning using the Genially website media are said to be successful (Setiadi, Muksar, and Suprianti 2021).

The learning outcome test is set to determine students' cognitive abilities obtained from learning outcomes using the Genially website media. Students are given a pretest and posttest to obtain the level of student learning outcomes. Students are given 25 multiple-choice questions that have been adjusted to the level of student understanding. The following Table 7 shows the N-Gain score of student learning outcomes.

Table 7. Learning Outcome Test Data

Category N-Gain	Percentage (%)
Low	54,83
Medium	38,70
High	6,45

Learning outcomes are the results presented that refer to the assessment after completing the learning process to evaluate knowledge, attitudes, and skills through behavioral changes (Nurrita 2018). In this study, student learning outcomes were measured using pretests and posttests, and data were calculated using the N-Gain score calculation. The total number of students who

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received low N-Gain scores with details of 17 students getting a percentage of 54.83%, there were 12 students who received the medium category with a percentage of 38.70%, and 2 students received the high category with a percentage of 6.45%. The results of the study showed that the learning outcomes of class VII-A students received a low category. This is influenced by internal and external factors. Internal factors include various aspects such as health, interests, talents, and motivation. External factors on the other hand, include elements such as family factors, schools, or even community factors (Ardila and Hartanto 2017) thus teachers must be wiser in determining a learning model in order to create conducive classroom conditions and students are more active during learning (Nabillah and Abadi 2019).

Student response questionnaire. Student response is the reaction of students who are studying an approach, something that affects a potential to be achieved in learning (Hisbiyati and Khusnah 2017). This response is intended for a student to provide a response to the genially website learning media, which is important to do as a guideline so that the learning atmosphere becomes more effective and enjoyable (Kartini and Putra 2020). The student response survey includes 12 positive questions for each existing indicator. This response can include negative responses or positive responses to the media used. The following Table 8 contains the results of student responses.

Table 8. Student Response Result Data

Indikator	Rata-rata	Kategori
Student Interest	78,71	Good
Language	75,80	Good
Appearance	77,74	Good
Usage	77,20	Good
Benefits	77,41	Good

Based on the data obtained from the student responses, it was concluded that the student response to the Genially website learning media was categorized as good. In fact, this can be seen through the student response indicators which have good responses in each indicator. The interest indicator obtained an average of 78.71 in the good category, it can be seen that students are interested in using the Genially website media as a science learning medium for the earth and solar system material. The language indicator obtained an average of 75.80 in the good category, the language in this Genially website media uses straightforward language, is easy to understand and is based on EYD. The appearance of the Genially website media uses interactive buttons and features so that learning becomes more enjoyable and gets an average of 77.74 in the good category (Humaidi, Qohar, and Rahardjo 2021). The use of this Genially website media can be used anywhere, both on laptops and cellphones, so that it can make it easier for students to learn, this indicator gets an average of 77.20 in the good category. The benefits of this genially website can be used as a reference material for learning other than books, and other media with an average score on this indicator getting an average of 77.41 with a good category. According to the results of the student responses, it is known that the students studied are interested in the genially website media and can be used as one of the references for science learning media with an average score of 77.37 from the five indicators with a good category and effective to use (Prasetyo 2017).

Based on the results of the study on the four aspects, the genially website is said to be ineffective as a science learning medium. This is due to the low learning outcomes of students with a score of 54.83% with a total of 17 students getting a low N-Gain category, 12 students in the medium category with a percentage of 38.70%, and 2 students in the high category with a percentage of 6.45%. Various factors, both internal and external, can affect student learning outcomes (Cabrera-Solano 2022). As found by researchers, students consider science to be a difficult subject so that students' interest in learning is low, and there is a lack of motivation to learn from the students themselves. In addition, external factors such as school, home, and community environmental factors can also influence. At the time the study was conducted, there were several students who were caught opening online game applications with their deskmates, in addition, at each meeting there were several students who did not bring cellphones so they had to take turns with their friends. This can hinder the learning process, and can also reduce students' concentration (Yunarti 2021). Based on the results of initial observations before the research was conducted with science teachers, he said that the results of science learning in the school were indeed low, various methods had been carried out such as the application of learning media. However, this only increased by around 5% - 10%.

Genially website as one of alternatives in learning media offers several advantages for

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creating interactive and engaging learning process. It allows for the creation of interactive presentations, infographics, and other rich media formats, fostering a more dynamic and immersive learning experience. Furthermore, this website also provides a user-friendly interface for adding interactions like hotspots, pop-up windows, and audio, making it accessible for users of varying technical skill levels. Furthermore, this website also can be used to create interactive learning materials, enhance engagement in the classroom, and improve understanding of complex science topics.

Conclusion

This study is intended to assess the effectiveness of the genially website as a science learning media on earth and solar system material. Based on the research findinfs, it was concluded that the use of the Genially website as a science learning media for the Earth and Solar System material was less effective. This was because one of the four indicators was not achieved, namely low student learning outcomes, with 54.83% of students getting a low N-Gain category. This low learning outcome was caused by the limitations of the media that could only be accessed online and were not available offline, thus hampering learning for students who had limited internet access. For further research, it is recommended that the number of meetings be increased from the original three times to four to five meetings. In addition, it is necessary to repeat the use of the Genially website media so that students are more familiar and learning outcomes can improve. Researchers are also advised to develop learning media that can be accessed offline to accommodate the needs of all students.

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