

Study of Wordwall Web Based Learning Media to Increase Student Learning Interest in Science Learning

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Abstract: This research aims to find out the study implementation of Wordwall web-based learning media to increase student learning interest in Natural and Social Science (IPAS) learning. This research is qualitative descriptive research, and did not aim to test a learning model by providing a certain stimulus, but to provide an in-depth description of changes in student interest in learning when obtaining web-based media in the students' learning process. This research was conducted in SDN 08 Wanarejan which is located at St. Kerinci Taman, Rt 3/RW 3, Wanarejan, Taman, South Wanarejan, Wanarejan Sel. There are several kinds of games in Wordwall-based learning media that can be implemented. The implementation can be adjusted to the situation and conditions as well as the facilities and infrastructure of both schools and teachers and students personally as a form of flexibility in learning time.

Keywords: Increase student learning; Learning media; Science learning; Web based learning; Wordwall

Introduction

The developments of the education world now facing the industrial revolution 4.0, which provide various challenge (Rulandari, 2020; Times Higher Education, 2022). In this case, human resources who have life skills in the 21st century are needed to adapt to changing times that demand critical and adaptive thinking patterns to changes and development, one of which is the development of information and communication technology (Gube & Lajoie, 2020; Matsumoto, 2021; Rellihan, 2012; Zohoorian et al., 2023), this challenge can be achieved if educational institutions, as one of the creators of resources, take an active role in improving the quality of learning (Janssens et al., 2022; Mousavi et al., 2020).

Learning media is a tool learning used by someone to make it easier in delivering and conveying material when teaching at school. Teaching media is very helpful (Nugraha et al., 2023; Nurfadhilah et al., 2023). Teacher must adjust learning methods that will be used. In this case, the teacher is looking for teaching media that is

suitable for students, so that they are not bored while studying at school (Kurniawan et al., 2022; Nurfadhilah et al., 2023).

The process of teaching and learning activities using learning media can create enthusiasm and interest in students in terms of learning, so that their motivation to learn will increase. Utilizing learning media can also increase students' understanding of learning (Bulkani et al., 2022; Daryanes et al., 2023). Media is used to have the position of a teacher's tool in the process of teaching and learning activities, for example slides, photos, graphics, films or learning using technology media that is useful for producing, processing, and recompiling visual and verbal information (Dewi et al., 2019; N et al., 2021). As a media toll, it can also provide concrete experiences for students, leading students are able to remember what they have learnt (Widodo & Wahyudin, 2018; Zaini et al., 2021).

Facts in the field related to the use of computer technology-based learning media can improve the quality of human resources if can be applied properly and intelligently (Rahmatika et al., 2021; Safiah et al.,

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2023). The progress is very remarkable, especially the information and communication network, marked by the emergence of various communication equipment, such as computers, smartphone mobile phones, and laptops (Agustini et al., 2020; Nuryatin et al., 2023). The use of the internet and the web can not only make a positive contribution to the academic activities of students but also teachers (Bulkani et al., 2022; Shen et al., 2020; Sudarwati & Rukminingsih, 2018). Learning media in the form of LCD is created by the school as an intermediary in the delivery of learning so that if the teacher is not clear in providing material, it can be assisted by using the learning media. The media used in the teaching and learning process must have good quality even though only simple form. A teacher when teaching must consider to various things, such as the characteristics of each student, the learning objectives, the learning methods, the content of the material, as well as the learning strategies.

Educators are required to be creative in utilizing all learning media so that students do not quickly get bored of receiving learning, especially when the pandemic era has passed, educators must be creative in presenting their learning material. One application that can be used to create interactive learning media is Wordwall (Akbar & Hadi, 2023; Imanulhaq & Pratowo, 2022; Nenohai et al., 2022). This website-based application can be used to create learning media, such as quizzes, matching, pairing pairs, anagrams, random words, word searches, grouping, and so on. Interestingly, besides the user can provide access to the media they have created online, it can also be downloaded and printed on paper (Rosyadiyah et al., 2022; Fakhrudin et al., 2021; Swari, 2023). From the description of the problems above, this research aims to find out the study implementation of Wordwall web-based learning media to increase student learning interest in Natural and Social Science (IPAS) learning.

Method

This research is qualitative descriptive research, and did not aim to test a learning model by providing a certain stimulus, but to provide an in-depth description of changes in student interest in learning when obtaining web-based media in the students' learning process (Moleong, 2018; Sugiyono, 2022). This research was conducted in SDN 08 Wanarejan which is located at St. Kerinci Taman, Rt 3/RW 3, Wanarejan, Taman, South Wanarejan, Wanarejan Sel. In this study, the subjects involved fourth grade students with a total of 8 students consisting of 6 males and 2 females. The data sources in this study were primary data and secondary data.

Primary data was obtained directly from the source of observation and interviews.

Secondary data is information data obtained from second parties, either in the form of records, such as books, bulletins, and magazines that are documentation. Secondary data is commonly in the form of historical reports that have been arranged in archives (documentary data) that cannot be published, literature (books and theses), and the internet sources (books, journals, articles, theses). The data collection tools used observation sheets, interviews, questionnaires, documentation, and field notes. Data analysis in qualitative research is inductive, which was obtained and analyzed then developed into hypotheses. Data analysis process was carried out before, during, and after the field (Fadli, 2021; Winarni, 2018).

Results and Discussion

This research qualitative. Observations made by the researcher began with observing the school and the IPAS learning process during face-to-face learning in the classroom. In the implementation of face-to-face learning, the teacher delivers material using the lecture method and uses Powerpoint media to facilitate student understanding and of course to be more interesting. During face-to-face learning in class, class IV students have a high intensity of interest where they look very enthusiastic in participating in IPAS learning. This is evidenced by the number of students who ask the teacher when there are things that are not understood.

Besides observations, the researcher also conducted in-depth interviews with the informants concerned with the aim of obtaining information about the implementation of Wordwall learning media to increase student interest in IPAS subjects. Interviews in this study were conducted with the principal, homeroom teacher, grade IV students as many as three students, as well as parents of those three grade IV students interviewed.

The researcher continued the research by distributing questionnaires to grade IV students regarding the study of Wordwall-based learning media to increase student interest in IPAS subjects. The distribution of questionnaires to students aims to find out how the attitude and behaviour of grade IV students towards Wordwall-based learning media and learning interest of grade IV students in IPAS subjects. In addition, documentation techniques and field notes were also used to prove the process of conducting research and strengthen the data obtained.

Research on the study of Wordwall web-based learning media in increasing student interest in IPAS subjects has differences with previous studies, such as research conducted by Suarmini (2023) entitled

Utilization of Wordwall Media in Interactive Learning of Indonesian Language. When in previous research the utilization of Wordwall media by teachers in interactive learning only, then the use of Wordwall web-based learning media at SD Negeri 08 Wanarejan combines Wordwall media with Canva media, Quizizz, and Claw machine games. The use of this media became an alternative used by schools due to the lack of student interest in learning. Learning activities were carried out six times during one week. In addition, the use of this learning media can be used as one of the learning media in the future by using technology-based media that really attracts the attention of students during the learning process and also continues to keep up with the times because students grow and develop in a great technological age (Rahmani, 2022).

Reason for Using Wordwall Web-Based Learning Media

The success in a learning process is highly dependent on the learning media and teaching strategies used by the teacher. So far, the popular learning strategy used in Indonesia is traditional class-based learning (classical), the innovation in the learning strategy can increase students' interest in learning. Then, the learning process can run well with the learning model determined by the teacher.

Based on observation activities conducted at SD Negeri 08 Wanarejan. Wordwall is one of the learning media, which has been determined to be applied to all classes ranging from grade one to grade six. Wordwall-based learning media is one of the most effective approaches to learning. In today's millennial era, students tend to be closer to digital, such as social media and games. Therefore, educational games are one type of media used in providing teaching in the form of games with the aim of stimulating thinking and increasing concentration through unique and interesting media. A set of educational games is reflected in the Wordwall application.

The implementation of learning in class needs the interest of students so that they can focus on the learning that is being carried out. Numerous things can affect the learning process of students, ranging from the number of distractions, the desire to play and many more things. However, learning at SD Negeri 08 Wanarejan is already conducive to Wordwall web-based learning media.

The following is a statement from the Principal of SD Negeri 08 Wanarejan regarding the facilities that support the implementation of Wordwall web-based learning media.

"For teachers, yes, because there are adequate facilities, such as layers for projector and LCDs, then each teacher has their own laptops, with this Wordwall-based learning media can be implemented at SD Negeri 08 Wanarejan."

(Principal of SD Negeri 08 Wanarejan, December 12, 2023).

From the above statement, it can be concluded that the school facilities are adequate for the implementation of this Wordwall web-based learning media.

Observation Results of Wordwall Web-Based Learning Media

The researcher conducted observation activities on Wordwall web-based learning media directly. Direct observation activities were carried out three times.

First Meeting Observation Results

The first observation was conducted on 30 January 2024, the activities carried out were face-to-face learning activities. Learning activities begin with the planning that the teacher has done before by informing if on this day, 29 January 2024, IPAS learning will be carried out. The lesson plan used was a lesson plan that has been accepted upon by the principal since before the start of this semester. For face-to-face activities, the teacher did not use certain applications but rather conveys the material briefly and simply and provided feedback to students to ask questions related to the material taught. The subject delivered during scheduled learning was IPAS. Due to time constraints, the implementation requires good cooperation between students and teachers so that time was not wasted.

In the first observation carried out by the researcher, the class was opened by praying together led by the teacher, then the teacher asked students to take out their books while waiting for the teacher who also prepared books as teaching materials. Students looked enthusiastic as seen from all students carrying books and listening to the teacher explain the lesson. During direct learning, the teacher admits that she often explained (using the lecture system) because during learning process, students were only given material or assignments. If someone did not follow and the teacher did not explain during direct learning, it is feared that students would be left behind, so students had not seen the initiative to look deeper into the material they receive. Then, the implementation of the evaluation students' work individually and no one tried to cheat on their friends' work. There were no significant difficulties in the learning carried out, marked by all students being able to collect questions with answers given by the teacher at that time.

From the checklist of observation activities, that researcher had made previously contained in the appendix with 28 descriptions covering learning activities. In this case during face-to-face learning, student learning interest, and social studies learning there were 6 (six) descriptions that were not visible, including using the application, conducive classroom conditions, the suitability of the media to learning with

the material, searched for more in-depth material by students, asked friends regarding material not understood, and got encouragement from other parties to do the tasks given by the teacher.



Figure 1. Learning IPAS on first meeting observation

Second Meeting Observation Results

Direct observation activities were continued by the researcher to find out how things in the classroom in a series of applications of Wordwall web-based learning media in this case learning activities in the classroom. The second observation activity was carried out on 6 February 2024. On this day, it was scheduled if the IPAS subject. All students came on time and the teacher had determined what would be taught and utilize Wordwall-based learning media.

Third Meeting Observation Results

The third observation was conducted on February 13, 2024. As usual the learning began with a prayer together first, the teacher has determined the material to be taught and utilized the student book and PPT media through the LCD to convey the material. Students were asked to take out student books, then asked to read for a moment. After that, the teacher explained the material using PPT with a brief and easy-to-understand explanation. Today's learning activities showed good interaction between teachers and students.

At the end of the lesson, the teacher used a quiz using the Wordwall media "What's in my area?". This quiz was packaged in the form of questions about today's material. In this quiz, many students answered the questions given by the teacher although there were still some students who were still less active in this quiz. For students who could answer correctly, they were allowed first.

From the three observations that researcher created, it can be concluded that during learning activities, sometimes teachers use Powerpoint to deliver material in the form of PPT, and the use of Wordwall web-based learning media aimed to attract students to do various

games. In addition, teacher provided opportunities for students to find reading sources at home from the school library, which was arguably very well maintained and the books were fairly new. There was good interaction between teachers and students in the classroom.



Figure 2. Learning IPAS third observation meeting with the use of Wordwall

Results of Students Attitude Questionnaires on Wordwall Web-Based Learning Media

From the results, it can be seen that of the eight students in class IV, two students have a response in the Good category, and six students in the Excellent category. A more detailed explanation of the questionnaire indicators of student attitudes towards Qordwall web-based learning media is as follows.

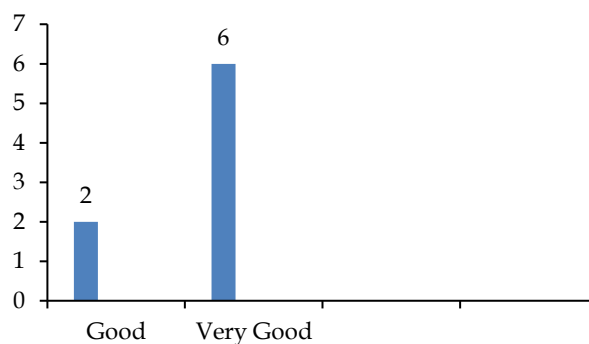


Figure 3. Bar diagram of student attitude questionnaire results towards Wordwall web-based learning media

Learning Become Fun and Interesting

Analysis of student questionnaire results on the indicator of learning to be fun obtained the results of the questionnaire stated that most students considered Wordwall web-based learning media to make learning fun. Previously, SD Negeri 08 Wanarejan did not apply Wordwall web-based learning media where it only used LKS (student worksheet) and book learning media with the lecture method, making students bored quickly.

After the implementation of learning by using Wordwall web-based learning media, it brought a positive impact on students, one of which makes learning fun because this learning is packaged in the form of learning by utilizing technological media, such as games during learning.

Developing Independent Learning Attitude, Motivation, Creativity, Active Attitude in the Learning Process

Analysis of student questionnaire results on indicators of fostering independent learning attitudes, motivation, creativity, active attitudes in the learning process obtained questionnaire results stating most students with the implementation of Wordwall web-based learning media can foster independent learning attitudes, motivation, creativity, active attitudes in the learning process. Based on the results of interviews with class IV teachers obtained information that after its implementation it could indeed foster and develop student independence because they tried to solve problems alone and at home automatically children would find out how to work on problems given by the teacher so that they will learn by themselves through the internet, books, and others so that with Wordwall web-based learning media, it can foster independent learning. The next indicator is motivation in the learning process. Students have great motivation during learning, especially when learning is carried out, this was conveyed by Mr Khamdan class IV that: "Children are eager to learn because with Wordwall web-based learning media in children become curious and want to play the games available in Wordwall."

This proves that students have good motivation during the learning process. The last indicator is that it can foster creativity and an active attitude during the learning process. Wordwall web-based learning media can foster student creativity, it can be seen when the teacher provided assignments in the form of making maps during learning and done during meetings students compile maps using their creativity.

Make Learning More Effective and Efficient

Analysis of student questionnaire results on indicators of making learning more effective and efficient obtained questionnaire results stating most students agree that learning is more effective and efficient when using Wordwall web-based learning media. Basically, the purpose of implementing Wordwall web-based learning media is to get the "best" learning media by combining the various advantages of each component. In a sense, to synthesize learning in an integrated combination to create an effective, efficient, and engaging learning experience.

In implementing Wordwall web-based learning media at SD Negeri 08 Wanarejan, the school teacher

considers the characteristics of the learning objectives to be achieved. Implementation of the appropriate learning model will be useful for improving the quality of learning. It can be concluded that learning makes learning more effective and efficient.

Questionnaire Results of Interest in Learning IPAS Student of Class IV Students of SD Negeri 08 Wanarejan

Besides questionnaire regarding student responses to the use media Wordwall web-based learning media, the researcher also distributed questionnaires about student interest in IPAS learning as a result of the implementation of Wordwall web-based learning media in class IV SD Negeri 08 Wanarejan.

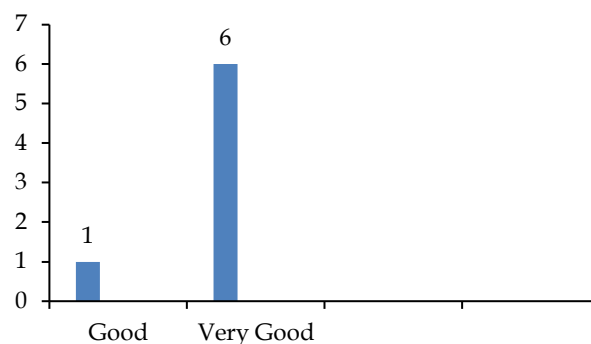


Figure 4. Bar diagram of interest in learning IPAS student of class IV students of SD Negeri 08 Wanarejan feeling happy

Analysis of student questionnaire results on indicators of feelings of happy in participating in each IPAS lesson. The indicator of feeling happy obtained student questionnaire results stated that most students were happy when participating in IPAS learning. Analysis of student questionnaire results on the indicator of having a good feeling in participating in IPAS learning. Based on the results of the questionnaire on this indicator, most students have a feeling of pleasure or happy in participating in IPAS learning. Therefore, with a happy-feeling, students were able to like or be interested in learning IPAS. Besides, students would follow the learning well so that the IPAS material taught by the teacher can be conveyed well.

Interesting

Analysis of student questionnaire results on indicators of having interest in participating in every IPAS lesson. The indicator of interest obtained in the student questionnaire results stated that most students were interested in IPAS lessons. Students' interest in participating in IPAS learning can be seen from the way the teacher taught during learning by making map-making assignments, when compared to the lecture learning model. This is in line with research conducted by Karima & Ramadhani (2018) that teachers who

always lecture in class will quickly make students bored so that learning is no longer effective. Therefore, this can affect students' lack of interest in IPAS learning.

Attention

Analysis of student questionnaire results on attention indicators in participating in every IPAS lesson. The attention indicator obtained the questionnaire results quite well. This can be seen when students paid attention to the material presented by the teacher. This can be seen by students listening to the teacher's explanation carefully and took notes on the material presented by the teacher. This agrees with Slameto (2013), which states that students who have an interest tend to pay greater attention to certain things.

In the middle of the IPAS process in class, students still liked to be uncondusive, not excited, and chat with friends in participating in learning. In this case, it is important for the teacher to refocus students' attention on the IPAS learning process. This agrees with Gunawan & Sutrisna (2022) that teachers focus students' attention on things that are considered important by inviting them to focus on the ongoing learning process. The use of varied learning media when learning in class makes students more active when compared to teachers using learning media that only tell stories in front of the class and student books. This is because it is important for teachers to attract students' attention to the IPAS learning process.

Participation

Analysis of student questionnaire results on participation indicators in participating in every IPAS lesson. The participation indicator obtained the questionnaire results quite well. It can be seen that students express their opinions when the teacher explains the material of natural resources in my area who do not understand the material presented asking the teacher. In addition, the teacher used the Wordwall quiz "What's in my area?" to attract student participation. Many students wanted to answer the questions given by the teacher even though there were still some students who were still less active in this quiz.

Discussion

Planning, Implementation, and Evaluation of Wordwall Web-Based Learning Media

Wordwall web-based learning media is one type of web-based learning media that is still relatively new learning media. The learning media is one of the innovative learning because it follows the times. With the development of this era, teachers become easier to access the internet to search and find media that can be used to attract students' interest.

SD Negeri 08 Wanarejan is one of the elementary schools in Pemalang Regency that has utilized Wordwall web-based learning media in learning activities. The learning carried out has differences as usual learning. The school implements a policy of implementing the use of Wordwall-based learning media in order to overcome the problems that exist at SD Negeri 08 Wanarejan in the learning process. Learning activities using Wordwall web-based learning media are expected to make learning more effective and efficient. According to Sari & Yarza (2021), Wordwall is a web-based application that allows teachers to design learning and provide interesting and interactive learning resources for students. In addition, Wordwall can be used as learning media, learning resources, as well as assessment instruments. With this learning media, communication between teachers and students will be better and its implementation can convey the difficulties experienced during learning.

The existence of a lesson cannot be separated from the planning made beforehand so that the learning that will be carried out runs well and in accordance with the expected objectives. The learning media made or used by teachers in conducting IPAS learning at SD Negeri 08 Wanarejan have differences with the enactment of the use of web-based learning media. Wordwall web-based learning media on the grounds that the material and learning objectives are the same, only the way of delivery is different.

Learning in IPAS subjects with Wordwall web-based learning media was carried out in a way that the teacher organized the class to take part in IPAS learning as usual, but with the difference that there was the implementation of Wordwall to attract students' interest in learning. From the confession of the class IV students, teacher stated that for IPAS learning, he more often used Wordwall web-based learning media because it is more practical and many are in accordance with the times. The teacher assumes that in these subjects, not all students can respond directly to the material provided by the teacher, as for discussion activities regarding the material provided by the teacher can be in the form of groups. Students could complete the game in the Wordwall web-based learning media very eagerly, both individually and in groups.

Evaluation activities in learning with Wordwall web-based learning media were carried out both directly. During learning activities, the teacher gave questions and match them on that day, written questions that must be done in their respective books and collected during the learning process then the teacher personally assesses student results according to the teacher's policy. The attitude assessment can only be done during learning process.

Learning Interest in IPAS Subjects

In the teaching and learning process based on interest, it will encourage students to learn better than learning without interest. Interest arises when students are interested in something because it suits their needs or feel that there is something meaningful for them to learn. However, interest without active effort will also be difficult to succeed. Interest can be implied through attention and participation in an activity. Students who have an interest in the subject tend to pay greater attention to the subject and there is self-involvement in learning something they are interested in. Students who have an interest in a lesson are certainly serious in learning it because they have a sense of interest in learning it. Meanwhile, students who have no interest do not feel interested in learning it, which will affect the student's own learning outcomes (Sholehah, 2018). It can be concluded that student interest in learning is characterized by interest and attention to something.

Student learning interest based on the results of problem identification shows that the intensity of student learning interest decreased when learning was not carried out using Wordwall web-based learning media. This is indicated by their lack of response or enthusiasm when learning took place. Students feel bored when learning is always given assignments. The majority of students did not open or study the material that has been delivered, one of which was because of very low reading interest in reading for that the teacher gave assignments, such as summarizing material with the aim of students reading. However, after the implementation of Wordwall web-based learning media, it greatly affected students' interest in learning. With teaching and learning activities, almost all students in one class are active in participating in learning and collecting assignments. Of course, this shows that student interest in learning in IPAS subjects in the results of problem identification and research results are contradictory.

The implementation of Wordwall web-based learning media at SD Negeri 08 Wanarejan has an effect on student interest in learning, especially in class IV students. Wordwall web-based learning media is a learning model created from the shortcomings and advantages that exist in traditional learning media, even so there were several obstacles felt by class teachers, students, and parents of students IV of SD Negeri 08 Wanarejan when implementing Wordwall web-based learning media.

Conclusion

There are several kinds of games in Wordwall-based learning media that can be implemented to a

lesson, including match up, unjumble, find the match, anagram, quiz, flash card, group sort, wordsearch, matching pairs, random card, crossword, hangman, open the box, random wheel, missing word, gameshow quiz, labelled diagram, and flip tiles. The implementation can be adjusted to the situation and conditions as well as the facilities and infrastructure of both schools and teachers and students personally as a form of flexibility in learning time. SD Negeri 08 Wanarejan applies Wordwall learning media where the planning made in this case the teaching module used is the same as the teaching module when conducting learning using traditional media on the grounds that the material and learning objectives delivered are the same. Only the way of delivery and learning media are different, namely without learning media and with Wordwall web-based learning media. There are several obstacles that are felt in the implementation of web Wordwall learning media, including teachers having to determine well the material to be delivered along with games related to the material to be carried out in learning using Wordwall media, and parents who do not understand the implementation of Wordwall web-based learning media. The solution to the obstacles that teachers experience is that teachers must be more creative in determining the delivery of material so that students do not feel bored, and learning objectives can be achieved. In addition, parents must be willing to understand the use of technology so that students get assistance when doing learning at home.

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Author Contributions

Investigation, formal analysis, investigation, resources, data curation, writing – original draft preparation, writing – review and editing, visualization, supervision, project administration, and funding acquisition, B.I.P., and A.S. All authors have read and agreed to the published version of the manuscript.

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Conflicts of Interest

We certify that there is no conflict of interest with any financial, personal and other relationships with other peoples or organization related to the material discussed in the manuscript.

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