Jurnal
Guru Komputer

Journal homepage: https://ejournal.upi.edu/index.php/JGrKom

Implementation of the Snowball Throwing Method with Wordwall Learning Media to Increase Students' Learning Interest and Motivation in Software and Game Development in SMKN 4 Bandung

Amilia Trianasari[1], Qurratu Aini[2], Sigit Dwi Prasojo[3]*

[1] Universitas Pendidikan Indonesia, Indonesia
[23] SMK Negeri 4 Bandung, Indonesia
*Correspondence: E-mail: qurratuaini076@gmail.com

A B S T R A C T	**A R T I C L E I N F O**
The purpose of this study is to increase the interest and motivation of students using the snowball throwing method with wordwall media in learning Software and Game development subject (PPLG) of class X at SMKN High School 4 Bandung. The method used by the researcher is the Classroom Action Research method. The subjects of the study were 36 students. This study was conducted in one cycle by conducting a pre-cycle at the beginning of the study, which consisted of four components, namely Planning, Implementing actions, Observation, and Reflection. The results of the study showed an increase in interest and motivation to learn which had an impact on the learning completion (scoring 75 and above) of students per cycle. In the pre-cycle, 6 students or 17% achieved the said learning completion. In cycle I, there were 28 students or 78% who achieved the learning completion. This indicates that using the snowball throwing method with media was successful and had successfully exceeded the 75% criteria of student' completion. © 2024 Universitas Pendidikan Indonesia	

1. INTRODUCTION

The development of technology in the era of Industry 4.0 as it is today greatly affects the world of education. In this case, it causes a shift in the paradigm and practice of education which was initially intended to present ready to use information now equipping students with the ability to find out, digital literacy, problem solving, and creativity or in other words, student-centered learning (Wright G. B, 2011). Schools are the first formal educational institutions that are very important in determining the success of student learning (Hariyanti & Amin, 2016). Therefore, schools must be provided with teachers and conditions that support the learning process. The main key to improving the quality of education lies in the quality of its teachers, therefore educators, especially teachers, are required to master and innovate both in the use of learning methods, as well as the facilities and infrastructure available in order to achieve an increase in the quality of education. In the world of education, teachers are expected to be able to adapt to technological advances to improve the quality of education.

One way to achieve this is to utilize technology to create and develop various learning aids. These learning aids are a determining factor in the success of the teaching and learning process in schools, because they help teachers convey information to students and vice versa. In addition, learning aids can also improve learning efficiency, so that learning objectives can be achieved better. The advantage of learning that adapts to technological advances is the use of entertaining media, thus encouraging students' interest in these digital programs. Students who are successful in digital learning will quickly master the use of computers or can quickly develop the necessary computer skills through internet access. Thus, students can learn anywhere and anytime according to their needs. In addition, digital learning uses technology to enhance students' learning experiences by utilizing various tools and practices, including online and formative assessments, improving the quality of teaching resources and time, online content, and technology applications.

Learning media is an element that supports the success of the learning process in schools because it can provide assistance to teachers in conveying information to students, and vice versa, learning media can increase the efficiency and smoothness of learning, which ultimately helps achieve learning goals effectively. Teachers should pay attention to the use of media, because learning media is one of the important aspects in the context of the learning system, the discussion about it is always relevant. In addition, teachers are also expected to have the ability to develop skills in designing and creating learning media. But the use of learning media is often ignored for various reasons, such as limited time constraints for teaching preparation, difficulty in finding appropriate media, and budget constraints. Therefore, these reasons encourage teachers to choose the lecture method in delivering learning materials.

In order for the learning process presented to be more interesting and motivating for students during the learning process, snowball throwing type cooperative learning can be used. Snowball throwing is one type of cooperative learning model. (Mulyana, 2005) states that "cooperative learning is an attitude or behavior together in working or helping each other in a structured, orderly cooperation in groups". In the learning process, technology is utilized as a learning medium, for example in Wordwall which provides free services for teachers to develop learning media. Teachers can freely choose many types of games that have been provided with templates and just enter questions that can be included with the answer key. To be able to use Wordwall, teachers must first create an account and then be able to access

the services from Wordwall. The use of educational games such as Wordwall can also trigger students' interest in learning materials so that they do not get bored.

The Software and Game Development (PPLG) subject is a mandatory course for students enrolled in Software and Game Development. In the Software and Game Development subject, the basic concepts in starting a business process in Software and Game Development, current technological developments, and work processes and global issues related to current technological developments. This subject is necessary as part of learning in schools and is relevant to the description of tasks consisting of various basic sciences as determinants in studying other subjects in the Software and Game Development expertise program.

In the delivery and achievement of results, it is expected that students get equal scores both in theory and practice. In realizing this, the classroom atmosphere must be made as interesting as possible to increase students' interest in learning which affects their learning outcomes, one of which is group learning. Common failure in the Software and Game Development learning process can be seen in how students respond to the learning process, for example in class Software and Game Development 2 in grade X there are 42% of students who do not pay attention when the teacher explains the learning material, students are sleepy, and do other activities outside the learning process. Such conditions will affect the low mastery of the material and learning outcomes of students. In response to this problem, a teacher must be able to make the learning atmosphere more interesting to improve students' understanding of the material which affects the increasing learning outcomes of class Software and Game Development 2 in grade X at SMKN High School 4 Bandung.

Learning motivation can arise in a person if there is external stimulation, although basically learning motivation comes from within which can be seen in the form of activities. According to Uno (2009) learning motivation can arise due to intrinsic factors, in the form of desire and desire to succeed and the drive for learning needs, hopes for ideals. While the extrinsic factors are the existence of awards, a conducive learning environment, and interesting learning activities. Learning motivation has a fairly urgent role in learning. To maximize the achievement of learning objectives, a teacher must be able to foster student learning motivation so that they are always active in the learning process. Therefore, teachers need to foster student learning motivation. To obtain optimal learning outcomes, teachers are required to be creative in order to increase student learning motivation. Learning media is anything that can be used to convey messages (learning materials), so that it can stimulate attention, interest, thoughts and feelings of learning in learning activities to achieve certain learning objectives.

Teachers must pay attention to the general criteria of learning media, namely 1) suitability to objectives (instructional goals), 2) suitability to learning materials (instructional content), 3) suitability to learner or student characteristics, 4) suitability to theory, 5) suitability to student learning styles, 6) suitability to environmental conditions, supporting facilities, and available time. (Susilana & Cepi, 2009). Learning methods are very much needed in schools, especially for classroom learning. Trianto & Yustianti (2010), states that a learning model is a plan or pattern used as a guideline in planning classroom learning or tutorial learning. The more appropriate the method used by teachers in teaching, the more effective the achievement of learning objectives is expected to be.

The snowball throwing method is a learning method that can be used to increase student learning motivation. This method can make students more active and enthusiastic in learning. The Snowball Throwing learning model process is the formation of groups represented by group leaders to get assignments from the teacher, then each student makes questions that

are shaped like balls (question papers) then thrown to other students, each student answers questions from the balls obtained (Putra, Hadiyanto & Zikri, 2020).

The use of the Snowball Throwing learning model, in addition to improving students' communication skills, can also provide solutions to students in understanding a subject concept. Utilization of Educational Games as a learning evaluation medium. Games as a learning medium can make the learning atmosphere more enjoyable and can reduce boredom with information or material delivered by lecturers to students. Games made as learning media are expected to have an impact on students to learn actively during the learning process. Some forms of Wordwall applications are usually applied to interactive teaching techniques through the development of media and learning resources, such as video games. Games can be interpreted as structured or semi-structured activities that are carried out for fun, and are sometimes used as learning tools.

2. METHODS

Before the research began, the researchers conduct literature study to help gain insight on the problem and possible solutions. **Table 1** lists some research that has been done in the past about learning motivation and also educational games:

Table 1. Previous Research.

Name	Title	Results	Advantages / Disadvantages
Ratiah & Yustika, I. L (2022)	Strategi Guru Dalam Meningkatkan Motivasi Belajar Siswa Di SMA Negeri 1 Bojongmanik	Teachers motivate their students by using various strategies such as giving challenging but realistic and appropriate assignments, creating a conducive class, avoiding unhealthy competition between students, appreciating student success and exemplary behavior, giving awards/prizes for motivation, recognizing student interests, giving tests or grades.	The advantages of this study are seen from internal factors, such as the motivation and desire of students to learn and succeed, while external factors include the ability of reliable teachers, adequate school facilities and infrastructure, a pleasant classroom and school atmosphere, support from the students' families themselves and support from all school residents. The obstacles to this study consist of students' attitudes that are difficult to control and low student intelligence, and the influence of a bad student environment and bad student relationships.

Febrianti, F (2019)	Efektivitas Penggunaan Media Grafis Dalam Meningkatkan Motivasi Belajar Siswa	Learning media is a tool used by educators to teach in class. One of the benefits of learning media is to increase student learning motivation in class, and the benefits for educators are that it makes it easier to deliver material in class. For example, graphic media in the form of powerpoint slides makes it easier for educators to deliver material compared to writing on a blackboard or lectures, it is less efficient because it wastes a lot of time and students also have a more concrete picture.	The advantages of this study include the use of learning media that provide stimulus to students to focus on one thing in the form of graphic media because the presentation is easy, the cost is relatively easy and the quality of the media is quite good.
Reza, M. F & Nopiyadi, D (2022)	Pengembangan Media Evaluasi Pembelajaran berbasis Game Edukasi Wordwall pada Mata Kuliah Jaringan Komputer	The evaluation tool using the wordwall.net platform can be stated as very valid, both in media validation and material validation as seen from the following aspects: for media validation with an average total presentation of 88.75%: general, software engineering, visual communication, and media design. While in material validation with an average total presentation of 90.3%: relevance to the curriculum, material feasibility, and language feasibility.	In addition to assessing the validity of the product on the wordwall, the author also conducted validity from the results of the practicality of the wordwall learning media carried out by 32 Informatics and Computer Engineering Education class students, the results obtained were 89% of students concluded that the wordwall.net platform was declared very practical as assessed from the visual appearance, use of evaluation, pretest, evaluation question material, language used, and facilities on the wordwall.net platform.

2.1 Research Design

The research used is Classroom Action Research (CAR) which aims to improve and find solutions to real and practical problems in improving the learning process in the classroom.

In this study there are pre-cycles and cycle I consisting of action planning, action implementation, observation and reflection.

The solution design is an action in the form of implementing the snowball throwing learning model in learning in the classroom, this is done in order to obtain maximum results regarding how to apply the snowball throwing model to increase student motivation and interest in learning.

2.2 Population and Sample

The population used in this study were all students of grade X of SMKN High School 4 Bandung, while the sample referred to in this study were students of Software and Game Development 2 in grade X of SMKN High School 4 Bandung totaling of 36 students.

2.3 Data Collection

This research use quantitative research. This research also uses written test to collect the data. This test is used to obtain data on student learning outcomes after the implementation of the snowball throwing learning method and a formative assessment is carried out which is then the percentage to determine the completeness of student learning in Software and Game Development learning.

3. RESULTS AND DISCUSSION

Before the implementation of this learning method, we hypothesized that:

1. By implementing the snowball throwing method with the help of wordwall.net media in class Software and Game Development 2 in grade X in the subject of Software and Game Development it has an effect on increasing students' interest and motivation to learn.

2. The use of educational game learning media wordwall.net has an effect on increasing students' interest and motivation to learn. All students feel challenged by this learning media, they compete to be able to answer every question on the wordwall and the teacher appreciates the success of students in answering each question by giving praise.

Based on observation, there are several shortcomings that result in low learning outcomes for students of class Software and Game Development 2 in Grade X in the 2023-2024 Academic Year, including:

1. Students are passive and often sleepy.
2. Students only wait for teacher instructions
3. Teachers have not created innovative, inspiring, challenging, motivating, and constructive learning.
4. Lack of student learning motivation

3.1 Quantitative Analysis: Descriptive Pre-Cycle Test Results

In the first meeting, the researcher conducted a formative assessment and the results showed that only 6 students or 17% achieved the success level while 30 students or 83% failed.

Table 2. Pre-Cycle Test Results.

Statistics	Statistical Value and Score
Research Subject	36
Ideal Maximum Score	100
Average Score	58,72
Highest Score	90
Lowest Score	30
Passing Grade	75

3.2 Quantitative Analysis: Descriptive Cycle 1 Test Results

Because the results of observation and evaluation in the pre-cycle were unsuccessful, the researcher continued the research in cycle I by applying the snowball throwing method and utilizing learning media using wordwall.net.

Table 3. Cycle 1 Test Results.

Statistics	Statistical Value and Score
Research Subjects	36
Ideal Maximum Score	100
Average Score	90,22
Highest Score	100
Lowest Score	70
Passing Grade	75

The researcher has conducted a formative assessment to determine whether there is an increase or not, from the evaluation results, there are 28 students who have completed. Students who are successful from the data above are 78%. at this meeting, it resulted in a significant increase in learning outcomes of 61%.

4. CONCLUSION

Based on the research results, it can be concluded that:

1. Implementation of learning using the snowball throwing method with the help of wordwall.net media in learning the Software and Game Development in class Software and Game Development 2 of grade X at SMKN High School 4 Bandung. The snowball throwing method is able to make students more active in asking questions, answering questions, and being responsible for the material according to the topic given. The snowball throwing method has a positive and significant effect on students' interest and motivation to learn.

2. The learning outcomes of students in learning the Software and Game Development material using the snowball throwing method with the help of wordwall.net media in Software and Game Development 2 of grade X at SMKN High School 4 Bandung, can be seen from the evaluation results, there are 28 students who have completed. Students who succeeded from cycle I data were 78%. at this meeting, it resulted in a significant increase in learning outcomes of 61%.

5. ACKNOWLEDGMENTS

6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

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