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# Development Based Blended Learning Model Type Flipped Classroom of Edmodo to Learning Achievement Sociology Improve Students' at SMA Negeri 1 Terbanggi Besar Class X

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## ABSTRACT

*This study aims to develop an Edmodo-based blended learning model for improving student achievement in Sociology subjects at SMA Negeri 1 Terbanggi Besar and reviewing the effectiveness and efficiency of the learning process using the developed learning design products. This type of research is R & D using 4D model development. The instruments in this study were expert validation sheets, teacher and student responses questionnaire sheets, and learning implementation observation sheets. The data analysis techniques used in this research are descriptive analysis, expert validation data analysis, and test data analysis. The results of the research based on the data and discussion concluded that the product for developing the Edmodo-based blended learning model design to improve student learning achievement was declared valid, attractive, efficient and effective based on the assessments of experts, teachers and students. Suggestions given at least for the reader can develop into other aspects of the character or other subjects.*

*Keywords: Development, Blended Learning Model, Flipped Classroom, Learning Achievement*

## ABSTRAK

Penelitian ini bertujuan untuk mengembangkan desain model pembelajaran *blended learning* tipe *Flipped Classroom* berbasis edmodo untuk meningkatkan prestasi belajar peserta didik pada mata pelajaran Sosiologi di SMA Negeri 1 Terbanggi Besar serta meninjau efektifitas dan efisiensi proses pembelajaran dengan menggunakan produk desain pembelajaran yang dikembangkan. Jenis penelitian ini adalah R & D dengan menggunakan pengembangan model 4D. Instrumen dalam penelitian ini adalah lembar validasi ahli, lembar angket tanggapan guru dan peserta didik, serta lembar observasi keterlaksanaan pembelajaran. Teknik analisis data yang digunakan dalam penelitian ini yaitu analisis deskriptif, analisis data hasil validasi ahli, dan analisis data hasil uji coba. Hasil penelitian berdasarkan data dan pembahasan diperoleh kesimpulan bahwa produk pengembangan desain model pembelajaran *blended learning* tipe *Flipped Classroom* berbasis edmodo untuk meningkatkan prestasi belajar peserta didik dinyatakan valid, menarik efisien dan efektif berdasarkan penilaian ahli, guru dan peserta didik. Saran yang diberikan setidaknya bagi pembaca dapat mengembangkan kepada aspek karakter lainnya atau mata pelajaran lain.

*Kata Kunci: Pengembangan, Model Pembelajaran Blended Learning, Flipped Classroom, Prestasi Belajar*

## Introduction

The dynamics have developed significantly and gradually in various aspects of learning including learning facilities and infrastructure, media, models, strategies and technologies that support learning, teaching staff and other supporting elements Dakhi et al., 2020; Ferdiansyah et al., 2020). The progress of the development of information and communication technology in the 21st century and the era of the industrial revolution 4.0 greatly affects changes in various aspects of human life, including the education aspect. The principles of 21st century learning require that learning is learner-focused, collaborative and contextual. In addition, educational institutions must also facilitate students to be

involved in the social environment. 21st century learning is required to be technology-based to balance the demands of the millennial era so that later students become accustomed to 21st century life skills. This opinion is also supported by Greenstein (2012) which states that students living in the 21st century must master science, have metacognitive skills, be able to think critical and creative, and able to communicate or collaborate effectively. This is marked by the widespread shift of conventional learning into learning that integrates information and Communication Technology (ICT). The era of the industrial revolution 4.0 requires skills and competencies to be a top priority in the development of human resources. This is certainly an important note for all parties, especially those engaged in the world of education to prepare and create resources that have competence in their fields.

The development of information and communication technology opens opportunities to improve the quality of teaching and learning activities by opening access to find information and extensive learning resources for students. According to Hussin (2018), currently there has been a change in the world of education, where teachers have utilized information technology in Teaching and Learning Activities (KBM) ranging from giving assignments, accepting assignments to uploading grades. Teachers in implementing KBM are also required to create pleasant (conducive) classroom conditions that can encourage students to carry out learning activities seriously. In addition, teachers must also have skills in increasing student interest, because with the interest, concentration and enthusiasm of students in learning, it can increase (Akhmalia et al., 2018; Harefa et al., 2022; Indrawati & Nurpatri, 2022; Zuleni & Marfilinda, 2022). Creating interesting KBM is a demand for a teacher. KBM is an exciting and fun atmosphere that is intentionally created by teachers to teach their students (Fajra et al., 2020; Masril et al., 2020). The atmosphere of teaching and learning activities is said to be meaningful for students if it can foster student interest in learning. Activities that are of interest to students will be noticed continuously accompanied by a sense of pleasure (Dakhi, 2022; Harefa, 2019; Zagoto, 2022).

Based on the results of initial observations when researchers carried out internship III at SMA Negeri 1 Terbanggi Besar, information was obtained that it turned out that the school had implemented a blended learning model that combines face-to-face and online learning models, which in the implementation of learning there are face-to-face and distance sessions. in each group of students. Students are divided into two large groups and each student has a schedule of distance learning and face-to-face learning. However, the application of the blended learning model that has been carried out has not touched the steps in implementing the forms offered in the use of the blended learning learning model. Based on the learning activities carried out, it was found that the learning achievement of class X students at SMA N 1 Terbanggi Besar in the even semester of the 2021/2022 academic year in sociology subjects consisting of 1 achievement in phase E and 4 learning elements, data obtained that the average learning achievement The lowest students were found in Phase E of the second element, namely on the subject of social institutions. The average learning achievement of students in the second phase E learning achievement is 65 and 70, respectively. The KKM or KKTP in the sociology subject of social institution material at SMA N 1 Terbanggi Besar is 75, with reference to the KKM or KKTP From this, it can be said that the learning achievement of students in this social institution material has not been very satisfactory compared to the average student achievement in other elements in the other 1st semester E phase which is already above 78. Judging from the number of students who completed Element 2 in phase E, there are 15 students sequentially, while those who have not achieved complete learning achievement in element 2 in phase E are 22 students out of 37 students. Based on the number of students who have completed Element 2 in Phase E, it is still less than or equal to fifty percent of students who have not achieved complete learning on this social institution material, when compared to other elements in the other Phase E, the average number of participants is students who have achieved complete learning achievement are above fifty percent.

SMAN 1 Terbanggi Besar uses a prototype driving school curriculum that is combined with the SKS system school, where there is a provision that students who have high abilities are given the advantage of being free to achieve competence in lessons first, so that students who have special abilities can make assessments. or evaluate first from his friends. Students who have this priority are

often referred to as accelerated students. According to Heward 199, acceleration is providing opportunities for students to go through the existing curriculum more quickly. In learning for accelerated students and ordinary ability students in this class, the national standard curriculum is still used in class, but time allocation is made in accordance with the learning demands of students who have learning speed and motivation and interest in learning more than students of their age.

To increase students' motivation and interest in learning in the learning process, teachers can choose and use learning models that are more conducive and meaningful by directing modernization activities through the help of advanced technology that can help students understand subject matter in an interactive, effective and fun way. (Hawala & Lase, 2022; Laoli et al., 2022; Telaumbanua et al., 2022). Interest is an important factor that affects all aspects of students to carry out learning activities (Atika et al., 2020; Zagoto & Dakhi, 2018).

Learning using technological advances can have a significant influence on the world of education to support learning process activities (Dakhi et al., 2022; Purnomo et al., 2017). Mastery of teachers and students in using technology is very important in order to face global competition that requires students to have an interest in learning so that they are able to be independent, creative, and think critically (Harefa & Ndruru, 2022; Munthe & Lase, 2022). One of the learning models that are in accordance with current technological advances and developments is the blended learning model. Blended learning is a combination of two instructional learning models, namely traditional learning systems and learning systems that emphasize the role of computer technology or better known as online learning (Aeni et al., 2017). This means that the blended learning model is a combination of face-to-face learning and online learning. So that the learning that occurs will be better in mastering the material as well as in mastering the technology. Because blended learning is not only an innovative learning model in combining learning implementation, but also as an innovation to introduce technological advances in education through learning models (Bnaggur et al., 2018; Mendrofa, 2021). Apart from that, teachers as teaching staff must also really prepare themselves in the learning process, related to how to facilitate the learning process that is carried out face-to-face and online. Thus, teachers must be able to master the steps in implementing the blended learning model, starting from making a learning program plan, compiling a unit of material to be delivered to students, choosing the media to be used in the learning process and determining what model to use in the learning process. learning that is carried out by blended learning. So that with teacher preparation, it can provide benefits to students in the learning process, both face-to-face and online or distance learning (Abdullah, 2018).

Previous studies found that students' perceptions of the application of flipped learning got positive results, students who were given material in the form of videos had better mastery than reading textbooks, students had difficulty completing assignments by reading material from textbooks and preferred learning materials. in the form of short videos rather than videos that are too long (Bishop & Verleger, 2013). Other research indirectly states that flipped learning is able to increase student satisfaction in learning, as well as improve learning achievement (Wilson (2013); Mason, Shuman, & Cook, (2013). In general, online learning can improve student learning outcomes. by using various well-planned platforms (Aswan, 2018)

According to Seels & Richey (1994) "learner characteristics are those facets of the learner's experiential background that impact the effectiveness of the learning process". Characteristics of students are the experiences of students that affect the effectiveness of the learning process. An understanding of the characteristics of students aims to describe the parts of the personality of students that need to be considered for the benefit of learning design. Knowledge of the characteristics of students will have an influence on the appropriate and appropriate message delivery strategy with the learning characteristics of students. Based on these characteristics, it is necessary to design and develop a learning process by integrating ICT because the learning characteristics of students are increasingly integrated with the use of information and communication technology. Flipped Classroom or flipped learning has attracted a lot of attention both from the research community and applied in the classroom.

According to Herreid & Schiller (2013) in flipped learning things that are usually done in the classroom such as explaining material that is dominated by theory, giving assignments, exercises and homework can be done through online learning before the lecture takes place, so that learning activities in the classroom really more student centered because in the classroom students will have more time to complete case studies, conduct problem-based learning, practice and discuss. Flipped classroom is one type of blended learning which according to researcher is quite efficient to apply. Flipped is rooted in an English word which means "exchanging" learning that was originally done in the classroom with outside the classroom, and vice versa. Teaching materials, quizzes and exercises are given online, while the discussion is done face-to-face with a low face-to-face frequency. In simple terms this method reverses the way of teaching in the classroom. In this strategy, the learning material must be studied by students at home before learning, so that in class the teacher no longer explains the material, but directly does practice questions or other activities such as debates, presentations, discussions, and so on ((Ario & Articles, 2018)

The flipped classroom combines two methods, namely the traditional face-to-face method in class, with a low frequency of discussing difficult and a lot of material. With this flipped classroom the teacher can display all learning materials in one learning element with a structured learning system with the material displayed can be in the form of videos, animated images and learning links. what is written on the link online, we can make the menu display in an online learning application, namely Edmodo. The use of this Edmodo-based flipped classroom media can be done by students anytime, anywhere and is opened repeatedly online.

Edmodo service is one of the media that can be used by teachers in helping carry out online learning. Edmodo services provide thousands of learning topics that can be accessed by students and teachers and complete with evaluations consisting of assignments, exercises and exams (Muanifah et al, 2019). In addition, teachers can add their own resources or teaching materials into the web service. This Edmodo service can be an option for teachers because of its ease of use both by the teacher himself and by the students. Edmodo has a special page for teachers and a page for students and can be accessed via PC or cellphone as long as it is connected to the internet so that it is easy to use (Fadilah, 2021). Edmodo-based blended learning is one of the latest innovations to identify the potential and challenges of students in reading skills. To improve reading skills, Edmodo is displayed as social media like Facebook, so that students who use Facebook will get used to it. Edmodo is very easy to operate, it can be operated using a laptop even with a cellphone, either in the form of a web or downloading the application (Maulida, 2020). Therefore, through this Edmodo-based flipped classroom-based blended learning model, it is hoped that it can increase students' motivation and interest in learning which has an impact on student learning achievement.

## 14 Research methods

This research is research and development. The product of this development research is the design of the Edmodo-based flipped classroom blended learning model to improve the learning achievement of sociology. The research and development model in this study uses the development of the Sugiyono Modified R&D product development model. The R & D method is a scientific way to research, design, produce and test the validity of the products that have been produced (Sugiyono, 2019: 754). The research carried out is the development of an Edmodo-based flipped classroom-based blended learning model to improve the learning achievement of sociology at SMA Negeri 1 Terbanggi Besar Class X. The development model in this study uses a Research and Development (R & D) based approach which refers to the development model 4 -D suggested by Thiagarajan, et al (Trianto, 2010: 93 – 96). This model consists of 4 stages of development, namely Define, Design, Develop, and Dessiminate or adapted into 4-D, namely defining, designing, developing, and distributing. The following is figure 3.1 of the main flow of the Thiagarajan, Semmel, & Semmel development model. This model is considered by researchers to be more concise, detailed and systematic which aims to produce products regarding the development of a flipped classroom type blended learning learning

model to improve sociology learning achievement. The product developed was then tested for feasibility with validity and product trials to determine the increase in student learning achievement, after learning sociology using the edmodo-based blended learning model of the philiped classroom.

The research subjects consisted of the subject of the product development process and the subject of product development trials. The subjects of the product development process are three design experts, three material experts and three media experts. The subjects in this study were UNILA FKIP lecturers, sociology subject teachers and students at SMAN 1 Terbanggi Besar. The subject of the product development trial was 1 class, namely class X which was applied to the Edmodo-based flipped classroom-based blended learning model to improve the sociology learning achievement of class X conducted by the researcher. The research design used in the research product trial was a pre-experimental design with the type of One-Group Pretest-Posttest Design. According to Creswell (2019) that the One-Group Pretest-Posttest Design type includes one group that is observed at the pre-test stage which is then treated and at the end of the post-test. In the experimental model in this study, a group was given a pretest (O<sub>1</sub>) and then given treatment by applying the Edmodo-based flipped classroom-based blended learning model to improve sociology learning achievement (X) and then the final test (Posttest) (O<sub>2</sub>).

The data needed in this study are (1) data on the conditions of problems and learning that occur at the research location, (2) expert validation data on the developed product and teacher and student responses, and (3) student learning achievement data. Meanwhile, to obtain the data, the data was collected using questionnaires, observations, questionnaires and documentation. The research instrument was used to obtain research data that was used to review the Edmodo-based flipped classroom-based blended learning model to improve learning achievement in sociology that had been applied in learning including interview guidelines, observation sheets, questionnaires consisting of validation questionnaires, adopting teacher and student responses, and test. The technical analysis of the data carried out includes: (1) Data analysis of the questionnaire sheet validation design of the Edmodo-based flipped classroom-based blended learning learning model and practitioners to review the feasibility and attractiveness of the developed product; (2) Analysis of observation sheet data is carried out to measure time efficiency for teachers and students during learning by using the results of the developed product; (3) Analysis of learning achievement data is carried out to determine the effectiveness of learning including: (a) Analysis of student learning efficiency; and (b) analysis of improving learning achievement.

## Results and Discussion

The results of the research data obtained in this study were then used in research to analyze (1) the potential and conditions for developing an Edmodo-based flipped classroom-based blended learning model to improve sociology learning achievement; (2) the process of developing an Edmodo-based flipped classroom blended learning model to improve sociology learning achievement to improve student learning achievement; (3) the effectiveness of efficiency and product attractiveness of the Edmodo-based flipped classroom blended learning model to improve sociology learning achievement.

### *Potential and conditions for developing an Edmodo-based flipped classroom blended learning model to improve sociology learning achievement*

According to Noviana and Murtiyasa (2020) stated that efforts to improve several aspects of education carried out by the government include: (1) improving the school curriculum, teachers are required to master the material to be taught to students, (2) infrastructure improvement by building and improving infrastructure. education, especially libraries, computer labs and access to the internet as well as improving ICT infrastructure which is currently lagging behind in ASEAN, and (3)

improving the learning process by recruiting and improving the quality of teachers, where all students are educated by qualified, trained teachers. professionally, motivated, and supported. The digital revolution and the era of technological disruption are other terms for industry 4.0. This is due to the proliferation of computers and the automation of records in all fields. Industry 4.0 is said to be the era of technological disruption because automation and connectivity in a field will make the movement of the industrial world and work competition non-linear. One of the unique characteristics of industry 4.0 is the application of artificial intelligence (Tjandrawinata, 2016). The era of the industrial revolution 4.0 also provides major changes to the mental structure through ways of thinking, ways of believing, and ways of acting (Suwardana, 2017).

Facing the era of the industrial revolution 4.0, education is needed that can form a creative, innovative, and competitive generation. In addition, it also requires Human Resources who are superior, professional, far-sighted, and confident (Ginanjar, 2015). In line with this, the Minister of Research, Technology and Higher Education (2018) revealed that there are several things that must be prepared in facing the era of the industrial revolution 4.0: innovative learning systems to produce competitive and skilled graduates, especially in the aspects of data literacy, technological literacy and human literacy; Reconstruction of adaptive and responsive higher education institutional policies; Responsive, adaptive and reliable human resources, and; Improvement of infrastructure and development of educational infrastructure, research, and innovation. Entering the era of globalization in the 21st century, education in Indonesia faces big challenges, both in terms of equity, expansion of access, quality improvement, relevance, competitiveness, efficiency of education management, as well as the optimization of resources and the realization of a public image. Indonesia itself has realized the importance of 21st century skills as outlined by the National Education Standards Agency in 2010, thus, the growing impact of globalization and the knowledge society has led many people to think that 21st century skills are very important (Lewin and McNicol, 2015; Van Laar, et.al: 2017). Thus, the challenges of the industrial revolution 4.0 must be addressed wisely by stakeholders by mastering data, technology, and human literacy skills. Teachers are the essence of education, without teachers education will not run effectively. Many teachers lack experience and/or competence, lack of time, and other technical problems to integrate ICT into the classroom (Honan, 2008; Lei, 2009; Lim, Chai & Churchill, 2010; Lubis, 2018; Miskiah, et al, 2019; munawwarah, 2014; Russell, et al, 2003). Therefore, teachers must be able to balance the learning system with increasingly developing technology. Here the teacher must be able to innovate learning from the classic to modernization. Combining learning methods with technology, to help students understand that education and technology must go hand in hand and be able to create learning activities in any situation. Thus, the learning revolution becomes a necessity.

*The process of developing an Edmodo-based flipped classroom blended learning model to improve sociology learning achievement to improve student learning achievement*

The process of developing an Edmodo-based flipped classroom blended learning model to improve sociology learning achievement to improve student learning achievement in this study the implementations carried out included:

#### Potential and Problems

The analysis of the results of potential and problems that the researchers carried out included the potential and conditions at SMAN 1 Terbanggi Besar including the results of interviews with the curriculum, sociology teachers and students. The potential of SMAN 1 Terbanggi Besar in learning is not optimal at school. While the problem that exists is the value of sociology lessons in class X TP 2022/2023 of 15 students who reach the minimum completeness criteria of only 33% or as many as 5 students, students only use material obtained from the teacher, the lack of variety of methods used by teachers to make students are less active in the lesson and the use of learning media as a learning support that can provide an increase in the mastery of knowledge and skills of students so that student learning achievement increases.

## Data Collector

Data collection activities are carried out by reviewing several theories to analyze needs in more depth and find relevant research literature so that the problems found can be found solutions. The data collection that the researchers carried out included collecting relevant sources that would be used both from textbooks, youtube videos, material links and images that were in accordance with the material to be used.

## Product Design

After collecting data in the previous stage, the next step that the researchers took was to make a content design including: (a) Selecting basic competencies, (b) Formulating indicators and learning objectives, (c) Preparing Learning Plans, (d) Preparing Learning Materials, ( e) Develop a map of needs, (f) Prepare written tests, and (g) Prepare student evaluations to review student learning achievements. Based on the design, the contents are then used as the initial product (prototype 1).

## Product Validation

Product validation includes material expert validation, media expert validation sheet and design expert validation sheet. Design validation was carried out by 3 material experts, 3 media experts and 3 design experts consisting of 2 lecturers and one sociology teacher.

The results of the material expert validation from the two validation tests are also presented with the following bar chart:

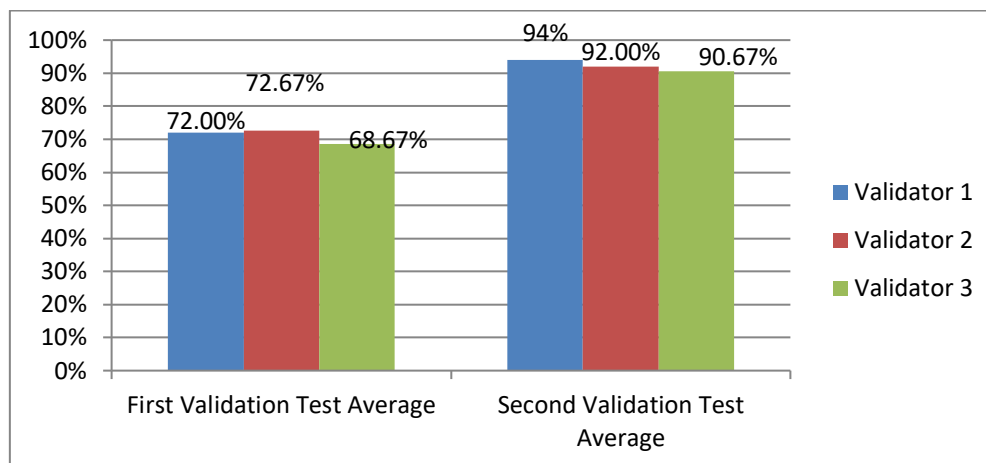
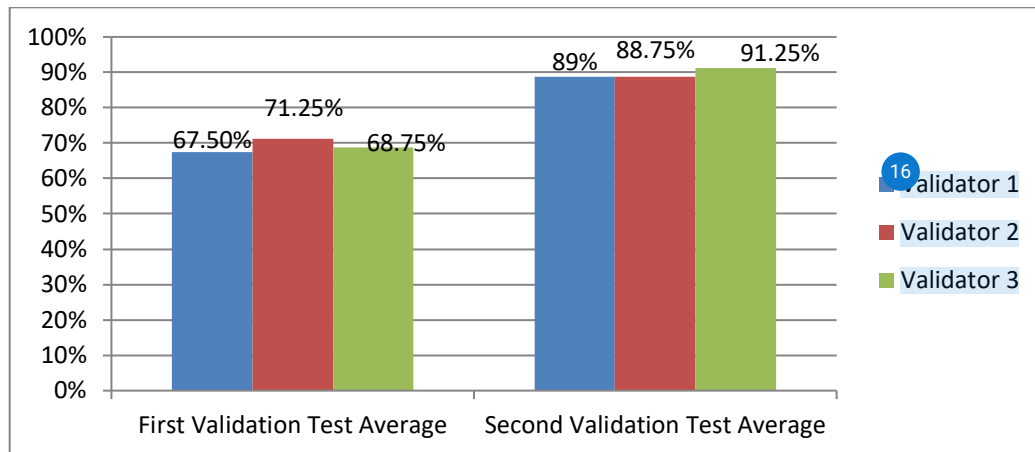


Figure 1 Bar chart of Material Expert Validation Test

Based on the table and figure above, the average value of the three validators of the second material expert has met the criteria for the feasibility of the product being developed with the lowest value aspect given 3. The value obtained is 92.22% which lies in the range of 81% -100% which indicates the eligibility criteria, namely "very worthy".

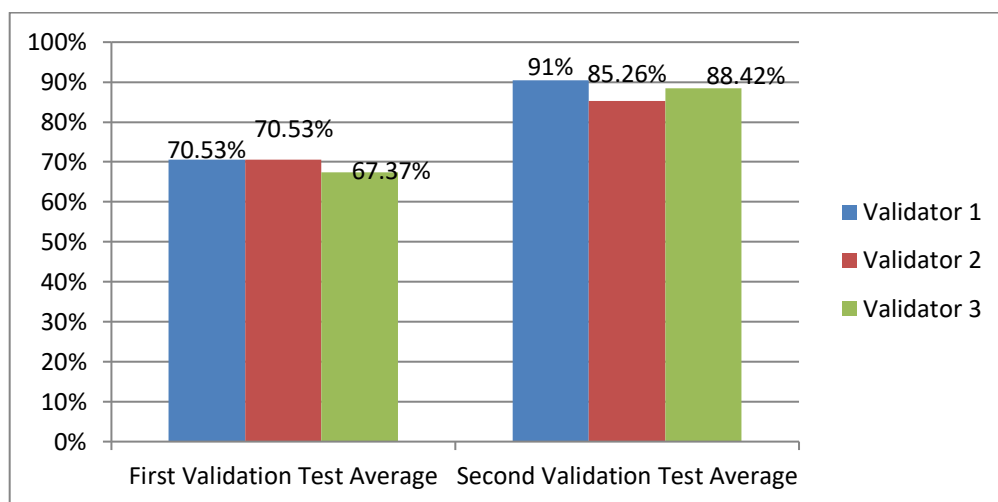
Furthermore, the results of the media expert validation from the two validation tests are also presented with the following bar chart (see figure 2)





**Figure 2** Bar chart of Media Expert Validation Test

Based on the table and figure above, the average value of the three second media expert validators has met the criteria for the feasibility of the product being developed with the lowest value aspect given 3. The value obtained is 89.58% which lies in the range of 81% -100% which indicates the eligibility criteria, namely "very worthy". Furthermore, the validation results of the design experts from the two validation tests are also presented with the following bar chart:



**Figure 3** Bar chart Design Expert Validation Test

Based on the table and figure above, the average value of the three validators of the second design expert has met the criteria for the feasibility of the product being developed with the lowest value aspect given 4. The value obtained is 88.07% which lies in the range of 81% -100% which indicates the eligibility criteria, namely "very worthy".

The product validation results include material expert validation, media expert validation sheets and design expert validation sheets that are presented already meet the very feasible criteria and can be used in the class that is used as a product trial class. Product trials were carried out to review the effectiveness, efficiency and attractiveness of the developed product as well as input on the improvement of the Edmodo-based flipped classroom-based blended learning model product to improve sociology learning achievement to improve student learning achievement so that it becomes a better product.

*Effectiveness, Efficiency and Attractiveness of using Edmodo-based flipped classroom blended learning model to improve sociology learning achievement*

The effectiveness, efficiency and attractiveness of using the Edmodo-based flipped classroom blended learning model to improve sociology learning achievement to improve student learning achievement is part of the sixth development process, namely product testing. Product testing is an important part of development research that is carried out after the design revision is complete. Product trials are intended to collect data that can be used as a basis for determining the level of feasibility and attractiveness of the resulting product. For product testing, it is carried out by means of a limited test which is given to class X.1 as a test class to review effectiveness, efficiency and attractiveness.

The effectiveness of the use of products developed in sociology subjects in short-distance running material includes student learning achievement tests which are applied to the developed product, namely the Edmodo-based flipped classroom-based blended learning model to improve sociology learning achievement by reviewing the learning test results data for class X students. .1 conducted by the researcher. The study was conducted in five meetings where the first meeting gave the design of the learning process to be carried out as well as the pretest, the second to fourth meetings provided learning according to the plan in the lesson plan which was adapted to the design of the learning model developed, the fifth meeting gave a posttest. Based on the analysis data, it was found that there was an increase in the mean pretest and posttest mean. Furthermore, the data is analyzed using the N-Gain formula and the N-gain percentage is 68%. The results of the percentage of the average increase (index gain) of student learning achievement classically to give meaning or meaning to the value obtained on the criteria determined in the range of 56%-75% with criteria quite effective.

The efficiency of using products developed in the learning carried out includes (1) time efficiency, (2) cost efficiency, and (3) student learning efficiency. Based on the analysis data, it is found that the time efficiency is quite effective. During the post-covid-19 pandemic, learning for 1 hour of lessons is 35 minutes, while in 1 week the sociology subject is 3 JP, so it takes 105 minutes, but in the implementation of learning using the Edmodo-based flipped classroom-based blended learning model to improve the sociology learning achievement of researchers and students can complete 1 learning activity within 90 minutes so that the efficiency is 1.17. Furthermore, the cost efficiency of using the Edmodo-based flipped classroom-based blended learning model to improve sociology learning achievement can be used by using a mobile phone as a file that can be accessed anywhere and anytime, while if students are charged with the use of textbooks, students must buy books for Rp. 98.000.-. In addition, from the learning efficiency of students, the use of the Edmodo-based flipped classroom blended learning model to improve sociology learning achievement is preferred by students, which is 85.76%.

The attractiveness of the product is reviewed on the opinions of teachers and students of class X.1 regarding the product being developed. As well as the opinions of class X.2 students on the learning provided. The teacher practitioner test was carried out on one sociology subject teacher who was in charge of class X.1 and X.2 in providing an assessment of the resulting development product. The practitioners' results obtained an average of 86.61. This value is interpreted against the attractiveness criteria to give meaning or meaning to the product developed based on the practicality of the product. The value obtained lies in the range of 81% - 100% which shows the eligibility criteria, namely "very interesting". Meanwhile, the student practitioner test was carried out on 24 students in class X.1 and 32 students in class X. 2 in providing an assessment of the resulting development products. The results of practitioners to 24 students in class X. 1 obtained an average of 88.99. Meanwhile, the results of practitioners to 32 students of class X. 2 obtained an average of 89.51. This value is interpreted against the attractiveness criteria to give meaning or meaning to the product developed based on the practicality of the product. The value obtained lies in the range of 81% - 100% which shows the eligibility criteria, namely "very interesting". In a learning process, there is an important element that is very important but sometimes forgotten, namely the teaching method. The

selection of a good teaching method will also affect the selection of other needs (teaching materials, media and visual aids) in accordance with the teaching method, but there are also several other things that must be considered in choosing learning media.

The process of developing and validating the product using Sugiyono's modified development model resulted in an Edmodo-based blended learning model of flipped classroom-based learning model to improve sociology learning achievement to improve student learning achievement which was valid according to the stages carried out. The results of the validity of the product development are carried out on the important elements presented at each stage of the development process. Validity was carried out on the validation assessment of material experts, media experts and design experts carried out by three validators, namely 2 lecturers and 1 teacher of sociology at SMA Negeri 1 Terbanggi Besar. The average value of the three third material expert validators has met the criteria for the feasibility of the product developed with the lowest value aspect given 3. The value obtained is 92.22% which lies in the range of 76% -100% which indicates the eligibility criteria of "very valid". Meanwhile, the average value of the three third media expert validators has met the criteria for the feasibility of the product being developed with the lowest value aspect given 4. The value obtained is 89.58% which lies in the range of 76% -100% which indicates the validity criterion is "very valid". Then, the average value of the three validators of the third design expert has met the criteria for the feasibility of the product developed with the lowest value aspect given 4. The value obtained is 88.07% which lies in the range of 76% -100% which indicates the validity criterion is "very valid".

The results of the trial obtained the value of learning achievement before and after class X. 2 which was applied to the product developed there was an increase in the change between the initial score and the final score to review whether there was an increase in student learning achievement. The results of the analysis using an increase (gain index) obtained that the average is 0.68 with a moderate classification while the percentage is 68% in the quite effective category. In the next analysis, the researchers made the percentage of learning completeness both individually and classically for individual mastery by reviewing the posttest scores obtained, while classically by reviewing the percentage of individual completeness where the percentage of learning achievement of students in class X. 2 was 87.50%. or 28 students completed while 12.50% or 4 students have not completed.

The attractiveness of learning media development products was reviewed on the results of practitioners from the responses of one teacher, 24 students in class X. 1 and 32 students in class X. 2. The teacher's score as a response obtained an average of 86.61. This value is interpreted against the attractiveness criteria to give meaning or meaning to the product developed based on the practicality of the product. The value obtained lies in the range of 80-100 which shows the eligibility criteria, namely "attractive (can be used without revision) / very good". Meanwhile, the results of practitioners to 24 students in class X. 1 obtained an average of 88.99. Meanwhile, the results of practitioners to 32 students of class X. 2 obtained an average of 89.51. This value is interpreted against the attractiveness criteria to give meaning or meaning to the product developed based on the practicality of the product. The value obtained lies in the range of 81% - 100% which shows the eligibility criteria, namely "very interesting".

Increased learning achievement of students who are given learning using the Edmodo-based flipped classroom-based blended learning model to improve sociology learning achievement to improve student learning achievement which is designed to suit the characteristics of students and the level of ability of students to use all aspects of learning that helps make learning effective learning. As explained by Smaldino (2012: 5) that tailored and specially designed technology can contribute to the effective teaching of all students and can help them reach their highest potential. In addition, the development of an Edmodo-based flipped classroom blended learning model to improve sociology learning achievement to improve student learning achievement is adjusted to the concepts analyzed in detail from students' graduate competency standards (SKL), KD and training assignments that are designed sequentially so as to provide a unified whole as a support goal in learning. Audio-visual-based learning media can be associated with concept formation, concept understanding, exercise and

reinforcement, service to individual differences in abilities, measurement, problem solving in general, stimulation for thinking, stimulation for discussion, and stimulation for active participation.

The use of the Edmodo-based flipped classroom-based blended learning model to improve sociology learning achievement to improve student learning achievement while teaching is often faced with problems related to how to make it easier for students to learn in providing convenience or facilitation in conveying information and obtaining information. The ease of learning and the various elements or elements that must be considered in the design of the Edmodo-based flipped classroom blended learning model to improve sociology learning achievement to improve student learning achievement. The elements are the goals to be achieved, the characteristics of students, the content of the material studied, the methods or methods or strategies used, measuring or evaluation tools, and feedback. Although, all elements have been selected, basically we return to what the goals to be achieved and the goals themselves are ultimately the final foundation of learning activities. The results of the development of the Edmodo-based flipped classroom-based blended learning model to improve sociology learning achievement to improve student learning achievement serve as an innovation in the presence of technology that can be used in various subjects. This is supported by research which states that students need a learning pattern that integrates technology in learning, and allows students to communicate and obtain information from various sources (Zaid & Bahri, 2018). The importance of this design should not be underestimated because it facilitates the process of preparing curriculum and making e-learning more effective and efficient (Destya et al., 2016). This statement is supported by other research which states that instructional design becomes a blueprint in the teaching process that directs the process of preparing the instructional strategy (Batubara, 2018). In addition, a good learning design will support communication and interaction carried out by lecturers, so that learning can run as it should (Taskiran, 2021). In addition, learning design provides teachers with systemic thinking that helps them deal with educational problems in a systematic way (Alsaleh, 2020), so that subject teachers in general can use learning tools affectively that support the learning process.

## Conclusion

The results of the research based on data and discussion concluded that the product of developing the Edmodo-based flipped classroom blended learning model to improve sociology learning achievement to improve student learning achievement was declared valid, attractive, efficient and effective based on the assessments of experts, teachers and students. Suggestions given at least for readers can be developed into more detailed skills aspects and more efficient attitude aspects so that research related to the use of the Edmodo-based flipped classroom-based blended learning model to improve sociology learning achievement to improve student learning achievement is more optimal.

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