www.ijemst.net

Development of Blended Learning Type and Flipped Classroom-Based Cultural Arts Subjects

Nurhayati
Universitas Negeri Medan, Indonesia

Dina Ampera
Universitas Negeri Medan, Indonesia

Surniati Chalid
Universitas Negeri Medan, Indonesia

Farihah
Universitas Negeri Medan, Indonesia

Baharuddin
Universitas Negeri Medan, Indonesia

To cite this article:

Nurhayati, Ampera, D., Chalid, S., Farihah, & Baharuddin (2021). Development of blended learning type and flipped classroom-based cultural arts subjects. *International Journal of Education in Mathematics, Science, and Technology (IJEMST)*, *9*(4), 655-667. https://doi.org/10.46328/ijemst.1975

International Journal of Education in Mathematics, Science and Technology

2021, Vol. 9, No. 4, 655-667 https://doi.org/10.46328/ijemst.1975

Development of Blended Learning Type and Flipped Classroom-Based Cultural Arts Subjects

Nurhayati, Dina Ampera, Surniati Chalid, Farihah, Baharuddin

Article Info

Article History

Received:

05 November 2020

Accepted:

13 June 2021

Keywords

Blended learning

Development

Flipped classroom

Cultural art

Abstract

This research development is motivated by low learning outcomes Art Culture students of class XI software engineering 1 SMK Negeri 14 Medan. This study aims to (1) describe the design of blended learning development, (2) to describe the validity of the blended learning development result, and (3) to know the effectiveness of the use of blended learning on the subjects of Art Culture. The type of this research is development research using ADDIE model. Data in the study was collected using document recording method, questionnaire, and test. Instruments used in data collection are document recording reports, questionnaire sheets, and multiple-choice objectives. The collected data were analyzed by qualitative descriptive analysis technique, quantitative descriptive analysis technique, and inferential statistical analysis technique/inductive t-test. The results of the research show that (1) the design of blended learning development through ADDIE model consisting of analysis, design, development, implementation, and evaluation, (2) validation product validated from expert and user review with (a) subjects showed excellent predicated blended learning (90.53%); (b) the results of the design review indicated that blended learning was very good (93%); (c) the results of the media review indicated that blended learning was very good (95%); (d) individual trial results, small group trials, and field trials showed that blended learning predicate very good (98.82%), good (87.84%), and very good (92.55%), (3) on the efficacy test of blended learning shows that the result of t-count (22.07)> t-table (2.007). This means, there are significant differences in student learning outcomes between before and after using blended. Thus blended learning is developed effectively to improve Art Culture learning outcomes.

Introduction

Educational technology has an important role in the learning process, namely overcoming learning problems, facilitating the learning process, and fostering interest in learning. This is in accordance with the definition of educational technology according to the Association for Educational Communication and Technology (AECT)

(2008), Mahadewi (2019), and Nurlifa, Kusumadewi, and Kariyam (2015) and the concept of educational technology is defined as follows: "Educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources". Educational technology plays a role in helping to solve human learning problems throughout life, anywhere, anytime, in any way, and by anyone. The main learning problems that often become obstacles in carrying out the professional duties of educators are related to the process of teaching abstract concepts, complex/complex concepts, past events, understanding of the material being lectured, providing direct experience and experience interacting with objects that are too big or small. . Learning problems in this micro context can be overcome by applying the principles of educational technology, such as the use of relevant media in the learning process, the development of appropriate learning models according to the characteristics of students and the competencies to be achieved, and the utilization of various available learning resources. Solving learning problems that occur in learning classrooms can be done by applying the theory and practice of educational technology.

The era of globalization has a considerable impact in various aspects of life, including the demands in the implementation of education. One of the real challenges is that education should be able to produce human resources that have complete competence, known as 21st century competence. In the competence of the 21st century learning is still very rigid if only using print media as a source of learning and face-to-face (traditional) as a process carried out during learning. This is felt to be less adapted to the current situation, because it can be known that by using technology all information can be accessed anytime and anywhere. ICT is able to play a role in producing a variety of learning material products that are much more interesting to learn, have high interactive elements, and are easy to understand by students. All these advantages can speed up their learning process. Moreover, ICT is also able to deliver various learning materials to students without restrictions on distance and time with the internet as its media.

Learning is basically a complex process that happens to everyone throughout their life. Hamalik (2018) says that "learning is one of the processes of changing individual behavior through interaction with the environment". So learning can happen anytime and anywhere. By learning humans can develop the potentials brought from birth. Without learning man could not be able to meet his needs. Learning and learning needs can occur everywhere, for example in the family, school, and community environment. Man's need for learning will never cease as long as man is on the face of the earth. Learning is a complex student's actions and behaviors. As an action, learning is only experienced by the students themselves. The learning process happens thanks to students acquiring something that is in the surrounding environment. The environment studied by students in the form of natural circumstances, objects, animals, plants, people, or things that are used as learning materials (Dimyati & Mudjiono, 2016).

The success of this learning cannot be separated from the way educators teach and how to learn learners. Learning is said to be successful when there is a change in the behavior of learners, both from changes in knowledge, attitudes, and skills of learners. In addition, in learning students are helped so that the potential, abilities, traits and habits that have developed optimally. Educators must be able to create an atmosphere

conducive to the development of students by providing a comfortable, pleasant, and interesting atmosphere to develop themselves optimally so that the goals that want to be aspired to can be achieved.

Based on the results of observations on November 15, 2019 at SMK Negeri 14 Medan City, with Cultural Arts Subject Teachers, it is known that the use of learning resources and learning methods is not optimal in the learning process. Teachers still use existing learning resources such as worksheets, textbooks. In addition, the learning method used in the teaching and learning process is still monotonous, namely in the delivery of learning materials, so that students' activities only listen to the delivery of material from the teacher and read books. Another problem faced during the learning process is that there are limited learning media that are attractive and able to motivate students in the teaching and learning process, especially in arts and culture subjects. Teachers have not been able to take full advantage of the facilities that already exist in schools, starting from computers and LCD projectors that have been provided at schools. Then the limited hours of learning in the classroom on arts and culture subjects students meet face to face with the teacher once a week with an allocation of 2 x 45 minutes per lesson so that the material delivered is less than optimal So that in learning activities the teacher is more dominant using the monotonous method rather than using learning media causing students to be passive, and less involved in learning.

Cultural arts subjects are one of the subjects that seek to equip students with various abilities and skills in depth. Considering that the amount of mastery of knowledge and skills that must be mastered by students through meetings in this class is not supported by inadequate study time, where the time for one face-to-face meeting is deemed insufficient, a system and medium for the implementation of learning is needed that allows mastery of knowledge and skills whole for students. This is intended so that the lack of time in face-to-face meetings can be overcome with online system learning activities, one of which is by utilizing assistive devices in various forms of educational technology, especially in the implementation of the learning process. The use of diverse learning media in learning is felt to be able to overcome student boredom in learning. According to Sadiman (2018), “[m]edia is anything that can be used to channel messages from sender to receiver so that it can stimulate the thoughts, feelings, concerns, and interests and concerns of students in such a way that the learning process occurs” (p. 7). This of course requires teachers and schools to have facilities regarding relatively learning media that will be used. With technological advances, it is hoped that teachers can develop learning by utilizing information and communication technology so that learning becomes more meaningful for students, both learning at school and outside school independently. Therefore, various efforts are needed that allow the learning process to occur outside school hours, one of which is through blended learning (a combination of face-to-face and online) utilizing the school platform by combining the flipped classroom model (Abass, Arowolo, & Igwe, 2021; Namyssova, et al., 2019; Ndibalema, 2021; Ojaleye & Awofala, 2018; Thompson & McDowell, 2019).

Based on the questionnaire distributed in class XI software engineering 1 as many as 27 students in the arts and culture subjects at SMK Negeri 14 Medan City, it was stated that of 27 students all of them already had smartphones and laptops. In addition, 92.6% of students also have laptops. In reading or looking for references to learning materials, 59.3% of students prefer to use smartphones and 33.3% of students prefer to use

laptops/computers. Meanwhile, 18.5% of students prefer to read textbooks. Thus it can be concluded that some students prefer to access information online via smartphones and laptops. Almaseid (2018) blended learning can be used as an alternative to solve problems in the field of education, especially the problem of equitable access to educational information, which integrates face-to-face learning and e-learning with quality learning content in the form of learning materials in the form of text or images, videos accompanied by assignments and examples of questions, so that teachers deliver and manage teaching and learning activities better. In addition, blended learning provides opportunities for students to communicate with students and teachers both within one school and with students and teachers from other schools while studying the same learning material. Educators are not only limited to providing additional material, there are many features offered by school in terms of optimizing learning. By utilizing these features appropriately, you can be sure that the problems experienced can be resolved. To support blended learning, an appropriate learning model is needed, one of which is the flipped classroom model. Prayitno (2016) stated "[f]lipped [c]lassroom is a learning model that reverses traditional methods, which are usually given in class and students work at home."

Based on the exposure, then in this study was tried to develop the development of blended learning flipped classroom type in cultural arts subjects class XI at SMK Negeri 14 Medan Year 2019/2020. In line with the above exposure, the objectives to be achieved in this development research are (1) to describe the design of blended learning development of flipped classroom type. (2) to describe the quality of validation results of the development of blended learning flipped classroom type (3) analyze the effectiveness of blended learning flipped classroom type, which can be measured by looking at the difference between pretest scores and posttest scores achieved by students in learning by using blended learning type flipped classroom in cultural arts subjects class XI at SMK Negeri 14 Medan.

Method

Development research conducted in the process using the ADDIE development model. The selection of models is based on the consideration that the models used are organized programmatically with systematic sequences of activities in an effort to solve problems related to learning resources that suit the needs and characteristics of learners. Tegeh (2018) presented five stages in the ADDIE development model, namely analysis, design, development, implementation, and evaluation. This development research was conducted at SMK Negeri 14 Medan, especially in grade XI software engineering 1 students totaling 27 people.

The data in this study was collected using interview methods, questionnaires, and tests. The description of each method is as follows. Interview method is a method of collecting data by collecting documents and recording systematically. The way that can be used to collect such data is to conduct systematic Q&A (Koyan, 2017). This method is used to know the analysis of the needs Questionnaire method or questionnaire method used to know the quality of the product by testing the validity of the product on the development of blended learning. The test method used in this study is a test of study results in the form of objective or multiple choice tests. This objective or multiple choice test is used in the product effectiveness test of student learning outcomes (Candiasa, 2020). The instruments used in collecting data are interview guidelines, questionnaires, and objective tests. Data

collection instrument trials are conducted to determine the level of validity and reliability of measuring instruments conducted directly during the study, where the measuring instrument of students' learning results in the test to be shared as data analysis is (1) test validity test.

Results

The results of the study discussed four main things, namely (1) describing the design of blended learning flipped classroom type, (2) describing the validity of blended learning development, and (3) knowing the effectiveness of blended learning developed.

(1) The design of blended learning has been done with the development model used, namely the ADDIE development model. The design of blended learning development begins at the stage of needs analysis, namely, the learning outcomes of Arts and Culture subjects still have not reached the specified KKM, it is influenced by the absence of updates to the learning process, limitations on the availability of interesting learning media and able to motivate students in learning, in addition students only have a package book as the only learning resource. So researchers see the need to develop blended learning flipped classroom type as a solution to overcome the problem. Design stage is done is the development of blended learning results obtained in the design stage, namely storyboarding, mapping, flowchart and assessment instruments. Development stage has blended learning development activities, preparation of teaching materials, collection of materials or lesson materials, making quizzes. The implementation stages in this research are conducting product validation test activities carried out by experts, product testing, and giving pretest and posttest after applying blended learning. The evaluation stage conducted evaluation activities from the data that has been collected; the results of the evaluation data are divided into formative and summative evaluations.

(2) The results of the validity of the development of blended learning will be presented six main things, including validity according to: (1) content experts, (2) learning design experts, (3) learning media experts, (4) individual trials, (5) small group trials, and (6) field trials. All six data will be presented in a row.

This blended learning media was tested by Sudiyem as an expert in the content of Cultural Arts subjects, after being converted with conversion tables, the percentage of achievement rate of 90.53% was at an excellent qualification. So that blended learning developed does not need to be revised. The results of the evaluation of learning design experts by Putra Siahaan after being converted with a conversion table, the percentage of achievement rate of 93% is in excellent qualification. So that blended learning developed does not need to be revised. But based on the comments and suggestions given by the learning design experts, revisions were made for the sake of the perfection of the developed media. Furthermore, the results of evaluation by learning media experts by Yoga Putra Nababan after converting with conversion tables, the percentage of achievement rate of 95.00% is in excellent qualification, so blended learning developed does not need to be revised. But based on the comments and suggestions given by media learning experts, then revisions were made for the perfection of the media that development.

Then continued with this individual trial is a grade XII student at SMKN 14 Medan as many as 3 students. The student consists of one student with high learning achievement, one student who excels in moderate learning and one student with low learning achievement. Once converted with the conversion table, the average percentage of achievement rate of 98.82% is well qualified, so the blended learning developed does not need to be revised. In the small group trial subjects of this study were students of class XII software engineering 3 at SMKN 14 Medan as many as 12 students. The student consists of four students with high learning achievement, four students with moderate learning achievement and four students with low learning achievement. Once converted, the percentage of achievement rate of 87.84% is well qualified, so the blended learning developed is slightly revised. But there is no comment and suggestions are given for revisions, so the blended learning developed does not need to be revised. Furthermore, it was given to 27 students of grade XI software engineering 1 at SMKN 14 Medan to conduct field trials. Once converted, the percentage of achievement rate of 92.22% is well qualified, so the blended learning developed does not need to be revised.

Product development revisions. In the development of blended learning through six stages, namely (1) experts in the content of subjects, (2) learning design experts, (3) learning media experts, (4) individual trials, (5) small group trials, and (6) field trials. In the six stages of the revision, there are few revisions based on some inputs and suggestions from experts for blended learning perfection. After individual tests, small group tests and field tests, further product effectiveness tests are conducted.

(3) The effectiveness of blended learning flipped classroom type developed is done by test method. Multiple choice test questions are used to collect data on students' learning outcomes before and after using flipped classroom type blended learning. Before blended learning flipped classroom type is applied to students, first conducted pretest against 30 students of grade XI software engineering 1 at SMKN 14 Medan. Furthermore, posttest after applied to students. The average pretest is 57.04 and the posttest average is 90.37. Based on the pretest and posttest values, t-tests are performed for manually correlated samples.

Then the count price is compared to the t price on the table. The price for decibel 52 and with a significance of 5% (α=0.05) is 2,007. Thus, the calculated t price is greater than the table t price so that H_0 is rejected and H_1 is accepted. This means that there is a significant difference (5%) Art and Culture learning results students between before and after taking part in learning with blended learning flipped classroom type in class XI software engineering 1 subjects Arts and Culture at SMKN 14 Medan.

Discussion

Blended learning products produced in this research are able to show effective results in the learning process. This is because blended learning products have been through a systematic development process using the ADDIE model, starting from the analysis of needs at SMK Negeri 14 Medan, so that media that accommodates the needs and characteristics of students, especially grade XI students.

Flipped classroom is the latest learning method innovation in the digital era. This method is one of the blended

learning models that is so effective that educators who are preparing to implement blended learning are recommended to use it. Research reveals that this method is very effective in changing students from passive to active, from 'averse' learners to being responsible for mastering learning content, because this method activates and develops students' thinking skills, both independently and collaboratively. With this method, the teacher acts more as a facilitator, mentor and motivator.

As the name implies, 'flipped', which means 'reversing the pattern, position, order, arrangement, or direction of something, flipped classroom is a learning method that reverses or changes traditional learning patterns. Since the word 'flipped' is synonymous with 'inverted', the flipped classroom is also known as the "inverted classroom" (so the most appropriate name in Indonesian for this method is "inversion class".

Traditional classes generally begin with content exposure or the 'transfer' of information from the teacher to students through lectures or face-to-face presentations. Some of the lectures or presentations, if there is still time, will be followed by a question and answer session or discussion. After that, learning is continued outside the classroom (non-face to face) with a focus on assimilating knowledge by students through completing assignments or homework (PR).

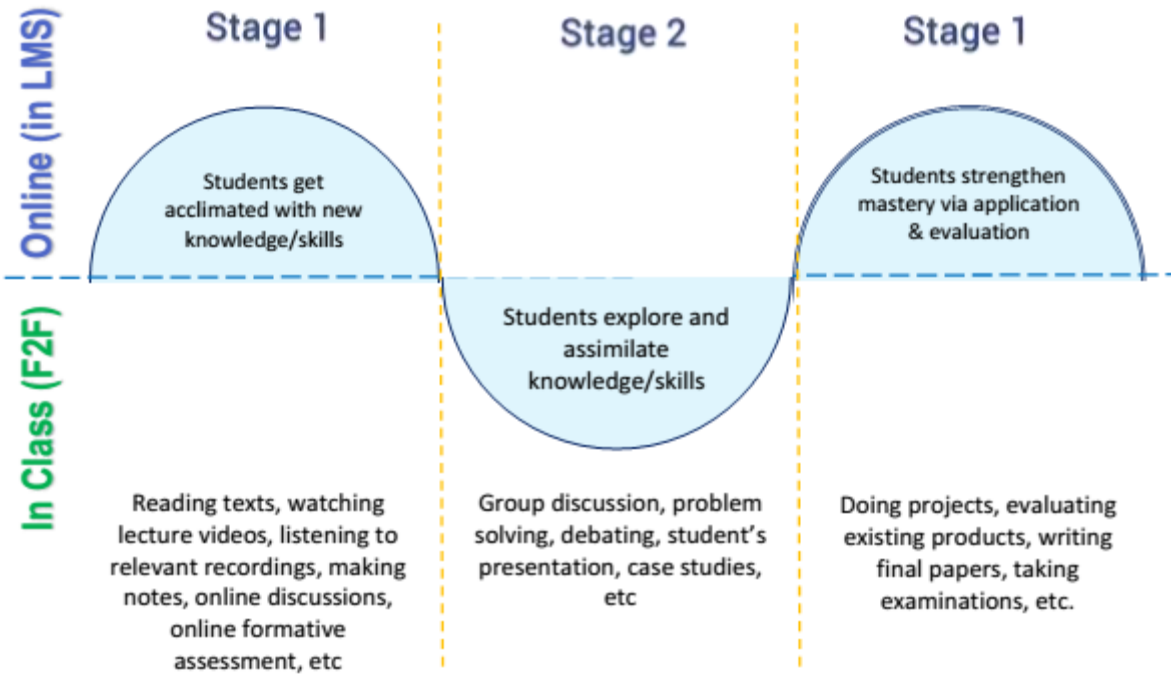

Figure 1. Stages and Learning Modes in Flipped Classroom

On the other hand, as shown in Figure 1, students in a flipped classroom get exposure to content or prior knowledge outside of face-to-face sessions through various means and media, such as reading modules, watching learning videos, listening to audio recordings, having informal online discussions in the learning management system (LMS), and take notes on points that are difficult to understand. After students construct knowledge through these activities, then learning continues with face-to-face sessions, focusing on clarifying difficult points (if any) and assimilation of knowledge through class or group discussion activities, case studies,

debates, problem solving, or presentation of students at SMK Negeri 14 Medan City. After that, the learning activity is continued by assigning students to apply the knowledge they have just learned by evaluating the product or creating a project, which can then end with a final test/exam (if needed). Table 1 presents learning activities that are commonly used in each stage of the flipped classroom.

Table 1. Class Flipped Activities

Stage 1 (On Line) Activities	Stage 2 (In Class) Activities	Stage 3 (On Line) Activities
Reading Texts	Brief review	Evaluating a Product
Listening to lecture audios	Discussion	Conducting a Project
Watching Learning Videos	Debating	Final Assignment
Studying slides and pictures	Case Study	Test or examination
Note Making	Problem Solving	
Online Discussions	Student's presentation	
Online Formative Quiz	Individual Practices	

The flipped learning network (2018) states that the Flipped classroom is supported by four pillars whose initials form the acronym FLIP, namely: Flexible environment, Learning culture, Intentional content, and Professional educator (see Figure 2). The first pillar refers to flexibility in terms of the time and place of learning as well as the learning styles that students can choose. When carrying out the activities of recognizing and constructing knowledge (Stage 1 in Figure 1), students can do learning at the place and time that they like most and adapt to their learning style and speed. Students who prefer an auditory learning style may choose to listen to a recorded teacher lecture. Students who prefer a visual learning style can watch instructional videos. Those who prefer a verbal learning style can choose to read texts. Thus, the teacher is also flexible in terms of meeting deadlines by students, while it is still within a predetermined period.

Learning activities in Phase 2 and Phase 3 also need to be adjusted to the preferences of students of SMK Negeri 14 Medan City. If students prefer debate over discussion when studying in face-to-face sessions, then learning should be done through debate. If students prefer to make a short film rather than writing a paper as a final project, the teacher also needs to facilitate, with a note that the flexibility chosen must be relevant to the content and learning objectives.

The second pillar, learning culture, refers to a student-centered learning approach that develops student autonomy towards independence in learning. If in a traditional classroom the teacher is the main source of information, while students act like foam that absorbs information or 'audience' who listens to the teacher's lectures or presentations, then in the flipped classroom students act as 'creators' who construct knowledge or actors involved in the performance and at the same time be an evaluator of each other's learning.

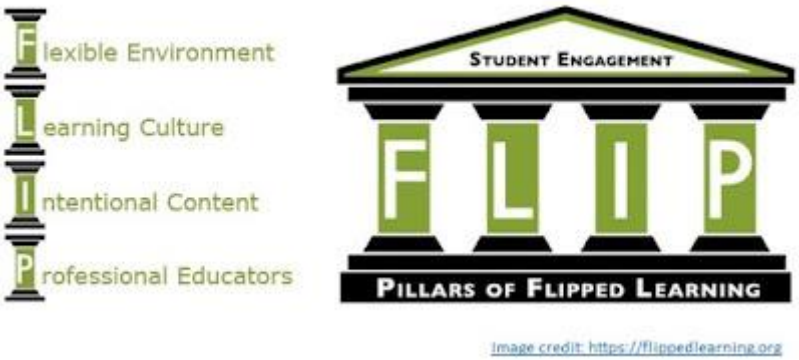

Figure 2. Pilar Flipped Classroom

The results of the research obtained at SMK Negeri 14 Medan City revealed that effective learning can take place only if students are actively involved. Learning is different from watching football. Students cannot learn optimally if they just sit and listen to the teacher's lectures, memorize information, do assignments whose answers have been packaged similar to memorized information. In order to really master the knowledge/skills well, students must question the information obtained, relate the new knowledge/skills to experience and reality, see the knowledge/skills from various perspectives of others (classmates, teachers, etc.), and apply new knowledge/skills in daily life. In short, effective learning enables each student to make the knowledge/skills learned a part of himself, and this can be achieved only if learning is truly student-centered.

The third pillar is the learning content that is programmed well by the teacher so that all learning activities are integrated with the objectives and involve as well as develop thinking skills. Thus, students not only master the knowledge/skills learned but also develop thinking skills. In order for this integration to be effective, teachers need to ensure that the available learning time is really optimized to achieve the learning objectives, but implemented with methods and strategies that are as attractive as possible for students.

The fourth pillar emphasizes that teachers who run flipped classrooms must be truly professional. Flipped classroom demands on teacher professionalism are much higher than traditional classroom demands. In flipped classrooms, teachers not only master the subject area being taught and are competent to build effective blended learning for that field of study but also must be committed to continuously monitoring, guiding and providing feedback when needed. If the teacher who organizes traditional learning no longer communicates with students after the face-to-face is over, the teacher who runs the flipped classroom stays connected and guides students on an ongoing basis through online communication. In addition, teachers who run flipped classrooms must also be reflective practitioners, open to constructive criticism, and able to accept and take advantage of the various dynamics that arise to improve and continuously improve their teaching.

Development research conducted in the process using the ADDIE development model. According to Tegeh (2014), the ADDIE model is one of the systematic learning design models. Based on this opinion, the selection of models is based on the consideration that the models used are arranged programmatically with sequences of activities that suit the needs and characteristics of learners. So that at the time of validation from experts (subject

content experts, learning design experts, and learning media experts) and student trials (individual trials, small group trials, and field trials) obtained excellent qualifications.

After the product is assessed by experts and student trials, further product revisions are made. Feedback and suggestions given at the time of validation are then considered and used to improve and improve the blended learning products developed. So that obtained blended learning media that corresponds to the characteristics of students, message design theory, and learning design. Blended learning is effectively used in the learning process.

In addition, according to students are very interesting and keep students motivated to learn. The attractiveness of blended learning media that is influential in motivating students to learn cannot be separated from the theory of message design seen from the look of physically attractive, because the appearance of e-learning pages with appropriate color composition, for example using writing colors that contrast with the background, so that the appearance of the writing will be clearer and interesting (Ramadan, 2018). This is also supported by the opinion of Sudarma (2015) who said that "a good color is used for the combination of background with writing is if the color is dark then the writing is light, vice versa, if the background color is light then the writing is dark". This is supported also by the results of questionnaires obtained from student trials, both individual trials, small group trials, and field trials show that the media blended learning in terms of attractiveness, 1) The appearance of the front page of e-learning is interesting, 2) the overall color of the page view looks attractive and clear, being in the category very well with a percentage of 100%.

Based on its use, blended learning is easy to use by students, thus motivating students in learning. According to Nurlifa, Kusumadewi, and Kariyam (2014), there are several factors that affect ease of use, namely easy to learn, easy to become skilled, and easy to use. This is supported also by the results of questionnaires obtained from student trials, both individual trials, small group trials, and field trials show that media blended learning in terms of attractiveness, 1) easy access in and out of e-learning, 2) easy access to materials taught, is in the category of excellent with a percentage of 100%.

After conducting validity tests with experts, individuals, small groups and the field, the effectiveness of the development of blended learning with the test method was measured by giving multiple choice question sheets to 27 students of class XI software engineering 1 at SMK Negeri 14 Medan City, through pretest and posttest. Pretest is given before the implementation of blende learning. Based on the pretest and posttest scores of the 27 students, a correlation t-test was carried out. The average value of the pretest is 57.04 and the average value of the posttest is 90.37. The increase in the average score of these students can be seen based on the answers of students who answered the test.

Most of the students' answers were wrong at the pretest, right at the posttest. This is due to the use of blended learning in the learning process so that students are more interested and enthusiastic to learn. After manual calculations, the t-count results are 22.07 and the t-table value for decibel is 52 and with a significant level of 5% ($\alpha = 0.05$) is 2.007. Thus, the value of t-count is greater than ^{t}-table so that H_0 is rejected and H_1 is accepted.

This means that there is a significant difference in the results of students' cultural arts before and after using blended learning. Judging from the learning outcomes of students in class X_I software engineering 1 at SMK Negeri 14 Medan City, the average posttest score of students is 90.37 which is above the KKM value for the Arts and Culture subject of 70. Looking at the mean posttest value which is greater than the mean value or mean pretest, it can be said that blended learning can improve student learning outcomes in class XI software engineering 1 at SMK Negeri 14 Medan City.

Conclusion

Flipped classroom during the covid-19 pandemic is the most appropriate model at SMK Negeri 14 Medan City when teachers are preparing to carry out blended learning because of its effectiveness. This effectiveness is obtained because the flipped classroom is supported by four pillars of innovative learning: flexible environment, learning culture, intentional content, and professional educator, based on a constructivist learning approach and its design activates and develops thinking skills. Flipped classroom begins by assigning students to know and understand the content of lessons outside of face-to-face classes using lower-order thinking skills (LOTs). After students have "capital" understanding of the content, learning moves to face-to-face classes with activities aimed at clarifying, strengthening, and deepening understanding as well as developing higher order thinking skills. Based on the formulation of the problem, the results of data analysis and discussion in this study, it can be concluded as follows:

- First, design a flipped classroom type blended learning according to the ADDIE development model. The stages of the ADDIE model are: (1) Analyze stage, (2) Design stage, (3) Deployment (Development), (4) Implementation stage, and (5) Evaluation stage.
- Second, validation of blended learning flipped classroom type is done in several stages, namely, a) reviews by highly qualified subject content experts (90.53%), b) highly qualified learning design experts (93%); c) excellently qualified individual trials (98.82%); d) well-qualified small group trials (87.84%); and e) excellently qualified field trials (92.55%).
- Third, based on the test the results of the study obtained data of pretest and posttest scores and then conducted t-test with a significance level of 5% (α=0.05). Indicating that the average pretest value is 57.04 and the average posttest value is 90.37, the data analysis results using t-count is 22.07 with db = 52 and the significance level of 5% for the table is 2,007 so that t-count > the table then H0 is rejected. This means that the average value of learning outcomes before and after using blended learning flipped classroom type is not the same. With another expression can be said that there is a difference in the average value of learners' learning outcomes before and after using blended learning flipped classroom type. Judging from the conversion of art and culture study class XI at SMK Negeri 14 Medan, the average posttest score of 90.37 students was in Good qualification, and was above the KKM score of Arts and Culture subjects of 75. Looking at the average value or mean posttest greater than the average value or mean pretest, it can be said that blended learning based on school oriented flipped classroom model can improve students' Art of Culture learning outcomes.

Acknowledgements

I would like to express my gratitude to all levels of leadership and colleagues at the University as well as all parties who have played a role in the preparation of this paper

References

Abass, Arowolo, & Igwe. (2021). Towards Enhancing Service Delivery in Higher Education Institutions via Knowledge Management Technologies and Blended E-Learning. *International Journal on Studies in Education (IJonSE)*, 3(1), 10-21.

Almaseid. (2018). *The Effect of Using Blended Learning Strategy on Achievement and Attitudes in Teaching Science Among 9th Grade Students.* New York: Person.

Candiasa. (2020). *Testing of Research Instruments With ITEMAN and BIGSTEPS Application.* Singaraja: Undiksha Press.

Dimyati, & Mudjiono. (2016). *Learning and Learning. Jakarta.* Jakarta: PT. Rineka Cipta.

Hamalik. (2018). *Curriculum and Learning.* Jakarta: Earth Literacy.

Koyan. (2017). *Statistics Education Quantitative Data Analysis Techniques.* Jakarta: Undiksha Press.

Mahadewi. (2019). *Learning Video Media.* Singaraja: Department of Education Technology Faculty of Education Undiksha.

Namyssova, Tussupbekova, Helmer, Malone, Afzal, & Jonbekova. (2019). Challenges and Benefits of Blended Learning in Higher Education. *International Journal of Technology in Education (IJTE)*, 2(1), 22-31.

Ndibalema. (2021). Online Assessment in the Era of Digital Natives in Higher Education Institutions. *International Journal of Technology in Education (IJTE)*, 4(3), 443-463. https://doi.org/10.46328/ijte.89.

Nurlifa, Kusumadewi, & Kariyam. (2015). *Analysis of the influence of user interface on the ease of use of a doctor's decision support system.* Bandung: Doctoral Program Press.

Ojaleye, & Awofala. (2018). Blended Learning and Problem-Based Learning Instructional Strategies as Determinants of Senior Secondary School Students' Achievement in Algebra. *International Journal of Research in Education and Science (IJRES)*, 4(2).

Prayitno. (2016). *Development of Media Blended Learning with Flipped Classroom Model in Mathematics Education Courses.* Yogyakarta: Education Courses.

Ramadan. (2018). *Blended Learning Supported by E-Learning (Edmodo, Schoology) and Motivation to Achieve Student Competence in Electrical Motor Installation Subjects at SMK PGRI 1 Surabaya.* Surabaya: Rineka Press.

Sadiman. (2018). *Media Education Understanding, Development And Utilization.* Jakarta: Rajawali Pers.

Sudarma. (2015). *Message Design (Visual Design Analysis Review (Text and Image).* Yogyakarta: Graha Ilmu.

Tegeh. (2018). *Development Research Model.* Yogyakarta: Graha Ilmu.

Thompson, & McDowell. (2019). A case study comparing student experiences and success in an undergraduate course offered through online, blended, and face-to-face instruction. *International Journal of Education in Mathematics, Science and Technology (IJEMST)*, 7(2), 116-136.

Author Information

Nurhayati
https://orcid.org/0000-0003-1699-6626
Universitas Negeri Medan
Indonesia
Contact e-mail: *nurhayati@unimed.ac.id*

Dina Ampera
https://orcid.org/0000-0003-3252-2551
Universitas Negeri Medan
Indonesia

Surniati Chalid
https://orcid.org/0000-0002-6463-1122
Universitas Negeri Medan
Indonesia

Farihah
https://orcid.org/0000-0002-5762-7299
Universitas Negeri Medan
Indonesia

Baharuddin
https://orcid.org/0000-0001-6713-4212
Universitas Negeri Medan
Indonesia