

Google Classroom in Blended Learning on Teaching Research Method

Evi Eviyanti¹, Zulherman², and Andi Wete Polili³
{eeviyanti@yahoo.com¹, zulhermanghani@yahoo.com², wetepolili_andi@yahoo.com³}

Departement of French Language Education, Universitas Negeri Medan, Indonesia^{1,2,3}

Abstract. The development of information and communication technology provides many conveniences in several fields, including education, specifically web-based learning concepts and models. The main purpose of using this technology is to increase the efficiency and effectiveness, accountability and transparency in learning. The implementation of e-learning in learning can be done with the LMS (Learning Management System) application. LMS is an application that contains features needed in the learning process. LMS can make students and lecturers enter forums to discuss with each other, work on online quizzes and access learning material anywhere and anytime while connected to the internet. Google Classroom is the right LSM to support learning activities in the teaching of research method. Then Google Classroom also integrates Google documents, drive and Gmail to help lecturers create virtual classes that are faster, more efficient and an easy communication tool.

Keywords: Google Classroom, e-learning, research method

1 Introduction

The world is now entering the era of the industrial revolution 4.0, where human life is based on information. Therefore, preparing graduates who are qualified and able to compete globally and master the development of technology is important for everyone and for the future of a country. The development of information technology and the internet today is very rapid, so it doesn't only affect electronic products, but also in the education world, especially in learning methods. One of the online learning methods that is currently being developed and put into use is Google classroom.

Google classroom is an application made specifically for online learning media that can facilitate the lecturer in making, distributing and grouping each assignment without using paper anymore. The use of Google classroom will make learning more effective, because lecturers and students can meet any time through it. The students can remotely study, listen, read, and send assignments as well. Google Classroom has a role as a medium that can be used by lecturers and students to create online classes or virtual classes. So lecturers can provide teaching materials, announcements and assignments to students which could be received directly (real time) by students. Meanwhile internet-based learning has not been implemented frequently, especially in teaching research methods. Internet-based learning may create a more interactive learning atmosphere because in it one-way or two-way learning interactions occur. Internet-based learning can motivate students to be more active in classroom learning activities or outside learning activities (online).

The Google Classroom has not been widely used in learning, especially in teaching courses on research methods. Google Classroom is easy to use, so the students are more interested and curious to know about it. One alternative effort that lecturers could do to improve the learning process is to become a planner and organizer, so students can get the opportunity to understand and explore teaching material from the learning activities. Therefore, researchers want to develop teaching materials based on Google Classroom research methods.

Teaching materials are all forms of materials arranged systematically which are used to help the teacher or instructor in carrying out teaching and learning activities to create an environment that allows students to learn [1]. This shows that teaching materials have a strategic function for the learning process that can help teachers or lecturers and students in learning activities, so the lecturer does not need to present too many materials in class. Beside handouts and modules, the printed teaching materials could be a textbook as well. Textbooks are the most widely used teaching material among all other teaching materials. Textbook still is the main teaching material used by teachers or lecturers in almost various educational institutions, from the most basic to the highest levels. This proves that the existence of textbooks is still an important part of the learning process in various educational institutions today.

The use of e-learning in the learning process is closely related to the use of computers. With computers the learning process can become more dynamic because computers have a variety of features thus the learning process becomes more fun.

The development of e-learning is inseparable from the internet technology that is experiencing rapid development. Thus the internet is a very important medium in e-learning. Electronic Learning is essentially learning through the use of computer and internet technology [2]. It could be called Web Based Instruction as well. E-learning is all learning activities that use electronic technology assistance [3]. E-learning can also be applied in conventional education and distance education.

Based on some of the explanation above, e-learning is an internet application that can connect between lecturers and students in class online. E-learning and a class have the same position as conventional classes in Higher Education. The same position means that the electronic classes can replace the classes at the Higher Education Institution so far. E-learning is a form of learning that integrates the learning process of traditional learning, online learning, and the integration of various other learning models, one of which is blended learning. This blended learning model is a combination of online technology and face-to-face learning by combining face-to-face activities and e-learning.

The combination of direct learning and internet-based learning that is assisted by technology to achieve the expected learning objectives can be done with blended learning. Blended learning is a combination of online technology and face-to-face learning by combining face-to-face and e-learning activities. Blended learning can increase the independence of students' learning skills [4]. It is believed that meaningful differences are made by blended learning in terms of learning independence growing from a better planning and comprehensive and effective use of the internet. The equation of face-to-face learning activities and web-based learning activities can change the students' learning skills in blended learning groups. Blended learning combines multiple delivery media that are designed to complement each other and promote learning and application-learned behavior [5].

The blended learning model is basically a combination of learning excellence that is done face-to-face (face to face learning) and virtually (e-Learning) [6]. Blended learning is a combination of learning face to face and online to optimize learning activities. Through

blended learning, the learning process will be more effective because the normal teaching and learning process will be assisted with e-learning that can be done anytime and anywhere.

Google Classroom is an application that can create classrooms in cyberspace. Google Classroom can be a media of distributing tasks, submitting assignments and even assessing collected tasks. It can also be downloaded for free by registering with the Google Application for Education account. This Google Classroom application is very useful for online learning and can be used for any device (laptop, computer, smartphone). One of the sophistication of this application is that it can be used together in groups collaboratively.

Google Classroom is an internet-based application created by Google as an E-Learning system [7]. This application is designed to help teacher in making materials and sharing to students in a paperless manner. Users of this application must have an account on Google. Google Classroom is a new tool introduced in Google Apps for Education in 2014, this classroom facilitates the teachers to create and organize assignments quickly, provide feedback efficiently, and communicate with their classes with ease [8].

Based on the explanation above, Google Classroom is an internet-based application that is part of the Google application in facilitating online learning to help lecturers make online classes, share assignments, and facilitate communication to students in the class.



Fig 1. Google Classroom Home View

(Source: www.classroom.hsks.sch.id/src/panduan_classroom_siswa)

There are several advantages obtained from Google Classroom in its use as a Learning Management System (LMS): The setting process easy and convenient, saves time, improves collaboration and communication, data storage is centralized to Google Classroom, and fast resource sharing [9].

This could be a consideration that Google Classroom is appropriate to be used in education, especially in schools and universities.

Although it has advantages, Google Classroom also has weaknesses. Google Classroom has weaknesses such as the absence of external services such as automatic question banks and private chats between lecturers for feedback [10].

The features possessed by Google Classroom are as follows:

- 1) Reuse post

This feature functions to repost the exist post. Lecturers can add questions and edit them, also can share directly to the class group.

- 2) Create question
Create question is a feature that can be used to provide questions to students so that they can more easily access questions and upload answers according to the due date determined in the subject matter in a very effective and efficient way.
- 3) Create assignment
Create assignment is a feature that is used to give assignments and to attach file. With this feature, lecturers can more easily access and upload assignments that will be given to students. In this feature lecturers must set due dates, so students can collect assignments in accordance with the specified time.
- 4) Grading
Grading feature is input comments, enter grades, or do both in assignments after they are submitted.
- 5) Create announcement
Create announcement is a feature to make announcements.
- 6) Class Stream
This feature allows students to conduct debates, discussions, and QnA (Question Ask) with other fellow students or with lecturers. Lecturers can send questions to class and then students can discuss to answer the questions and not only by text students' can submit questions by videos or articles as well.
- 7) Archive Course
This feature allows lecturers to archive courses at the end of their tenure or years.
- 8) Mobile Application
The Google Classroom mobile application was introduced in January 2015. It is available for iOS and Android devices. This feature allows students and lecturers to download the Google Classroom application on Smart phone.
- 9) Privacy
Unlike Google's consumer service, Google Classroom, as part of Google Apps for Education, it does not display any ads in the interface for students and lecturers, and User data is not used for advertising purposes.

2 Research Method

This research uses the Research and Development method of the ADDIE model (Analysis, Design, Development, Implementation and Evaluation). The ADDIE model is used to design learning systems. The steps taken in the development model consist of 5 main steps, they are 1) analysis, analysis is a process of defining what will be learned by students, identifying problems, and needs assessment, 2) Design, the design stage includes the preparation of program structures, storyboarding, interface design, systematic preparation of material presentation, illustration, visualization, tool design, and evaluation, 3) Development, researchers conduct material collection, manufacture, testing and distribution, development of product evaluation instruments, evaluation of material experts and learning design, product revision based on advice from experts, product trials to students, 4) The implementation is to carry out field trials on the use of teaching material based media, Google Classroom on the teaching of research methods, 5) Evaluation, researchers make product improvements based on field trials and final product manufacture, upload revisions to the material and exercises, researchers conduct formative evaluations / assessments to determine student learning

outcomes after using Google classroom media. Furthermore, the design expert and material validation tests were conducted to determine the feasibility of the research method teaching materials. Product revision is done after going through the design validation step. After being validated, data or information will be obtained in the form of parts of the product that need to be repaired and completed.

3 Results and Discussion

Based on the results of the research questionnaire answers needs analysis, 100% of students state that research methods courses need to be studied, 100% of students state the reason for being able to make a research proposal and final task, 100% of students state the reason that e-learning media is more practical and easier to use, and 92.86% of students stated that the research method course using Google Classroom could motivate students to improve their ability to learn it.

They are intending to use innovative and creative web-based learning media such as Google Classroom in the teaching of research methods. The development of Google Classroom learning media is more interesting and more effective. It makes the students easier to learn, because it can be accessed anytime and anywhere. The design of the Google Classroom learning media application is available on the internet. Researchers can upload teaching materials and assignments / exercises that must be done and uploaded by students

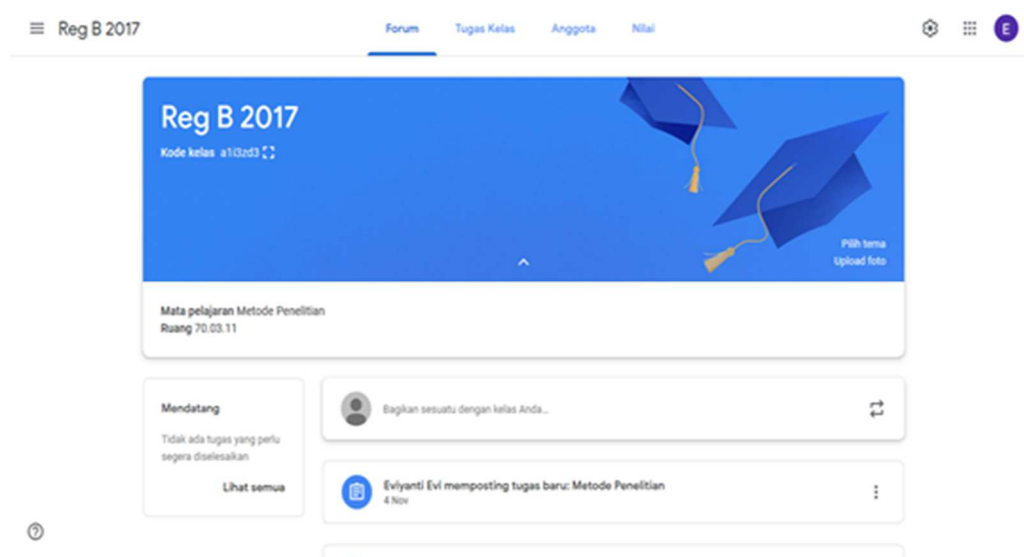


Fig 2. Subject name "Metode Penelitian" (Source: www.google.com)

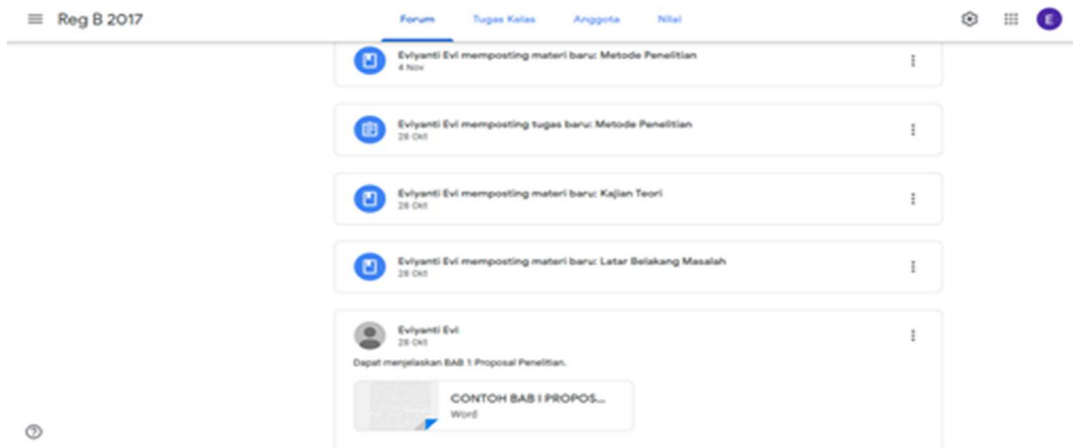


Fig 3. Teaching materials uploaded to Google Classroom (Source : www.google.com)

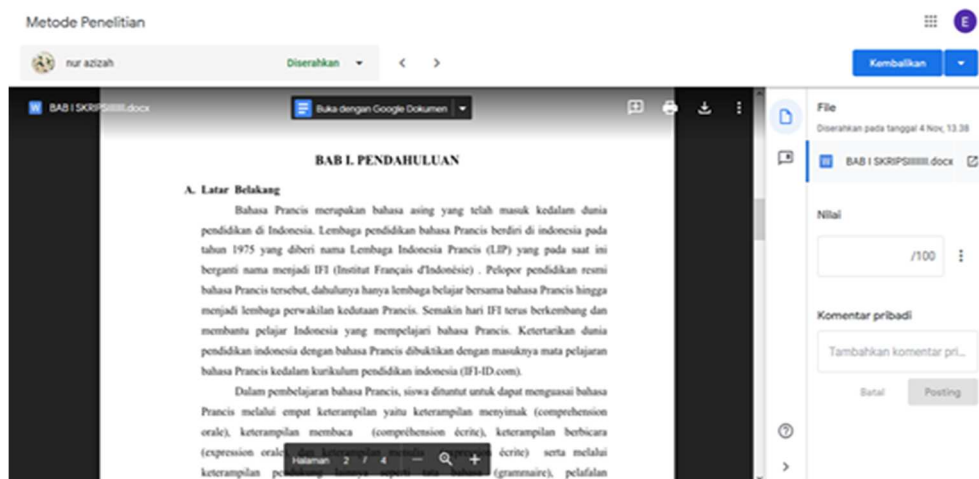


Fig 4. Student exercise uploaded to Google Classroom (Source: www.google.com)

This learning media product must be validated and tested to get a suitable product for learning. The appropriateness of teaching materials is validated by material experts and design experts. Based on the results of the appropriateness assessment of the contents material was declared "Very Good" with total percentage of 89.84%. The appropriateness assessment of the presentation aspect according to the experts is considered "Very Good", with total percentage 91,66%. The material experts consider that the teaching methods of research are 87.5% appropriate, with the criteria "Very Good". Material experts consider that the teaching materials are 87.50% appropriate, with criteria "Very Good". Based on the results of the average percentage of sub-component assessment of the teaching material size is 100%, the cover design of teaching material is 97.22% appropriate, design content of teaching material is 90.78% appropriate. The average percentage results from all sub-components of the appropriateness assessment of teaching material is 96,00%, "Very Good". This means that the teaching material of the research method is appropriate to use.

4 Conclusion

The Process of Developing Teaching Materials of Research Methods Media using Google Classroom is carried out according to the ADDIE development model (Analysis, Design, Development, Implementation and Evaluation). This model is developed systematically referring to the theoretical foundation of the developed learning design. The development model is programmed in a systematic sequence of activities in an effort to solve learning problems related to learning media that are appropriate to the needs and students characteristics. Based on the results of the validation from the material and design experts, this teaching material is feasible to be used as teaching materials of research methods subject.

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