Google Classroom Training for Chemical Education Study Program

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ABSTRACT
The purpose of implementing this PKM is to improve the understanding and skills of Chemistry Education lecturers and students in the use of e-learning through the Google Classroom application in chemistry learning. In addition, it is also to increase the number of lecturers who use Google Classroom. The training was conducted at the FKIP Tanjungpura University Hall. Participants consisted of lecturers and students from the 2019/2020 class. The activity was divided into five sessions. The first session was preparation. The second session was the delivery of material about google classroom by Rody Putra Sartika, M.Pd, and Husna Amalya Melati, M.Sc. The third session was a demonstration of using the Google Classroom application as a learning media. The fourth session was mentoring. During this activity, the participants were allowed to ask questions about things they did not understand. The last session was an evaluation of the activity implementation. The training results concluded that the training went well and received a positive response from the participants. The knowledge and skills of participants have increased. The number of lecturers using Google Classroom increased from 20% to 47%. With the use of Google Classroom in chemistry learning, it is hoped that it will improve the quality of graduates from Chemistry Education Study Program.

INTRODUCTION

The wave of the industrial revolution 4.0 has brought fundamental changes, namely the development of creativity and innovation by utilizing information technology. One of the characteristics of the 4.0 industrial revolution is the very fast development of communication and information technology. The rapid development of information technology has disrupted or rapidly changed various fields of life, one of which is education. The world of education has changed, both in terms of character and learning systems. Learning activities have changed from analog ways to digital ways.

As a generation Z or digital native, students are born and raised in the digital era. They used communication tools such as computers, cellphones, tablets, and gadgets in their daily life. On the other hand, teachers and lecturers have just become acquainted with and can take advantage of this as social
Realizing the huge educational challenges faced in the current industrial era 4.0, an effective learning model is needed, easily accepted by children according to current standards. A learning model that links and utilizes the internet network is a necessity. Conventional learning models cannot be entirely relied on to achieve learning goals. Thus it is essential to pay attention to appropriate learning patterns for digital native students in utilizing internet technology in a friendly and positive manner, especially to support learning activities (Suara Aisyah, 2019).

Google Classroom can be a support and alternative media in learning. Google classroom is an application created by Google that aims to help lecturers/teachers and students organize classes, and communicate with students without being related to class schedules. Besides that, lecturers can assign assignments and directly give grades to students (Miarso, 2004). The Google Classroom application assumes that learning objectives will be easier to realize and full of meaning. Therefore, the use of Google Classroom makes it easier for educators to manage to learn and convey information precisely and accurately to students (Hakim, 2016). The use of Google Classroom is expected to provide a solution to the method that has been applied in class, namely the conventional method where lecturers or teachers dominate learning activities both with the lecture method and the assignment method. The implementation of learning with Google Classroom makes it easier to evaluate the implementation of the teaching and learning process both in class and outside the classroom.

However, the reality shows that although lecturers are already proficient in using the internet, the use of the internet, especially the google classroom application as a learning media, is still low. Only 20% of the FKIP UNTAN Chemistry Education Study Program lecturers use this application in learning. Therefore, training is conducted on the use of the internet in learning. This training aims to improve lecturers' knowledge and skills using e-learning through the google classroom application. In addition, the number of lecturers who use google classroom will increase after this training.

**METHOD**

**Place and Time of Implementation**

Training on the use of the google classroom application in learning was held at the FKIP Tanjungpura University Hall on August 9, 2019. The training participants were lecturers and students of the 2019/2020 class of Chemistry Education Study Program.

**Target Audience**

The target audience was 15 lecturers of the Chemistry Education Study Program, consisting of 11 permanent lecturers and four adjunct lecturers and students of Chemical Education Study Program FKIP UNTAN and new students from 2019/2020 class. Chemistry Education Study Program students as prospective teachers come from various West Kalimantan regions, all of whom have cellphones and use the internet in various daily activities. Based on their interactions with IT-based communication tools, the training participants were divided into large groups, namely the digital native and digital immigrant groups. Student participants were categorized as digital native or generation Z (born between 1995-2010), native or generation Z (ran between 1995-2010), while the lecturer group was categorized as a digital immigrant which includes generation Y (born in 1981-1994) and X (born in 1965-1980). The digital natives have interacted with IT-based communication tools since birth, while digital immigrants generally recognize IT-based communication tools as adults. Because they have interacted since childhood, digital native participants are more “proficient” using IT-based communication tools than digital immigrants. However, based on the observation result, the two groups generally have not used e-learning, such as the Google Classroom application in learning. The use of cell phones is generally for chatting and as social media. Its use in learning is still minimal. The use of Google Classroom has many benefits, such as reducing paper usage so that the learning can be done anytime and anywhere. It will also increase students’ activities in learning because it is in accordance with the characteristics of students. Therefore, lecturers as educators and students of the Chemistry Education Study Program as prospective educators are the strategic targets of this exercise. Through this training, it is hoped that the internet can be used as media for delivering learning. Information and skills obtained from this training can be disseminated to other students and students. The good values of using the internet or social media in learning can be widely spread.
Realized Problem Solving

As an effort to solve the problems faced by the Chemistry Education Study Program, FKIP UNTAN, a Training on the Use of Google Classroom in Learning, was conducted at the Chemistry Education Study Program. The steps taken were:

a. Preparation. In this preparation stage, problem identification and formulation was carried out. In addition to problem formulation, materials and tools needed for training activities were also prepared.
b. Socialization. Delivery of material about Google Classroom, its strengths, and weaknesses.
c. Training. At this stage, steps were given to make a class using the Google Classroom application. Participants were asked to practice immediately and to ask questions if they did not understand.
d. Accompaniment. Assistance in using the Google Classroom application was carried out simultaneously with the delivery of tutorials. Several lecturers who have used the Google Classroom application guide lecturers and students in using the Google Classroom application.
e. Evaluation. The evaluation was carried out in an observational manner and interviews with participants during and after the activity. Evaluation after the activity was carried out through interviews with lecturers in the Chemistry Education Study Program regarding the application of Google Classroom in learning.

RESULTS AND DISCUSSIONS

A. Result

The presentation of the results and discussion here is divided into four parts, namely (1) Preparation Stage, (2) Socialization of Google Classroom, (3) Training on the Use of Google Classroom Applications, and (4) Evaluation.

Preparation phase

At this stage, the implementation team identifies and formulates problems related to the use of google classroom. It was found that all Chemistry Education Study Program lecturers have laptops, were capable and skilled in operating computers. However, only 3 out of 15 lecturers used google classroom in learning. The low use of google classroom in classroom learning is because they do not understand and have skill at making classes using the google classroom application. Given the importance of using the internet in learning, including google classroom, encourages training to use google classroom. In order for this training to be successful, material preparation needs to be done. In addition to teaching materials, supporting tools also need to be prepared.

Fig. 1 Presentation of Material by Instructors

Socialization about Google Classroom

At this stage, The instructors explained about the advantages and disadvantages of using google classroom. At this stage, participants who want to ask questions can immediately ask questions. Figure
1 shows the material presented by the instructors in training activities. The presenters consisted of two lecturers from the Chemistry Education Study Program, namely Mr. Rody Putra Sartika, M.Pd, and Mrs. Husna Amalya Melati, M.Si. Lecturers and students attended the activity, which took place at FKIP Untan. Participants were actively involved in asking questions and practicing Google Classroom using their laptops and smartphones (Figure 2).

Google Classroom is a learning system that aims to facilitate the creation, division, and assessment of assignments in a paperless manner. Before it was first introduced to the public, Google Classroom was tested in several schools where more than 100,000 teachers from 45 countries signed up to try out the system. After Google Classroom was released on August 12, 2014, more than 30 million assignments were submitted through Google Classroom for the next six months. It is the rapid use of google classrooms around the world.

![Fig. 2 Participants Practiced to Use Google Classroom by Smartphones](image)

**Demonstration of Google Classroom Application Usage**

In this session, the presenters demonstrated how to use the google classroom application. Applying google Classroom is certainly not an easy task for lecturers, and students who do not have information technology. However, applying google classroom can be learned by paying attention to the steps. The steps for the application/use of Google Classroom in chemistry learning are presented at this stage. The steps for using Google Classroom are:

a. Open the google website, then enter the google classroom page, or it can be done by opening a Gmail email then selecting the tab on the top right
b. Click continue to create a class with Google Classroom.

c. Next, to start creating a digital class, select the (+) sign on the right-hand tab, then write the class name, then click (create) to start a new class

d. Invite students to join classes that have been created by displaying the class code

e. The desktop theme can be selected, and there are several features that can be selected by clicking select class theme

f. Material can be uploaded by selecting material in the feature, then the title of the material to be uploaded, for example, lipids, then selecting the clip tag. Select material in the document file (lipid), open clips, upload, and post.

**Evaluation**

During the activity's implementation, the observations showed that the participants, both lecturers, and students, welcomed this activity positively. It can be seen from the enthusiasm of the lecturers and students in participating in the activity. Some students seemed enthusiastic about asking questions. Lecturers and students seemed to follow the material delivery and tutorial for google classroom application. The new classes created at that time included the Basic Biochemistry class. At that time, he also succeeded in entering the assignments to be given to the course participants.
Figure 3. Basic Biochemistry Digital Class with Google Classroom

Figure 3 is an example of a product produced by a Chemistry Education Study Program lecturer. Learning through Google Classroom, as shown in Figure 3, is a form of the application using an android device. Thus, the Chemistry Education Study Program has proven the use of technology in learning. Until the end of the semester, the number of lecturers who use Google Classroom was eight people. It means an increase of about 30%, from 3 (20%) to 7 (47%) (Table 1). It is hoped that in the next semester, all lecturers will use Google Classroom in their learning, even if only for certain courses.

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<tr>
<th>Information</th>
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<tr>
<td>Lecturers who use Google Classroom</td>
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<td>47</td>
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<tr>
<td>Lecturers who haven't used GC</td>
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<td>53</td>
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<tr>
<td>Total</td>
<td>15</td>
<td>100</td>
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**CONCLUSION AND SUGGESTION**

A. **Conclusions**
1. Participants, both lecturers, and students welcomed the Chemistry Education Study Program's training activities. This activity can add insight and knowledge of participants in utilizing Google Classroom in lectures.
2. As many as 47% of Chemistry Education Study Program lecturers have used the google classroom application in chemistry learning.

B. **Suggestions**
1. This training activity has provided an outline of the use of Google Classroom in learning. However, a demonstration of the implementation in the form of a simulation needs to be added so that participants can use Google Classroom practically.
2. The need to follow up by providing supporting materials related to Google Classrooms such as Google Drive, Google Task, Google Docs, Google Slides, and Google Sheets.

**REFERENCES**

Dhia Ghina Rahmadhani, (2017). Communication Effectiveness Of Online Media Google Classroom In Supporting The Teaching And Learning Process At Civil Engineering University Of Riau”, *JOM FISIP*, vo.4, no.1, h.7.


