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The 1st International Conference on Education, Sociology, Anthropology, and Communication (ICESAC) 2022

Delmira Syafrini, Reno Fernandes, Lia Amelia, Nurlizawati, Khairul Fahmi (eds)

Utilization of Google Classroom in Developing Student Creativity in Designing Digital-Based Learning

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Abstract

The development of science, technology and information in the digital era affects all aspects of human life. Technological innovations were developed to help and simplify work. By studying learning innovations, students can design, manage, and carry out learning that is more interesting and innovative. The purpose of this study is to describe the benefits of Google Classroom in developing the creativity of prospective educators in designing digital-based learning. The research method used is a qualitative case study type. Data obtained through interviews and observation. This research was conducted at the sociology department of the sociology education study program, especially for the learning innovation course in the January-June 2022 semester. The technique for selecting research informants used purposive sampling. The informants consisted of 22 lecturers and students. Data analysis was performed by Miles Huberman's interactive analysis consisting of: data collection, data reduction, data display, and verification/conclusion. The results of the research findings are that the learning approach used in learning is student-centered approach. The learning platform used to practice managing online learning is Google Classroom. Online classes are designed according to interests and teaching needs. Learning tools are structured and systematic. The experience gained by students is not only as a student but also the experience of being a teacher who manages his own class. Online classes can help students take advantage of free time to study independently. The design of learning materials becomes more attractive and of high quality. The assessment instrument is made more practical and efficient. Learning can be repeated and carried out without space and time limits.

Keywords

Creativity, digital technology instruction, google classroom, creativity, learning design

1 Introduction

The development of information technology has colored human life in all parts of the world. Technological transformation affects many aspects of life which include work, health, transportation, economy, trade, association, education, and so on. Changes that occur are not only based on physical, material or form, but also changes in function, speed, space and time. An example of the development of communication technology, previously people used the post to send messages or letters to someone. The process of conveying information by post requires many procedures, such as taking a long time to get to a place, means of transportation, and costs. Now, people can send messages in a matter of seconds using digital-based technology.

Information technology brings together computing and communication both in the form of data, voice and video which in its application can be in the form of computers, telephones, televisions, electronic household appliances, and mobile or mobile devices (smartphones, computers, tablets) (Edy, 2014). Digital technology is a tool that no longer uses human power manually but uses a computerized automatic operating system or a format that can be read by a computer. It can be said, tools that use computerized operations are digital technology. Digital technology in education is not only about the physical contribution of technology as a learning tool, but as a multidimensional concept. The technology used can facilitate the learning process and improve performance by creating, using,

During the Covid-19 pandemic in 2020, human life conditions experienced many changes. Interactions that were originally face-to-face (offline) changed to long-distance or virtual face-to-face (online) interactions. This condition occurred due to the increasing spread of the Covid-19 virus so that the Government issued a policy prohibiting people from gathering in one place. Work that should be done in the office, then transferred to homework (WFH). Likewise with education, where initially learning took place face-to-face in class and then changed to distance learning (online). Online learning (e-learning) is an electronic-based learning process (Budhianto, 2020). The distance learning process is carried out using the internet network or virtually,

A digital platform is a place for social interaction that uses electronic devices (hardware) and software (software) using the internet network. The internet stands for interconnection-networking which literally is a global system of all interconnected computer networks using the Internet Protocol Suite (TCP/IP) to serve billions of users worldwide. There are many platforms that can be used as a forum for online learning, such as: google classroom, Facebook, WhatsApp, Instagram, Telegram, google site, learning house, teacher's room, my school, Moodle, learning management system (LMS), Microsoft Office 365, and others. Each of these applications has advantages and disadvantages which include: access, storage capacity, costs, user restrictions, upgrades, type of central processing unit (CPU), and so on. The choice of the type of online learning platform is adjusted to the needs of schools and students. The platform used must be accessible and used by students in learning. The technology sources used aim to help and facilitate students to learn better and more varied.

Previously, the use of digital technology in learning was not effective and appropriate. The technological tools used in compiling learning tools are still separate, not in one container or one platform. The learning media created are stored in different links and are not systematically arranged based on the flow of learning activities at each meeting. The task of a teacher is not only to be able to make media and provide learning resources, but also to arrange these tools in a systematic and useful manner throughout the learning process. As an educator, the teacher must be able to design learning tools according to the achievement of the learning objectives set out in the curriculum. The learning devices referred to include learning implementation plans, teaching modules, learning media, learning resources, assessment instruments, student worksheets, and other teaching materials. In accordance with technological developments during the 5.0 era in the era of society, prospective teachers should be guided and trained in utilizing and using digital technology-based learning resources in compiling or creating creative and innovative teaching.

Google classroom is one of the most widely used platforms for online learning. The Indonesian Survey Flow Institute (ASI) in 2020 stated that the first position of digital learning platforms was occupied by Google Classroom, which was 26.1%, while the second position with 17.1% was teachers' room users, then occupied by let's learn, Zenius, Duolingo, Udemy, Birru, school.mu, Eduda system, Edmodo, Bahasa Indonesia, Aminin, and others. (kompas.com accessed on October 20, 2022). Apart from the most users of this platform, the second reason for choosing Google Classroom as a forum for teaching students to use digital technology is that it is easy to use and has no special requirements, except for having an email account at Google (Gmail). Gmail stands for google mail and is a web-based electronic mail (email) service. In general, students have a Google email account as a condition for registering for a particular study group, for example at Padang State University. Email address serves as a means of sending and receiving electronic mail. Thus, when someone has been accepted as a student at a university, such as Padang State University, it can be said that person already has an email address. The email address that is the main choice and is widely used is Google email. This Google email is also used as one of the requirements for students to get an e-learning account unp. E-learning accounts that can be accessed by students are more about sending assignments given by lecturers, not for access to editing lecture teaching materials. Access to the preparation of teaching materials can only be opened by subject lecturers. This means that the e-learning space provided by the campus cannot be used by students to practice compiling learning activities in accordance with the Sociology subject which will be taught later to students at school.

The sociology learning innovation course aims to provide students with an understanding of innovation or innovation in sociology learning with a focus on mastering and applying various strategies, models, media, and learning teaching materials in accordance with the characteristics of sociology learning and material. One of the learning models that is developing and used in the digital era is blended learning. Blended learning is mixed learning or a combination of face-to-face or conventional learning with distance learning (online) (Abdullah, 2018). One of the factors that support the success of blended learning system learning is the accuracy of the choice and use of the learning platform. The platform used should go through a rational consideration process according to needs, availability of infrastructure, and achievement of learning objectives. Based on these considerations, Google Classroom was chosen as one of the learning media for students to manage virtual classes.

The learning process in innovation courses also needs to adopt developing technology and information, so that there is harmony between the learning experience and the skills needed by students in the future. Students not only master the innovations that occur in learning, but also have skills in designing and managing face-to-face and virtual learning. Thus, this study aims to describe the benefits of Google Classroom in developing student creativity in designing digital-based learning.

2 Research Method

The research method used is a qualitative research method with a case study type. Qualitative research is a method used to explore and understand the meaning that a number of individuals or groups of people ascribe to social or humanitarian issues (Creswell, 2015). Case study research (case-study research) is research in the form of in-depth investigation of various kinds of information about several units or cases for one period or multiple periods of time (Neuman, 2011). This research examines the individual actions or actions of a lecturer in teaching students to use a google classroom platform in the sociology learning innovation course.

The informant selection technique used was purposive sampling. Informants in this study were determined deliberately based on criteria or considerations that were relevant to the research study. There were 22 informants in this study consisting of 3 lecturers and 19 students. This research was conducted in the sociology education study program, department of sociology, faculty of social sciences, Padang State University in the January-July semester of 2022. Data was collected by observation, interviews and documentation. Data were analyzed using interactive data analysis from Miles Huberman (Miles & Huberman, 1992) which includes: data collection, data reduction, data display, and verification/conclusion. The validity of the data is obtained by conducting data triangulation.

3 Results and Discussion

3.1 Digital Learning

The term digital etymologically comes from the Greek word "digitus" which means 10 human fingers or toes. The number 10 in question consists of two radixes, namely: 1 (on) and 0 (off). Digital is a form of change from analog mechanical and electronic technology to digital technology. This form of digitization has been implemented since 1980 and continues until now. The development of digital technology from time to time certainly continues to experience updates and innovations that are increasingly modern and of high quality.

Digital learning is a learning process carried out using computer and internet-based information technology or also known as e-learning. The internet is an important component in the implementation of digital learning. Interconnection and networking is an abbreviation of the internet which means it is a global information network. By using the internet, information from all corners of the world can easily and quickly be obtained. Information from various sources in the world can be accessed regardless of time, place and distance (Munir, 2017). The use of digital-based technology is a form of effort to improve the quality of learning in the era of society. Student access space becomes wider, more numerous, and varied. The subject matter studied is not only in verbal (oral) form, but is more diverse such as text, visual, audio, and motion.

According to Kenji Kitao (in Munir, 2017) there are three digital learning functions that can be utilized in everyday human life, including: communication tools, information access tools, and learning tools. Digital technology helps humans communicate with anyone and anywhere quickly. Media that can be used in communication include discussing via chat, e-mail and mailing lists. Information obtained by users of digital technology is wider, varied, and fast from various sources, both domestic and foreign. Digital learning is the largest library of libraries anywhere, so students don't have to go somewhere to get certain references. Students only need to sit in their respective places without having to be present in person in the classroom to take part in learning using computer-based technology that is connected to the internet network, such as laptops, computers, tablets, and Android smartphones. The subject matter is packaged in electronic media and then inserted into the internet network so that it can be accessed through digital learning.

According to Munir (2017: 10) there are three functions of digital learning in learning activities, namely (1) as a supplement; (2) as a complement, and (3) as a substitute. The function of the supplement (additional) is that students have the freedom to choose whether to use electronic learning materials or not. Electronic learning can be used in accordance with the prevailing situations and conditions where they will be teaching and teaching. Electronic material that is made can of course provide additional material that is more varied and broader for its users. The role of the teacher can later encourage students

to always access available electronic learning materials. Complementary function (complementary) means that electronic material is made to complement the subject matter provided in class. Material provided in electronic form can be accessed for reinforcement, enrichment, and remedial needs. The substitution function of digital learning is to help students manage learning activities according to time and other activities with their learning activities.

By using digital technology, learning can not only be carried out face-to-face but can also be carried out face-to-face or online. The face-to-face learning process between teachers and students, and students and students occur in the same room (classroom) without using digital technology media (offline). While the learning process takes place face-to-face or online, the interaction between educators and students takes place with the help of computer and internet-based technology including websites and social media. The types of distance learning platforms that can be used include: learning houses (<https://belajar.kemendikbud.go.id/>); our table (<https://www.mejakita.com/>); google classroom (<https://classroom.google.com/>); smart class (<https://www.klasmart.id/>); Microsoft Teams (<https://microsoft.com/>) (Ofianto, 2021); quipper school (<https://quipper.com/>); teacher's room (<http://www.ruangguru.com/>); your school (<https://www.school.mu/>); zenius (<https://www.zenius.net/>); cisco webex (<https://cisco.com/>); Icando (<https://icando.co.id/>); equivalent (<http://equivalent.kemendikbud.go.id/>); independent learning (merdekabelajar.kemendikbud.go.id), and so on.

Padang State University (UNP) has been using e-learning since 2013. The UNP learning platform is based on the Learning Management System (LMS) or Moodle (Ganefri, Yunia Wardi and et al, 2020). UNP e-learning is learning that utilizes information packages based on information and communication technology for the benefit of learning that can be accessed by students anytime and anywhere. UNP e-learning has two components in managing student learning, namely activities and learning resources. Components of learning activities in UNP e-learning include assignment, attendance, bigBlueButtonBN, chat, choice, database, external tool, feedback, forum, glossary, interactive content, jitsi, lesson, quiz, scorm package, survey, via, wiki, and workshop. The resources component includes book, file, folder, IMS content package, label, page, and url. (elearning2unp.ac.id) The platform used in the learning process at UNP is [elearning2unp](https://elearning2unp.ac.id/) (<https://elearning2unp.ac.id/>) and social media, such as whatsapp groups, telegram, Instagram, Facebook, tiktok, and others (the choice depends on class agreement). Online learning can be carried out in two ways, namely synchronous and asynchronous. Synchronous is the learning interaction between lecturers and students carried out at the same time (live) using video call technology or video meetings and chatting. Asynchronous learning interactions between lecturers and students are carried out flexibly and not at the same time, for example using discussion forums, independent study, quizzes, and assignments. (Nasution, 2020) Teaching materials contained in e-learning can be virtualized to be varied, interesting, and up to date.

In general, distance learning (online) has been implemented since the covid 19 pandemic hit Indonesia in 2020. Based on a circular issued by the Ministry of Education and Culture of the Republic of Indonesia Number 3 of 2020 concerning online learning and working from home to prevent the spread of covid-19 19 which applies from the unit level of elementary education to higher education. Efforts to prevent the spread of the Covid-19 virus are carried out by maintaining a distance in interactions, especially at face-to-face distance. Thus, the learning process began to be carried out using a remote system or not face-to-face in class. There were eight types of platforms suggested by the government at that time which could be used as online learning media, including: learning houses, google g suites for education, smart classroom, Microsoft office 365, teachers' room online school, your school, and zenius. But many teachers use social media as a learning media for students. This is because teachers are not used to using the platform and access to the site also has certain requirements. In the end, teachers use online media that are commonly used in interactions that can help carry out the teaching and learning process, such as WhatsApp and Facebook. This is because teachers are not used to using the platform and access to the site also has certain requirements. In the end, teachers use online media that are commonly used in interactions that can help carry out the teaching and learning process, such as WhatsApp and Facebook. This is because teachers are not used to using the platform and access to the site also has certain requirements. In the end, teachers use online media that are commonly used in interactions that can help carry out the teaching and learning process, such as WhatsApp and Facebook.

Even though the learning system has returned to face-to-face in class in accordance with the Ministry of Education and Culture circular letter in 2021 until now, online learning rooms are still advised to continue to be empowered by teachers and schools in helping students' study at home or after school hours end. In its development where the Covid-19 cases began to decrease and face-to-face learning systems in class began to be implemented, online learning platforms began to be abandoned by teachers and students. Many think that online learning cannot make students learn better where students do not understand the subject matter. (Wegasari, 2021) Even though in today's digital era, schools and teachers

can take advantage of online learning resources to support student success in learning. There are three learning functions using electronics, namely: as an addition (supplement), as a complement (complement), and as a substitute (substitution). (Setiawardhani, 2013) Online learning does not always have a negative impact on students but can also have a positive impact if managed properly by the teacher. The teacher is an expert in the design of lesson plans in the subjects he teaches. Teachers have knowledge and skills in developing learning strategies and learning tools. There are several considerations in compiling learning activities that need to be considered by the teacher, including: learning objectives, subject matter, student characteristics, situations and conditions, facilities, and infrastructure, learning media, and learning resources. Post-pandemic digital learning can be used as additional learning for students outside of school to increase knowledge and understanding of the material being studied.

Thus, digital-based learning can provide flexible space and time for students to study. After getting the subject matter in class (offline), students can continue the learning process at home or wherever they are. The material studied by students is more varied and broader. Students who like learning with pictures and videos can be facilitated with electronic-based materials available on digital platforms. Online learning also provides flexible time for students to study whenever and wherever they are.

3.2 Google Classroom Platforms

Google classroom is an online class platform available in Google services, especially for education. This application was first announced on May 6, 2014, and even then it is only available to a limited circle, specifically for members of the Google G Suite for education program. In 2017, this application can be accessed by users in general without any requirement to have a Google Apps for Education account. Google class can help teachers and students carry out the learning and teaching process online or using the internet network. There are paid platforms, and some are free. The type of classroom used in teaching students to design online classes is free or free. Students are not charged to use a paid account to gain experience managing online learning. This platform is used only as a basis for training to become an innovative and creative teacher in utilizing online electronic media in learning. The process of continuing the form of online learning design can be renewed by students after they finish their sociology teacher education later.

The reasons why Google Classroom is the choice for teaching students to manage online classes are: register for a free or unpaid account, access free applications, integrated learning, and teaching processes, easy to use, can collaborate in teams, access can be done from anywhere, secure data, and centralized learning tools in one place. The Google Classroom application can be opened through electronic technology connected to the internet, such as computers, laptops, tablets, and smartphones. Integrated data storage in one space called Google Drive. The editing process can be done anytime and anywhere with the electronic tools that are owned as above. In general, students have laptops and smartphones that can be used to create and manage their respective online classes.

3.3 Online Learning Design

The word design comes from another language, namely "designare" which means to design, explain, show, or mark. According to Koberg and Bagnall (Putrawangsa, 2018), design is a process of making dreams come true. Learning design is the process of designing learning activities including subject matter, learning strategies, learning models, learning methods, learning assessments, and teaching modules to achieve learning objectives. Thus, online learning design is a design of learning activities that are systematically arranged using electronic devices to achieve learning objectives. There are four learning components that must be considered in preparing learning plans, namely: objectives, materials, strategies, and learning evaluation. In compiling online learning, you must pay attention to these four components as the basis for designing learning designs not only in face-to-face classes, but also in virtual classes.

One of the skills that must be mastered by students as prospective professional educators is being able to design learning. These skills are part of the pedagogic competence. Pedagogic competence is the teacher's ability to manage learning which includes students' understanding, learning design, learning implementation, evaluating learning outcomes, and developing students' potential. (Mulyasa, 2008) Living in the digital era encourages teachers to improve their skills not only to be literate in ICT (Information and Communication Technology), but also to be able to use and operationalize this technology for the benefit of improving the quality of learning. (Joyce, Bruce., Marsha Weik, 2016) Good planning includes allocating available time, choosing the right content and learning methods, creating student interest in learning, and building a productive and conducive learning atmosphere. (Arends, 2015) Teachers as learning designers

also have to balance abilities with the needs of the developing times by mastering electronic tools, especially electronic-based learning media. Thus, subject matter can be packaged contextually, up to date, and in accordance with the needs of students in learning. (Febriani, 2019) The steps for designing an online class using Google Classroom are as follows:

1. Create a Class Name or Class Code

The first step is to create a class identity that is taught including: class name, section, subject, and space. This class identity can be adjusted to the learning needs. For example, in the learning innovation course, identity is sufficient to be made with the student's own name and the course session code. This aims to make it easier for lecturers to carry out the assessment process. After the innovation lecture ends, the class identity can be changed through settings according to the needs of teaching at school later. The editing process can be done as long as the class account is used by the teacher. The class created can consist of many classes or more than one. For example, Teacher A teaches four classes at the grade X level, such as: Class XA, Class XB, Class XC, Class XD.

2. Create Class Headers

The second step is to create the class header. The class header in the google class can contain the identity of the class in the form of a theme. There are two types of headers available, namely there are several image theme options available in the application and a custom image theme choice. After trying out the default image theme from the application, students are required to make their own header image theme according to their individual creativity. Classroom headers can be JPG, JPEG, and GIF (animated) images. This header can be made using other applications such as Canva, PicsArt, Pixellab, PowerPoint, and others. The header that is made should have the characteristics of the subject being taught, such as sociology subjects and the identity of the subject teacher. The goal is to display attractive and innovative visuals.

3. Make Announcements

The next step is to make announcements in class in the form of building interaction between teachers and students regarding important information in using online classes. In the announcement, teachers or users can attach text documents, videos, pictures from Google Drive or from their computer storage, and can share YouTube links and website addresses. The announcement room can be used by the teacher in guiding students to learn online as a form of additional learning for offline classes.

4. Make a List of Learners

The next step is to register participants or members in the class that was created. There are two types of participants in Google classes, namely as teachers and as students. As the first automatic teacher, you create a class account, then you can add other teachers if team teaching applies to one class. In the student section, it is filled with students in the class taught at school. In Innovation learning, the participants in the class are classmates and lecturers who teach. Thus, there are two statuses and roles carried out by one student, namely as a teacher and as a student. Everyone has experience using and operationalizing google classes. This online class is private and not open to the public.

5. Developing Lesson Materials

The next step is to arrange the subject matter on the classwork section (page). The class assignment section consists of five components including: assignments, quizzes, questions, materials, and topics. The skill of managing subject matter is an important part of achieving learning objectives. The subject matter is arranged based on the topic of discussion or each meeting. Each topic of discussion presents subject matter, assignments, and quizzes. Subject matter can be in the form of teaching modules, power points, images, videos, e-books, articles, term papers, textbooks in word or pdf format, and others. Materials can be varied and extensive. Teachers can not only make their own teaching materials but can also utilize materials available on the internet that are relevant to the topic of discussion. Materials from the internet in the form of news, pictures, Videos, or films can be shared on Google Classroom. Students can attach pre-made learning materials in the form of learning media such as posters, e-modules, interactive power points, flyers, infographics, videos, e-comics, e-books, and others according to the needs of the lesson. Teaching materials are all forms of materials or materials that can be used to teach students. (Febriani, 2019) Teaching materials are grouped into four, namely: printed teaching materials, audio teaching materials, audiovisual teaching materials, and interactive multimedia teaching materials.

6. Creating Assessment Instruments

The next step is to create an assessment instrument. Assessment instrument is a tool used to assess student learning outcomes. There are two types of assessment instruments, namely tests and non-tests. The assessment instrument in the form of tests consists of three, namely written tests, oral tests and action tests. (Asrul, Ananda, & Rosnita, 2015) There are two forms of written tests, namely the essay form and the objective or multiple-choice form. Besides that, you can also make a product assessment instrument using the provided rubric form. Assessment in Google class can be made in the form of

assignments, quizzes, and questions. The choice of assignments given is adjusted to the characteristics of the subject matter and learning objectives. Assessment instruments can also be obtained from other applications such as kahoot, quizi, wordwall, EdApp, Quizlet, SurveyMonkey, Quiz Maker, TriviaMaker, Interact, FreeOnlinesurveys, ClassMarker, QuizGame, ProProf, EasyTestMaker, Typeform, Google forms, Fyrexbox, and others. These assessment instruments can be inserted in the attachment link assignments, quizzes, and questions. The assignment section can also be used to load student worksheets (LKPD). Therefore,

The learning approach used in this study is a student centered approach. Students are facilitated in developing their potential to gain meaningful experience in becoming skilled and professional teachers. The management of the learning process is determined by the students themselves according to their interests (Abdullah, 2017) and needs in learning. Learning activities are designed according to the number of meetings in one school year, starting from the initial meeting or the first, second, third, to the last meeting. Each learning meeting contains the achievement of objectives, subject matter, and learning evaluation tools. The arrangement is adjusted to the achievements of each basic competency written in the curriculum. Mistakes made in compiling learning activities can affect the achievement of the learning objectives themselves. Thus, students can understand the importance of compiling and managing learning not only for the benefit of the teacher as an educator but also for the needs of students receiving lessons.

Even though the online classes that are made are a form of training in innovation learning, classes that have been made by students can be developed again after the innovation learning ends. The development of online classes that are made is certainly adjusted to the needs of learning in the future. The online class will not disappear even if it is not used for a long time. The editing process can continue to be carried out by the user if desired. The work materials can be improved, updated, and developed in the future. Online classes are also useful for students when carrying out teacher and teacher practice lectures in the future. The google classroom platform is very practical, effective, and efficient in developing student creative ideas in managing attractive and innovative digital classes.

4 Conclusion

Sociology learning designs made by students using the Google Classroom platform are very diverse both in terms of management, forms of activities, choice of learning resources, content of subject matter, and evaluation tools used. This is because the Google Classroom platform provides broad opportunities for students to manage student learning activities independently according to their skills. Students practice how to organize and manage learning activities at each learning meeting which includes: lesson objectives, subject matter, instructional media, and evaluation. Online classes that are made can still be developed and updated over time according to the needs and desired quality.

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