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Screencast-O-Matic Application Assisted Project Learning Model: A Case Study Of IAIN Langsa FTIK Student Creativity

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Jelita & Fenny Anggreni[2]
[1,2] Faculty of Tarbiyah and Teaching Science, IAIN Langsa, Aceh, Indonesia
[1]Contributor Email: jelita@iainlangsa.ac.id

Abstract
System chandes in education influenced by industrial revolution 4.0. Several changes were made by utilizing several applications that support each learning process. One use of the Screencast-O Matic (SOM) application in lectures by combining PowerPoint with videos from students' faces so that they can improve their quality. This study aims to determine student creativity and the influence of the Screencast-O Matic (SOM) assisted project learning model on the creativity of FTIK IAIN Langsa students. This study uses associative research/causality with a quantitative approach. The population used in this study were all 6th-semester students of FTIK IAIN Langsa who took the quantitative research methodology course, totaling 293 students. The research sample was obtained by a purposive technique using the Slovin formula. Based on this formula, 75 students were obtained as a research sample with a tolerance limit of 10%. The instrument was a closed questionnaire with 15 questions and an observation sheet. The data were analyzed using SPSS version 20. The results showed that student creativity was 78.00 with high criteria. There was a significant influence of the use of the SOM application-assisted project learning model on the creativity of FTIK IAIN Langsa students.
Keywords*: Creativity, Online Learning, Project Learning Models, Screencast-O-Matic,*

Abstrak
Perubahan sistem pada pendidikan yang dipengaruhi industrial revolution 4.0. Beberapa perubahan yang dilakukan dengan memanfaatkan beberapa aplikasi yang mendukung setiap proses pembelajaran. Salah satu pemanfaatan aplikasi Screencast-O Matic (SOM) dalam perkuliahan dengan menggabungkan powerpoint dengan video dari tampilan wajah mahasiswa sehingga dapat memperbaiki kualitas dirinya. Penelitian ini bertujuan untuk mengetahui kreativitas mahasiswa dan pengaruh model pembelajaran proyek berbantuan Screencast-O Matic (SOM) terhadap kreativitas mahasiswa FTIK IAIN Langsa. Penelitian ini menggunakan penelitian *asosiatif/hubungan kausalitas* dengan pendekatan kuantitatif. Populasi yang digunakan dalam penelitian ini adalah seluruh mahasiswa FTIK IAIN Langsa semester 6 yang mengikuti mata kuliah metodologi penelitian kuantitatif yang berjumlah 293 mahasiswa. Sampel penelitian diperoleh dengan teknik purposive menggunakan rumus Slovin. Berdasarkan rumus tersebut diperoleh 75 mahasiswa sebagai sampel penelitian dengan batas toleransi 10%. Instrumen yang digunakan adalah angket tertutup sebanyak 15 soal dan lembar observasi. Data dianalisi dengan menggunakan SPSS versi 20. Hasil penelitian menunjukkan bahwa kreativitas mahasiswa sebesar 78,00 dengan kriteria tinggi dan terdapat pengaruh yang signfikan dari penggunaan model pembelajaran proyek Berbantuan aplikas SOM terhadap kreativitas mahasiswa FTIK IAIN Langsa.

Kata Kunci: Kreativitas, Model pembelajaran proyek, Pembelajaran Daring Screencast-O-Matic**,**

A. Introduction

The flow of world globalization into Indonesia is increasingly unstoppable. Increasingly sophisticated technological advances followed them, and the world entered the Revolutionary Era 4.0. The cyber-physical system is a feature of the industrial revolution 4.0, where the system touches the virtual world, forming human-machine and data connectivity, better known as the Internet of Things (IoT). Education is needed to form a creative, innovative, and competitive generation in the industrial revolution era 4.0. This can optimize the use of technology as an educational tool that can produce output by keeping up with better times and mastering technology, especially in education. Industry 4.0 involves unique ways and models for organizing things. Frameworks that appear to be more or less intelligent can replicate simple, boreing schedules as digitalized mass production (Shahroom & Hussin, 2018).

To address this, educators must implement an enjoyable, varied, innovative, and flexible learning process. Active and innovative learning will encourage students to think creatively, meaning that the more innovative the learning occurs in the classroom, the easier it will be to convey material competencies. As Abidin stated in Triling and Fadel that the focus of learning the Industrial Revolution 4.0 is skills in mastering media, information, and technology. Knowledge and technology continually develop quickly and rapidly. In other words, mastering technology in teaching requires the skills and creativity of educators, especially lecturers, so that learning can run well (Abidin, 2014).

However, there are many student obstacles in lecture activities, such as inadequate internet network constraints, so the material packaged by lecturers does not reach the maximum for students. Virtual meetings or delivery of material via voice notes with a long duration make students bored. (Listiawati Enny, 2018) in her research stated, with the conditions described

above, lecturers or educators presenting material are required to conduct lectures with an attractive appearance to increase student interest in carrying out lecture activities. By utilizing technology, such as the internet network, students are expected to be able to increase their creativity and lecture quality. Creativity referred to in this study is student learning creativity. Learning creativity consists of two words, "creative" and the word "learning." Creativity in learning is an effort or learning activity by applying creativity in it. This creative process requires learners to work together to find solutions to real problems in a process of integrating, applying, and building knowledge. Instructors and community members typically act as facilitators, providing feedback and support to learners and supporting the learning process (Guo et al., 2020).

Today, factories use technology instead of human labor. Therefore, those who operate technological systems must be efficient. To ensure that operators of technology equipment are efficient and competent, training must focus on developing technology skills (Listiqowati et al., 2022). One way lecturers as educators can overcome this is to utilize technology by presenting material with the SOM or Sreencast-O-Matic application. According to (Kholifah, 2016), SOM is an application that can record the screen when using a computer to make video tutorials to explain lecture material. In other words, Screencast o Matic makes learning videos because they are easy to get, accessible, and easy to learn(Wirahyuni, 2019). According to (Foong & Mahmud, 2019) , learning with E-Learning and Screencast-O-Matic leads to better student achievement in courses than traditional or face-to-face learning.

Online lecture learning with SOM can help students develop their ideas and confidence to explore and collect various learning resources through the internet to help students who are less brave in communicating. Students can see this SOM application several times if they need to remember the lectures that have taken place and the learning can be accessed by students anytime and anywhere. Therefore, students are expected to be able to produce

products in the form of research proposals as outlined in the SOM application using the project learning model when studying online (Soekartiwi, 2003).

Project-based learning is a way of learning that can give freedom of thought to students to build their knowledge related to teaching content/materials and planned goals. Through project activities, attitudes, knowledge, and skills competencies can also be achieved to help students produce products. Project-based learning makes students more active in solving complex project problems with product results. The project assignments are based on a theme/topic determined in learning, developed through essential course competencies (Daryanto, 2009). The product results produced by students can measure the extent of student creativity in taking online lectures. Creativity is needed in learning because it has a way of thinking creatively in solving problems (Masnipal, 2018). Projects assigned by students in the form of their ability to prepare SOM in presenting their assignments in the form of research proposals. Thus, this study aimed to determine student creativity and the effect of the Screencast-O-Matic application-assisted project learning model on student creativity at the Faculty of Tarbiyah and Teacher Training IAIN Langsa.

B. Method

This study uses a method that is descriptive and is an associative/causal relationship with a quantitative approach. The population used in this study were all 6th-semester students of FTIK IAIN Langsa who took the quantitative research methodology course, totaling 293 students. The research sample uses a purposive technique with the Slovin formula (wiratna Sujarweni, 2014). Based on this formula, 75 students were obtained as a research sample with a tolerance limit of 10%. The research variables are student creativity (Y) and the project learning model assisted by the Screencast-O-Matic application (X). The instrument used is a closed questionnaire describing a project-based model based on SOM with 15 questions. The questionnaire uses a Likert scale with four choices, namely strongly agree (4), agree (3), disagree (2), and

strongly disagree (1). The questionnaire was prepared using the following indicators.

Table 1. Screencast-O-Matic (SOM) Usage Questionnaire Grid

Variable	Indicator	Sub-Indicators	Questionnaire number
Use of Screencast-O-Matic	Motivation	1. Learning Encouragement	6,15
		2. Work Independently	14(-)
	Self Eficasy	1. Self-confidence	11,12
		2. Confident	8,10
	understanding	1. Easy to understand	4,5,7,9,
	Usefulness	1. Use in lectures	1,2,3 (-),13

In addition, it used an observation sheet instrument to observe student creativity in compiling research proposals using SOM from a given project in accordance with the indicators put forward by Munandar (2009). The indicatore state the characteristics of abilities creative thinking, namely: 1) Fluency thinking skills, 2) Thinking skills flexible (flexibility), 3) Original thinking skills (originality), and 4) Skills detail (elaboration). Indicators of creative thinking in detail according to Munandar (2009) as follows: 1) Fluency includes: (a) Generating many ideas, many answers, lots of problem solving, lots of questions smoothly; (b) Give a lot ways or suggestions for doing things; (c) Thinking of more than one answer; 2) Flexibility includes: (a) Generating a variety of ideas, answers, or questions; (b) Seeing a problem from different points of view; (c) Looking for many alternatives or different directions; (d) Able to change approach or way of thinking; 3) Authenticity includes: (a) Being able to give birth to new and unique expressions; (b) Think of a way the unusual; (c) able to make unusual combinations from its parts; 4) Elaboration includes: (a) Being able to enrich and develop something ideas or products; (b) Adding or detailing details of an object, idea, or situation so that it becomes more interesting. The grid from the observation sheet is shown in Table 2.

Table 2. Student Creativity Grid in Completing the Project

Aspect	Score	Criteria
Fluency	3	There is compatibility between the main idea and the topic under study.
	2	Inadequate suitability between the main idea and the topic under study
	1	There is no match between the main idea and the topic being studied
Flexibility	3	There is a relationship between one concept and another
	2	Lack of linkages between concepts with one another
	1	There is no connection between the concepts with one another
Originality	3	There is the ability to make a different theme that others have never researched.
	2	The theme studied is almost the same as the previous theme
	1	The theme studied is the same as the previous theme
Elaboration	3	Writing is in accordance with Systematics
	2	Writing is not in accordance with Systematics
	1	Writing is not in accordance with Systematics

The collected data were analyzed using inferential statistical tests with SPSS software version 20. Before testing the hypothesis, normality, and linearity tests were carried out first.

C. Result and Discussion

1. Result

Creativity is an ability to imagine, interpret and express ideas and efforts that have creativity for new combinations of previously existing elements. The creativity referred to in this study is students' creativity in making proposals using the screencast-o-matic application in research methodology courses.

From the observation sheet analysis of the indicators of creativity, namely fluency, flexibility, originality, and elaboration, it can be described as follows.

Table 3. Observation Results of Student Creativity

No	Indicator	Average	Criteria
1	Fluency	77,33	High
2	Flexibility	76,89	High
3	Originality	68,89	Enough
4	Elaboration	88,89	very high
	Average	78,00	High

Based on the table, students' creativity in working on project proposals is highest on the elaboration indicator, followed by fluency, flexibility, and originality indicators. It appears that the lowest student creativity is found in determining the originality of research ideas with other people, namely 68.89

In order to test the hypothesis, the normality and linearity tests are first carried out. From the results of the normality test using SPSS version 20 with a significance level of 5%, it was found that the data collected from the measured variables approached a straight line, and the data followed to the upper right so that it could be concluded that the data was typically distributed as shown in the following figure 1.

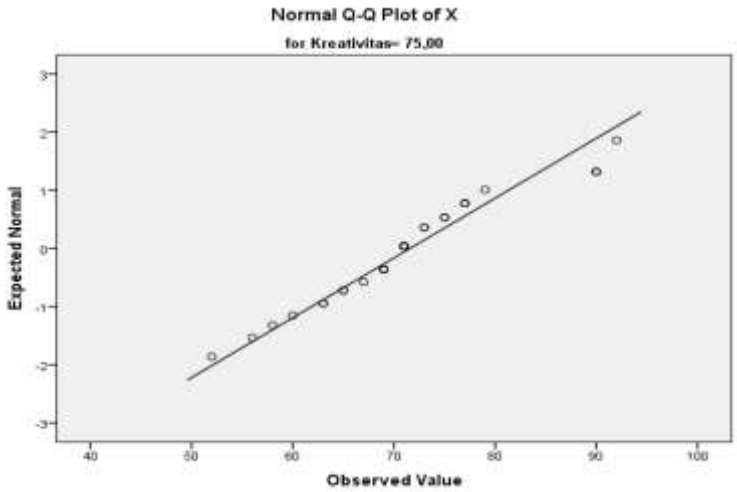

Figure 1. Graph of Normality Test

To see the magnitude of the influence of the SOM-assisted project learning model on creativity using a simple linear regression equation, namely Y = a + bx. From the SPSS results, the values a = 73.811 and b = 0.059 were obtained. This shows that if there is no project learning model assisted by the Screencast-O-Matic application (X), then the value of student creativity (Y) is 73,811. For every 1% addition to the project learning model assisted by the Screencast-O-Matic application (X), then student creativity (Y) will increase by 0.059. Because the value of the regression coefficient is positive (+), it can be said that the project learning model assisted by the Screencast-O-Matic application (X) has a positive effect on student creativity (Y) so that the regression equation is Y = 73,811 + 0.059 X.

From the results of hypothesis testing using the t-test with SPSS version 20, it is found that a significant value (Sig) 0.04 is less than a probability of 0.05 and at a significance level of 5% with dk = 73, t table = 1.993 is smaller than tcount = 2.312, meaning it is concluded there is a significant effect of the Screencast-O-Matic application assisted project learning model on the creativity of FTIK IAIN Langsa students.

2. Discussion

Students' ability to produce products is demonstrated through their ability to compile and develop proposals with their presentations using the Screencast-O-Matic application. Furthermore, student creativity can be discussed as follows.

a. Fluency

The Fluency that is measured is students' ability to compile proposals by the main idea and the topic under study and find good ideas appropriate to the theme. Student creativity with fluency indicators has a high category with an average value of 77.33. This shows the compatibility between the ideas developed by students in compiling proposals with the suitability of the themes discussed. The freedom gives lets students dig up available information from the internet, friends, and books comfortably, so they can

express their opinions in preparing proposals. A comfortable situation can influence students to think calmly without any pressure from any party. Students' success in completing their projects can be seen when presenting their products using the SOM application. Even so, student products must match the proposal's contents with the ideas being developed. This is because students find it challenging to ask fellow friends or hesitate to ask influential lecturers when encountering problems in the field.

a. Dexterity / Flexibility

Dexterity is the student's ability to relate the concepts in the proposal according to the research topic. Student creativity in the flexibility indicator is included in the high criteria, with an average of 76.89. This shows that most students can relate the concepts to the proposal well. However, many have yet to be able to relate to the themes in the proposal because many students do not like to read books, making it difficult to relate concepts to proposals. In addition, some students still need to be more independent in doing assignments. This can be seen in lecture activities, where students still depend on their friends.

b. Authenticity / Originality

Authenticity and originality in preparing proposals are the ability of students to create a different research theme/title that others have never researched. To be able to do so, students are required to be able to compare previous research with research that will be developed. However, students still need to get used to using research journals, especially international journals, in compiling new themes/ideas, which are an innovation they have developed. They only see examples of existing theses and Indonesian journals by duplicating titles already on the internet. Students should be more creative in making a theme that is different from other themes. As a result, students' ability to find originality and originality in preparing proposals is still in the sufficient category, with an average score of 68.89.

c. Elaboration / Elaboration

Elaboration is the ability of students to write proposals according to the systematics of writing proposals. Based on the results of the analysis, it was found that it was known that student creativity in the elaboration indicator was very high, with an average of 88.89. This is because students have a unique guidebook for writing proposals, so writing student proposals follows the systematics of writing proposals. Each academic supervisor guides student proposals and must comply with the proposal writing systematics. Even so, some students still need to use the guidebook in preparing the developed proposals, which can be seen when they present the results of their proposals through SOM. In general, student creativity in preparing proposals using SOM is in the high category, with a score of 78.00, and SOM can develop student creativity. This study identifies differences between high and low creative learners in cognitive concepts, personal motivation, and personality traits, and this research identifies differences between high and low creative learners in cognitive concepts (Wu & Wu, 2020).

The influence of the use of SOM on student creativity is because the SOM application makes students skilled in making more exciting power points according to their wishes and combining them with videos through the SOM application. When students will present a given project, they will see the deficiencies it displays and try to improve it. With the repetitions that are carried out, students will remember what they have done, try to solve the problems they face, and allow new ideas to emerge that are useful for compiling innovative proposals by the times. In addition, this SOM is helpful as a learning medium and will not disappear so that it can be reopened when needed and motivates students to study because the display in the PPT is their face and makes them feel proud of their work. Each skill includes subskills, interpretation is characterized by categorization. Analysis includes actions such as considering ideas and identifying and analyzing arguments (Yuan et al., 2020).

According to (Turrahma et al., 2018), the existence of facilities in E-learning causes learning activities to be unrestricted by distance and time. In addition, teaching materials provided by lecturers via the Internet can be used as a source of student learning so that students can review the learning material that has been presented. Buaddin Hasan's research shows that using online google classroom classes using o-matic screencast video media in computer-based media development courses is very effective(Buaddin Hasan, 2020). Even though online-based learning has weaknesses that reduce the lack of friendship between students and lecturers and the lack of social interaction between students and their friends.

In addition, using Screencast O Matic can also increase students' self-confidence, especially when they give presentations. Usually, students are shy or need more confidence in front of their lecturers. However, in this SOM, they do not deal directly with their lecturers but have been represented by the SOM application. This is reinforced by the previous theory, which says that a human's Self-Efficacy makes a human able to deal with various situations; individuals with high Self-Efficacy will experience low pressure when facing something (Sagita et al., 2017).

E. Conclusion

The following conclusions are obtained based on the data analysis results.

1. Criteria for student creativity on the indicator of fluency/fluency on the high criteria with an average score of 77.33, while the criteria for student creativity on the indicator of flexibility/flexibility on the criteria for high creativity with an average of 76.89, and the criteria for student creativity on the Elaboration / Elaboration indicators on very creative criteria with an average of 88.89 on very high criteria among others
2. The project learning model assisted by the Screencast-O-Matic application significantly affects student creativity. This is based on the calculated t value

(2.312), more significant than the t table value (1.993) at the 5% significance level.

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