

DEVELOPING CREATIVE THINKING SKILLS IN ECONOMICS SUBJECTS THROUGH A GOOGLE CLASSROOM-BASED BLENDED LEARNING MODEL AND SELF-REGULATED LEARNING FOR HIGH SCHOOL STUDENTS

Muhammad Rajib Gandhi^{1*}, Mardi², Aditya Pratama³

¹⁻³ Department of Economics Education, Faculty of Economic, Universitas Negeri Jakarta
E-mail: ¹⁾ rajibgandi16@gmail.com, ²⁾ mardi@unj.ac.id, ³⁾ adityapratama@unj.ac.id

Abstract

This study aims to enhance high school students' creative thinking skills in the field of Economics through the implementation of the Google Classroom-Based Blended Learning model and self-regulated learning strategies. The study's population comprises all students of SMAN 62, with the sample encompassing students from class XI IPS 1 (designated as the control group) and XI IPS 2 (assigned as the experimental group). Employing an experimental approach with a 2x2 factorial design, the research employed questionnaires, pre-tests, and post-tests as data collection tools. The data analysis reveals notable disparities in creative thinking skills between conventional classrooms and blended learning environments. Furthermore, variations in creative thinking skills are observed between students exhibiting low and high levels of self-regulated learning. The study also identifies significant interactions between the learning models and self-regulated learning concerning creative thinking skills. This interaction extends to the distinction in creative thinking skills between conventional classes and blended learning settings for students demonstrating high self-regulated learning as well as those displaying low self-regulated learning. Moreover, the research underscores disparities in creative thinking skills within conventional classes, differentiating students with high and low self-regulated learning. Analogously, differences in creative thinking skills are noted within blended learning classes, differentiating students with high and low self-regulated learning. In conclusion, the study establishes that students' creative thinking skills can be effectively enhanced by deploying the Google Classroom-Based Blended Learning model while cultivating a proactive self-regulated learning disposition. The augmentation of students' creative thinking skills is evident through post-treatment assessments based on a creative thinking indicator questionnaire.

Keywords: Blended Learning based on Google Classroom, Creative Thinking Skills, Self-regulated Learning

1. INTRODUCTION

In the modern era of education, acquiring knowledge and fostering critical thinking have become essential components for individual growth and progress. As technology continues to shape the educational landscape, online learning has emerged as a crucial platform, particularly during challenging times like the Covid-19 pandemic. In Indonesia, online education has been adopted to ensure that students' rights and educational needs are met, despite the limitations posed by the pandemic.

According to Rohaeti & Suwardi (2013), one reason for low self-regulated learning is the insufficient involvement of students in active learning, which hinders their development of independent learning skills. Wijaya & Sumiati (2021) suggest that

teachers should possess various competencies, including pedagogic, personal, professional, and social skills and abilities. In school education, the learning and teaching process is not always guaranteed to be effective, as several obstacles may arise. According to (Syarif, 2012) the learning process that takes place in the school is related to the curriculum developed by all parties. The curriculum plays a crucial role, encompassing competency criteria and serving as an indicator of students' creative thinking skills.

Creative thinking skills involve the ability to generate innovative, useful, and understandable ideas, as defined by Campbell. It allows students to combine existing elements to form new concepts for different purposes. The level of students' creative thinking skills is influenced by their independent learning ability, and those with low self-regulated learning tend to have limited creative thinking skills. Furthermore, the implementation of the blended learning model can lead to varying levels of creative thinking skills in students with high and low levels of self-regulated learning (Agustiono et al., 2020).

The pre-research survey, completed by 56 respondents, revealed that 85.7% of students use the Google Classroom application. Economics teachers also support this trend by employing the Google Classroom application during the learning process. The application's ease of use and data processing features for exams and assignments contribute to its popularity among both students and teachers.

However, effective learning goes beyond the mere adoption of digital tools; it requires active engagement and self-regulated learning on the part of students. Low self-regulated learning can hinder the development of creative thinking skills, which are vital for innovative and advanced thought processes. This study aims to explore the relationship between creative thinking skills, blended learning based on Google Classroom, and self-regulated learning among high school students in the Economics subject. By understanding these dynamics, educators can enhance the learning experience and cultivate a generation of critical and innovative thinkers.

2. LITERATURE REVIEW

2.1. Blended Learning

Blended learning is a learning process that combines a variety of learning methods that are unified (face to face). face and online) into a learning model (Sianipar & Gultom, 2022). Then in it on There are several combinations that use information technology in the form of: internet. computers and gadgets so that learning can be flexible and structured wherever the learning takes place.

According to Istiningsih & Hasbullah (2015) the components contained from blended learning which is then combined into a form of learning Blended learning consists of 3 aspects, which are:

- a. Online learning
- b. Face-to-face learning
- c. Independent learning (individualized learning)

2.2. Self-Regulated Learning

Self-regulated learning meaningful is independent learning Another independent study is a student learning process that is carried out automatically independently, with little or no assistance, then learning outcomes obtained by students can evaluate and reflect on learning which has been done.

According to Astuti (2016) the indicator of self-regulated learning is having self-confidence, learning activities are directing own self, have a sense of responsibility, have their own initiative, happy with problem centered learning. Meanwhile, student self-regulated learning can be seen from several indicators, which area initiative, self-confidence, motivation, discipline, and responsibility.

2.3. Creative Thinking Skill

The ability to think creatively is the ability to create, meanwhile Creativity according to Campbell is an idea or human thought innovative, useful, and understandable. The ability to think creatively can be interpreted as the ability to place a number of existing objects and combine them into a form that different for new purposes. Do a variety of searches information that can support the ease of understanding science knowledge will be able to improve the ability to think creatively.

Ability to Creative thinking also helps in developing their other competencies such as critical thinking skills, collaborative thinking, and communicative (Fauzi & Respati, 2021). Creative thinking indicators consist of five aspects namely: sensitivity of problems; fluency in solving problems; the ability to solve problems from various points of view or flexibility; details of the steps in preparing the solution (elaboration); and originality of answers or unusual solutions (originality) (Nanang, 2016).

3. RESEARCH METHODS

The research method employed in this study is a quantitative research method, specifically using the experimental approach. The research was conducted over a one-month period, comprising eight meetings for the learning process. The experimental group received treatment through a Google Classroom-based blended learning model, while the control group followed a conventional learning model. To measure the level of self-regulated learning and creative thinking skills, a questionnaire was used as the research instrument. Additionally, pre-test and post-test assessments were conducted to determine the differences in creative thinking skills between the control class and the experimental class. The experimental method used a factorial design (2x2) with the specified research pattern.

Table 1. Factorial Design (2x2)

Srl Level	Learning Method	
	Conventional Class (A1)	BL Class Based Google Classroom(A2)
Low (B1)	A1B1	A2B1
High (B2)	A1B2	A2B2

4. RESULTS AND DISCUSSION

4.1. Research Results

4.1.1. Two Way Anova Test

Table 2. Two Way Anova Result

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Independence	4221.949	1	4221.949	65.813	000
Methods	1244.661	1	1244.661	19.402	000
Learning Independence* Method	330.310	1	330.310	5.149	027
Error	4233.940	66	64.151		
Total	11007.443	69			

Based on the results of the Factorial ANOVA analysis in the table, the following results are obtained:

- 1. There is a difference in the level of students' creative thinking skills between students who have a high level of Self-regulated learning and students who have a low level of**

At the variable level of self-regulated learning has a F-statistic value of 65.813 with a sig. = 0.000. while the F table on df1 = 1; df2 = 66 of 3.986. Because the level of self-regulated learning has sig value. < 0.05 and F statistic > F table, then Ho is rejected, which means that there are differences in creative thinking significant difference between the level of independent learning at the level of error 5%, which means there is a difference in Creative Thinking Skills students who are among students who have low Self-regulated learning and high.

- 2. There are differences in the level of students' creative thinking skills between conventional classes and Google Classroom-based Blended Learning classes**

On the learning method variable has a F-statistic value on a variable of 19.402 with a value of p = 0.000. while F table on df1 = 1; df2 = 66 of 3.986. Because Method learning has a sig value. < 0.05 and F statistic > F table, then Ho is rejected, which means that there is a difference in effect creative thinking which is significant between learning methods on error rate of 5%, which means there is a difference in Skills Creative Thinking of students who use the blended learning method conventional method class.

- 3. There is an interaction between learning methods and independent learning on students' creative thinking skills**

On the interaction variable between independent learning with learning methods have the F-statistic value on the variable is 5.149 with a sig. =0.027. while the F table at df1 = 1; df2 = 66 of 3.986. Because Independent learning with Learning Methods has value p <0.05 and F statistic > F table, then Ho is rejected, which means that there is a significant difference in the effect of

creative thinking between interaction of independent learning with learning methods on error rate 5%. Based on the results in the section column “Self-regulated learning* Method” sig. $0.027 < 0.05$ which means there is interaction between self-regulated learning variables with learning methods. With the interaction between variables then t-Dunnet further test is necessary.

4.1.2. T-Dunnet Test

Table 3. Result of T-Dunnet Test

Variation		Mean Difference (I-J)	Sig.	Information
TE	RE	11.82	0.001	Significant
TE	TK	7.50	0.001	Significant
RE	RK	-25.32	0.000	Significant
TK	RK	-21.00	0.000	Significant

Based on the data recapitulation of the results of hypothesis testing with the t-Dunnet test statistics contained in the table above, the following results are obtained:

1. There are differences in creative thinking skills between conventional classes and Google Classroom-based Blended Learning classes for students who have a high level of Self-regulated learning

The table shows the results of the average difference in students with high self-regulated learning abilities on the conventional class and the blended learning class is 7.50 and sig value. 0.001, it can be concluded that the sig. < 0.05 which means there is a significant difference (H_0 is rejected, H_1 accepted). This shows that thinking skills creative in students with a high level of self-regulated learning learn to use more blended learning methods higher than students who learn to use the method conventional learning.

2. There are differences in creative thinking skills between conventional classes and Google Classroom-based Blended Learning classes for students who have a low level of Google Classroom-based Blended Learning

The table shows the results of the average difference in students with low self-regulated learning abilities in the conventional class and the blended learning class are -25.32 and sig. 0.000, it can be concluded that the sig. < 0.05 which means there is a significant difference (H_0 is rejected, H_1 is accepted). This shows that thinking skills creative in students with a low level of self-regulated learning learn to use more blended learning methods higher than students who learn to use the method conventional learning.

3. There are differences in creative thinking skills in conventional classes between students who have high and low levels of self-regulated learning

On the table shows the results of the average difference in students with ability low and high self-regulated learning in the class The conventional value is -21.00 and sig. 0.000, then it can be concluded that the value of sig. < 0.05 which means there is significant difference (H_0 rejected, H_1 accepted). This matter shows that students' creative thinking skills with high self-regulated learning is better than students who have low self-regulated learning in the classroom conventional.

4. There are differences in creative thinking skills in Google Classroom-based Blended Learning classes between students who have high and low levels of self-regulated learning

On the table shows the results of the average difference in students with low and high self-regulated learning abilities in the class the blended learning is 11.82 and the sig. 0.001, then it can be concluded that the value of sig. < 0.05 which means there is significant difference (H0 rejected, H1 accepted). This matter shows that students' creative thinking skills with high self-regulated learning is better than students who have low self-regulated learning in the classroom blended learning.

4.2. Discussion

The results demonstrated that the implementation of the Google Classroom-based Blended Learning model and self-regulated learning effectively enhanced the creative thinking skills of grade XI social studies students in Economics at SMA Negeri 62 Jakarta. The improvement in students' creative thinking skills was observed through various indicators, including fluent thinking, flexible thinking, original thinking, and elaboration thinking, as assessed through questionnaires. Among these indicators, original thinking showed the most significant improvement, indicating the importance of continuously fostering students' originality.

Both the Google Classroom-based Blended Learning model and conventional learning methods exhibited positive effects on students' creative thinking skills. However, the former demonstrated a more pronounced influence than the latter. Students expressed particular enjoyment in engaging with the Google Classroom-based Blended Learning model, especially in tasks that involved seeking and solving new challenges collaboratively, often in the form of video assignments. The learning approach not only yielded favorable results but also encouraged diverse and creative outputs from the students, which should be maintained and encouraged.

Furthermore, the students' self-regulated learning attitude also played a crucial role in enhancing their creative thinking skills. This was evident from the questionnaires, which assessed indicators such as cognitive abilities, performance, and self-reflection. Among these indicators, cognitive abilities showed the most significant improvement, reinforcing the need to continually support and develop students' thinking abilities.

In conclusion, the research findings suggest that the Google Classroom-based Blended Learning model and an attitude of self-regulated learning are effective tools for fostering and enhancing students' creative thinking skills in the subject of Economics at the high school level. The study emphasizes the importance of maintaining and further developing these aspects to ensure continuous progress in students' creative thinking abilities.

5. CONCLUSION

The study aimed to investigate the development of students' creative thinking abilities in Economics subjects through a Google Classroom-Based Blended Learning Model and self-regulated learning. Based on the research findings, several important conclusions can be drawn. Firstly, there are significant differences in creative thinking

skills between students exposed to the Google Classroom-based Blended Learning model and those using conventional learning methods. This indicates that the blended learning approach has a positive impact on fostering students' creative thinking abilities. Moreover, the research revealed an interaction between self-regulated learning and learning methods concerning creative thinking skills. This implies that the combination of self-regulated learning and the Google Classroom-based Blended Learning model has a distinct effect on enhancing students' creative thinking.

Furthermore, among students with a high level of self-regulated learning, those in the Google Classroom-based Blended Learning classes exhibited better creative thinking skills compared to their counterparts in conventional classrooms. Likewise, among students with low self-regulated learning, those in the Google Classroom-based Blended Learning classes demonstrated superior creative thinking skills compared to students in conventional classrooms. In conclusion, the study highlights the positive impact of the Google Classroom-based Blended Learning model and self-regulated learning on students' creative thinking abilities in Economics subjects. The findings underscore the significance of integrating these approaches to enhance students' creative thinking skills, offering valuable insights for educators to effectively promote creative thinking among high school students.

REFERENCES

- Agustiono, M., Ahman, E., Machmud, A., & Waspada, I. (2020). Penerapan blended learning berbasis google classroom terhadap keterampilan berpikir kreatif & kemandirian belajar peserta didik. *PROMOSI (Jurnal Pendidikan Ekonomi)*, 8(2).
- Astuti, E. P. (2016). Kemandirian belajar matematika siswa SMP/MTs di Kecamatan Prembun. *Jurnal Pendidikan Surya Edukasi (JPSE)*, 2(2), 65–75.
- Fauzi, A., & Respati, D. K. (2021). Development of Students' Critical Thinking Skills through Guided Discovery Learning (GDL) and Problem-Based Learning Models (PBL) in Accountancy Education. *Eurasian Journal of Educational Research*, 95, 210–226.
- Istiningsih, S., & Hasbullah, H. (2015). Blended learning, trend strategi pembelajaran masa depan. *Jurnal Elemen*, 1(1), 49–56.
- Nanang, A. (2016). Berpikir kreatif matematis dan kemandirian belajar dalam pembelajaran berbasis masalah. *Mimbar Sekolah Dasar*, 3(2), 171–182.
- Rohaeti, E., & Suwardi, J. I. (2013). Peningkatan Prestasi dan Kemandirian Belajar Mahasiswa Melalui Pendekatan Reciprocal Teaching dan Cooperative Learning. *Jurnal Cakrawala Pendidikan*, 5(1).
- Sianipar, D. E. E., & Gultom, M. T. L. (2022). Teaching Writing Using Google Classroom Platform For Vocational High School Students. *REVIEW OF MULTIDISCIPLINARY EDUCATION, CULTURE AND PEDAGOGY*, 1(2), 39–48.
- Syarif, I. (2012). Pengaruh model blended learning terhadap motivasi dan prestasi belajar siswa SMK. *Jurnal Pendidikan Vokasi*, 2(2).
- Wijaya, E. S. A., & Sumiati, A. (2021). Teacher's competences in technology-based education in Indonesia: The case of a vocational accounting teaching school. *Educational Sciences: Theory & Practice*, 21(2), 145–155.