High School Students' Self-Regulated Learning and Academic Procrastination Level in Blended Learning Model: A Correlation Analysis

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ABSTRACT
The Covid-19 pandemic causes teachers to conduct limited face-to-face learning with online and offline (blended learning), impacting students' low self-regulated learning (SRL) and high academic procrastination (AP). This study aims to describe students' SRL and AP levels in the blended learning model and examine the relationship of them. Eight hundred thirty students of Senior High School in Ngoro Mojokerto, Indonesia, qualified as participants and provided responses to the SRL scale and AP scale instruments in the google form format distributed through the online student class platform. By analyzing the data descriptively and testing the Pearson product-moment correlation, the findings of this study said that 1). the level of SRL in senior high school students is the most dominant in the moderate category, 2). the level of AP in senior high school students is the most dominant in the moderate category. 3). there is a significant and negative correlation between SRL and AP in the blended learning model of senior high school students. The correlation results show that the lower the SRL level of senior high school students, the higher level of student AP. The research results suggest that 1) the survey of SRL and AP levels of senior high school students needs to be investigated on a larger scale; 2) researchers and teachers need to increase SRL and reduce AP in students through developmental research and various counseling models and approaches.

Keywords: *Self-regulated learning, Academic procrastination, Blended learning.*

1. INTRODUCTION

The Covid-19 pandemic is a serious problem that affects many sectors, including education. Schools that previously only studied face-to-face since March 2020 must conduct distance learning online. It was only in August 2021 that schools began to conduct limited face-to-face learning. Some schools organize limited face-to-face learning by including half of the students divided into an odd-even system, odd-numbered students enter face-to-face at school, and even students learn from home online. The entry time is limited to an average of 20 to 30 minutes per hour in class. Learning in this model combines online and offline learning, which is called blended learning.

Blended learning leaves problems for both teachers and students. Teachers must do online and offline learning simultaneously, while students must complete school assignments in relatively little time in online and offline modes. Problems for students include low self-regulated learning and the emergence of academic procrastination.

Self-regulation, according to Bandura, is the interaction between personal, behavior, and environment. According to Schunk, self-regulated is the ability to control oneself. Meanwhile, self-regulated learning is a deliberate, planned, cyclical effort by individuals. Their thoughts, feelings, and actions are managed to achieve learning goals to provide solutions to internal and external obstacles experienced by individuals. The more individuals can manage themselves, the more problems they face can be reduced [1-4].

According to Zimmerman [4], self-regulation learning is the ability of individuals to manage their learning process to achieve learning goals by referring to the methodology and dynamic behavior in independent learning. Self-regulated learning consists of metacognition, motivation, and planned actions that are cycled to achieve personal goals [5]. What is meant by metacognition is awareness and knowledge of thinking about knowledge, which refers to students' awareness of what is known and how to achieve individual goals. Motivation is related to the ability to motivate oneself to learn. Behavioral aspects relate to individual efforts to

self-regulate, choose, and utilize and create an environment that supports learning activities such as listening to lessons from the teacher, taking notes, concentrating. Schunk and Zimmerman concluded that students who are active in the learning process are assumed to be categorized as students who can regulate themselves in terms of metacognitive, motivational, and behavioral. They generate ideas, feelings, and actions to achieve their learning goals. In terms of metacognitive, students have specific strategies that are effective in learning. In terms of motivation, students can push themselves. In terms of behavior, students can apply learning objectives strategies in real action.

There are three cycles of stages in self-regulated learning involving aspects of individual cognitive, feeling, and behavior. The cognitive stage consists of task analysis and self-motivation belief. The action stage consists of self-control, self-observation, and the self-reflection stage consists of self-assessment and self-reaction. Poor self-regulation will impact procrastination, neglect of duties so that psychologically it can cause stress and self-confidence. According to Boekaerts [1] self-regulation is influenced by various factors, namely personality, motivation, belief, self-efficacy, goal setting, physical and social environment, and emotional reactions.

Procrastination comes from the Latin *procrastinare*, which means postponing or postponing until tomorrow [6]. In a psychological sense, procrastination is a delay in completing a task. What is meant by academic procrastination is a delay that is done intentionally and repeatedly in completing a task or job, either starting or completing tasks related to the academic field [7]. Academic procrastination behavior is a form of action or habit of procrastinating in terms of academic completion related to academic tasks or demands, which results in an individual experiencing delays in completing them within a specific time limit. People who like to procrastinate are called procrastinators. Ferrari explains that the characteristics of procrastinators include; delaying starting or finishing work on tasks that must be completed, being late for completing tasks on time, and preferring to do fun activities rather than completing the tasks they are responsible for the time gap between plans with actual performance [8, 9]. Students often delay six academic tasks: writing assignments, studying for exams, reading, organizational performance, attending class meetings, and overall academic performance. Aspects that stimulate procrastination are fatigue, self-efficacy, anxiety due to fear of failure, low self-control, low motivation, and environmental conditions. The result of academic procrastination is the emergence of anxiety in the individual. Academic procrastination behavior is influenced by several factors such as the level of self-regulation, self-efficacy, self-control, and irrational beliefs [10].

Since online learning and blended learning, many teachers reported that students' assignments were not fulfilled, and their parents complained about their children's activities not paying attention to their lessons. Children stay up late, go to wifi coffee shops, play online games, watch youtube and do various things that they find fun besides studying and doing assignments. This procrastination behavior can certainly hinder current academic and impact student success in the future.

Several studies conclude the following findings: There is a negative relationship between self-regulation and academic procrastination behavior. Its means that the higher self-regulation, the lower the student's academic procrastination behavior [11,12, 13]. Another study found a positive and significant relationship with academic procrastination [14, 15]. Yasdar [16], concluded that the application of the Self-Regulation Technique had a positive effect on learning independence, Putro [17] found that the level of student academic procrastination decreased significantly after attending group counseling with self-regulated learning techniques, and Kirana [18] concluded that self-regulation training regulated learning is effective in reducing students' academic procrastination. Other findings conclude that academic procrastination impacts inhibiting individual performance [7], and low achievement [6, 8, 13].

The average high school student is 15-19 years old and is in their mid-teens. At the stage of middle adolescence, adolescents have entered the stage of formal operational thinking, which is already able to think systematically about abstract things and can analyze more deeply about something [19]. At this stage, high school students as teenagers who are studying must be able to self-regulate by analyzing tasks, motivating themselves, controlling and observing themselves, and doing self-reflection in learning. This inability to self-regulate can result in academic procrastination.

This study aims to describe the level of self-regulated learning of high school students in the blended learning model, describe the level of student academic procrastination in the bladed learning model, and examine the relationship between self-regulated learning and student academic procrastination in the blended learning model.

2. METHODS

2.1. Research Design

The design of this research is survey and correlation research. According to Groves [20], survey research produces statistical information and is a basic form of quantitative. Survey research asks several respondents about their beliefs, opinions, characteristics, and behaviors that have occurred or are currently occurring. At the same time, descriptive research aims to describe phenomena systematically and accurately regarding situations, facts, and population characteristics, which occur according to reality [21].

2.2. Data Source Research

This research occurred at Senior High School in Ngoro Mojokerto and was carried out in September

2021. The subjects of this study were all students in the research area, totaling 841 students in grades X, XI, and XII. Participant requirements are set as follows: 1). They were registered as a student at State Senior High School in Ngoro Mojokerto**,** 2). Willing to be a respondent, 3). They were filling out the questionnaire on 27 to 30 September 2021.

2.3. Data Collection Techniques

The data collected used a self-regulated learning scale instrument and an academic procrastination scale in google form format, distributed through the WA group of online class students. The self-regulated learning scale was adopted from the Saraswati instrument [22], based on Boekarts' self-regulated learning theory. This self-regulated learning scale consists of 39 statement items in the form of favorable. While the academic procrastination scale was adopted from the Cahyaningsih instrument [9], this scale consists of 16 statement items consisting of twelve favorable and four unfavorable statements.

2.4. Data Analysis Techniques

The data analysis used descriptive quantitative. Categorization is made to determine the level of self-regulated learning. Based on its dimensions, self-regulated learning is divided into cognitive, performance, and self-reflection dimensions. Table 1 showed that the dimensions score categories of SRL and their interpretations.

Table 1. Dimensions Score Categories of SRL

Category	SRL Interpretation Based On The Dimensions		
	Cognitive	Performance	Self-reflection
Low	12 - 24	15 - 30	12 – 24
Moderate	25 - 38	31 - 46	25 – 38
High	39 - 48	47 - 60	39 – 48

Table 2 showed that the categories of total score of self-regulated learning and their interpretations.

Table 2. Total Score of SRL and Its Interpretation

No.	Score	SRL Score Interpretation
1.	39-78	Have low self-regulated learning
2.	79 -117	Have moderate self-regulated learning
3.	118-154	Have high self-regulated learning

Categorization is made to determine the level of academic procrastination. Table 3 showed that the score categories and their interpretations.

Table 3. Total Score of AP and Its Interpretation

No.	Score	AP Score Interpretation
1.	16 – 31	Have low academic procrastination
2.	32 – 47	Have moderate academic procrastination

To determine the relationship between self-regulated learning (X Variable) and academic procrastination (Y Variable) using the Pearson product-moment correlation formula. The data analysis process used the IBM SPSS version 26 program. The results of descriptive statistics and statistical tests were described and interpreted.

3. RESULTS

After being collected, the data of the self-regulated learning scale and the academic procrastination scale of the respondents were then examined, classified by class and major, and given a score. Of the 841 research subjects, 830 (98.70%) students qualified as participants, and 11 (1.30%) students did not qualify as research participants. Thus, respondents who qualify as participants in this study amounted to 830 students.

3.1. Respondent Baseline

Tabel 4 showed that the description of the baseline of respondents based on gender, age, major, and grade level.

Table 4. Baseline Characteristics of Respondents

Baseline Characteristic of Responden		Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	276	33,3	33,3	33,3
	Female	554	66,7	66,7	100
	Total	830	100	100	
Age	14 years	6	0,7	0,7	0,7
	15 years	183	22	22	22,8
	16 years	276	33,3	33,3	56
	17 years	285	34,3	34,3	90,4
	18 years	79	9,5	9,5	99,9
	19 years	1	0,1	0,1	100
	Total	830	100	100	
Major	Natural Science	416	50,1	50,1	50,1
	Social Science	414	49,9	49,9	100
	Total	830	100	100	

Baseline Characteristic of Responden		Frequency	Percent	Valid Percent	Cumulative Percent
School Class	Grade 10	282	34	34	34
	Grade 11	281	33,9	33,9	67,8
	Grade 12	267	32,2	32,2	100
	Total	830	100	100	

3.2. Self-Regulated Learning (SRL) Level

Table 5 showed that the description of the level of SRL based on cognitive dimensions.

Table 5. SRL Level Based on Cognitive Dimensions

CogSRLCategory		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	9	1, 1	1,1	1,1
	Moderate	598	72	72	73,1
	High	223	26,9	26,9	100
	Total	830	100	100	

Thus, Table 6 showed that the description of SRL level based on performance dimensions.

Table 6. SRL Level Based on Performance Dimensions

PerfSRLCategory		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	8	1	1	1
	Moderate	467	56,3	56,3	57,2
	High	355	42,8	42,8	100 ,0
	Total	830	100	100	

Then,Table 7 showed that the description of the level of SRL based on the dimensions of self-reflection.

Table 7. SRL Level Based on Self-Reflection Dimensions

SRefSRLCategory		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	12	1,4	1,4	1,4
	Moderate	612	73,7	73,7	75,2
	High	206	24,8	24 ,8	100
	Total	830	100	100	

Moreover, when viewed as a whole, the description of total SRL level of students is in Table 8.

Table 8. Total Self-Regulated Learning's Level

TotSRLCategory		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	8	1	1	1
	Moderate	437	52,7	52,7	53,6
	High	385	46,4	46 ,4	100
	Total	830	100	100	

3.3. Academic Procrastination (AP) Level

Table 9 showed that the description of the AP levels.

Table 9. Academic Procrastination's Level

TotAP Category		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	121	14,6	14,6	14,6
	Moderate	652	78,6	78,6	93,1
	High	57	6,9	6,9	100
	Total	830	100	100	

3.4. Correlation Result

Table 10 show the results of the product moment correlation between SRL and AP.

Table 10. SRL and AP Correlation

Correlations		Total SRL	Total AP
Total SRL	Pearson Correlation	1	-,408**
	Sig. (2-tailed)		0
	N	830	830
Total AP	Pearson Correlation	-,408**	1
	Sig. (2-tailed)	0	
	N	830	830

**. Correlation is significant at the 0.01 level (2-tailed).

4. DISCUSSION

The results showed that the self-regulated learning of 830 students at Senior High School in Ngoro Mojokerto was 46.4% in the high category, 52.7% in the moderate category, and 1% in the low category. From these data, it can be concluded that most students at Senior High School in Ngoro Mojokerto have a moderate level of self-regulated learning.

The results also showed that the level of self-regulated learning on the cognitive dimensions of 830 students at State Senior High School in Ngoro Mojokerto is 26.9% in the high category, 72% in the moderate category, and 1.1% in the low category. It means that most students are capable enough to perform task analysis by setting goals, planning strategies to master, or optimizing performance. Students can also do self-motivation because they believe in their abilities, have hope for the results obtained, have inner interest, and have goal orientation.

From the performance dimension, it was known that of 830 students at Senior High School in Ngoro Mojokerto, 42.8% in the high category, 56.3% in the medium category, and 1% in a low category. It means that most students have enough self-control, self-instruction, imagination, and focus on the task completion process. Students were also capable enough to make self-observation which helped track certain aspects of performance, environmental conditions, and effects of the procedures used by someone who utilizes self-recording using personal notes and experiments.

From the self-reflection dimension, it showed that 830 students at Senior High School in Ngoro Mojokerto, 24.8% in the high category, 73.7% in the medium category, and 1.4% of students in a low category. It means that most students have enough self-judgment, self-evaluation, and self-reaction. Self-judgment is evaluating the performance that has been done and significant attributes to obtain the desired results. Self-evaluation is usually done by comparing self-information with standards or goals. Four ways are commonly used to evaluate the self: first, comparing the given task; second, comparing current performance with previous performance; third, comparing performance or results with others; Fourth, collaborative, namely with other people or groups who have the best performance. Self-reaction, namely cognitive and emotional reactions from performance evaluations and attributions of success in achieving goals. This reaction will affect the next stage of cognitive and performance in the independent learning cycle.

Based on the research results on the level of academic procrastination, it is known that of 830 students at Senior High School in Ngoro Mojokerto, 6.9% in the high category, 78.6% in the medium, and 14.6% in the low category. From these data, it can be concluded that most of the students at Senior High School in Ngoro Mojokerto have a moderate level of academic procrastination. It means that most students like to procrastinate. Only 14.6% of students are classified as low or do not like to procrastinate in completing their assignments, completing assignments on time, and being responsible for their academic assignments. Most students have irrational thinking, cannot manage time, and do activities that they find fun rather than avoiding learning assignments. It, of course, will harm learning achievement and can cause anxiety in students.

The result of the product-moment correlation between self-regulated learning and academic procrastination shows that both have a negative and significant relationship. The correlation is -0.408 or -40.8%. It means that self-regulated learning and academic procrastination are significant and interrelated. A negative relationship means that the higher the self-regulation, the lower the level of student academic procrastination, and vice versa. This result follows previous research, which found a negative and significant relationship [11], [12], [13], and contradicts the results of research, which states that there is a positive and significant relationship between self-regulated learning and academic procrastination [14], [15].

5. CONCLUSION AND SUGGESTION

5.1. Conclusion

Based on the findings and discussion of the research results, it can be concluded that 1). Most (52.7%) students at Senior High School in Ngoro Mojokerto have a moderate level of self-regulated learning. 2). Most (78.6%) students at State Senior High School in Ngoro Mojokerto have a moderate level of academic procrastination. 3). there is a significant and negative correlation between self-regulation learning and academic procrastination of -0.408 or -40.8%. It means that the higher the self-regulation learning, the lower level of student academic procrastination, and vice versa.

5.2. Suggestion

The research results suggest that 1) the survey of self-regulated learning and the academic procrastination level of senior high school students needs to be investigated on a larger scale and 2) researchers and teachers need to increase self-regulated learning and academic procrastination in students through developmental research and various counseling models and approaches.

AUTHORS' CONTRIBUTIONS

All authors conceived and designed this study. All authors contributed to the process of revising the manuscript, and at the end all authors have approved the final version of this manuscript.

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