

PROFILE OF SELF-REGULATED LEARNING OF STUDENTS ON ONLINE MATHEMATICS LEARNING

PROFIL *SELF-REGULATED LEARNING* SISWA PADA PEMBELAJARAN MATEMATIKA SECARA DARING

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ABSTRAK

Self-regulated learning merupakan kemampuan untuk mengarahkan dan mengendalikan diri sendiri dalam berpikir dan bertindak serta tidak merasa bergantung pada orang lain secara emosional. Penelitian ini bertujuan untuk mengetahui profil terkait unsur-unsur pembelajaran matematika secara daring yang menyebabkan *self-regulated learning* siswa menguat dan melemah. Jenis penelitian ini adalah deskriptif kuantitatif dengan populasi seluruh siswa kelas VIII yang selanjutnya dipilih responden sebanyak 67 siswa. Data diperoleh melalui penyebaran angket dengan google form. Berdasarkan penelitian yang dilakukan diketahui bahwa tiga unsur pembelajaran matematika secara daring yang menguatkan *self-regulated learning* siswa yaitu usaha untuk mencari sumber belajar, memeriksa kembali tugas sebelum dikumpulkan, serta mempunyai target untuk dicapai dalam proses pembelajaran. Sedangkan tiga unsur pembelajaran matematika secara daring yang melemahkan *self-regulated learning* siswa yaitu pembelajaran secara berkelompok, bantuan teman ketika kesulitan dalam menyelesaikan soal, serta belajar ketika ada ujian.

Kata kunci: *Self-Regulated Learning*, Pembelajaran Daring, Matematika

ABSTRACT

Self-regulated learning is the ability to direct and control oneself in thinking and acting and not feeling emotionally dependent on others. This study aims to determine the elements of online mathematics learning that cause students' *self-regulated learning* to strengthen and weaken. This type of research is a quantitative description with a population of all students of class VIII which is then selected by respondents as many as 67 students. The data was obtained through the distribution of questionnaires with google form. Based on the research conducted, it is known that the three elements of online mathematics learning that strengthen students' *self-regulated learning* are efforts to find learning resources, re-examine assignments before they are collected, and have targets to be achieved in the learning process. Meanwhile, the three elements of online mathematics learning that weaken students' *self-regulated learning* are group learning, help from friends when solving problems, and studying when there are exams.

Keywords: *Self-Regulated Learning*, Online Learning, Mathematics

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PRELIMINARY

Based on the situation of the spread of covid-19 among students, the government issued a circular regarding the implementation of education in the emergency period of the spread of the corona virus disease (covid-19). The teaching and learning system is carried out in their respective homes where teachers teach online by utilizing available learning applications. Teachers can provide subject matter both face-to-face and online. In addition, students can submit assignments online with a predetermined time.

Mathematics is a field of study that is studied by all students starting from an early age, the age of early grade education (basic education), secondary education, even to higher education. According to Hendriana & Soemarmo (2014, p. 6), mathematics contains a collection of concepts and operations, but in teaching mathematics students' understanding of these matters is more objective than developing their strength in calculations. This is a challenge for teachers and students where learning is done online. When the learning is carried out students are required to take more initiative in learning. This is included in the internal factor of the affective part called self-regulated learning. Based on the results of the study, it is known that self-regulated learning has a positive effect on mathematics learning outcomes for junior high school students (Nurfa & Quraissy, 2021). This shows that students' self-regulated learning is important to develop, including when learning is carried out online.

According to Ranti, Budiarti, & Trisna (2018, p. 75), self-regulated learning is the ability to direct and control oneself in thinking and acting, and not feeling emotionally dependent on others. Lestari & Yudhanegara (2017, p. 94) state that there are several indicators of self-regulated learning, namely learning initiative, having the ability to determine one's own destiny, diagnosing learning needs, being creative and taking initiative in utilizing learning resources and choosing learning strategies, monitoring, regulating, and control learning, able to restrain themselves, make their own decisions, and able to solve problems. Meanwhile, according to Sugiyana (2015, p. 65), self-regulated learning is the readiness of individuals who are willing and able to learn on their own initiative, with or without the help of other parties in determining learning objectives, learning methods, and evaluating learning achievement. According to Bathi (Rika Sa'diyah, 2017, p. 34), self-regulated learning is a behavior whose activities are directed to oneself, do not expect much help from others, and even try to solve their own problems.

Based on the current pandemic situation where learning is carried out online, learning must continue to support student self-regulated learning. Based on this, this study

aims to determine the profile of students' self-regulated learning in online mathematics learning. The profile is what learning elements cause students' self-regulated learning to strengthen and weaken. After these elements are known, teachers and schools can improve the quality of learning related to elements that weaken students' self-regulated learning.

METHOD

The research method used is descriptive quantitative with the type of survey. This research was carried out at Patra Dharma 1 Balikpapan Middle School for the 2019/2020 Academic Year in even semesters starting from January to August. The researcher randomly selected two VIII grades from the four available classes with 33 and 34 students respectively.

The data collection technique used in this research is the distribution of questionnaires. One way to fill out the questionnaire is to use a Likert scale. According to Sugiyono (2017, p. 134) the Likert scale is used to measure attitudes, opinions, perceptions of a person or group of people related to social phenomena, this type of measurement scale has gradations from very positive to very negative, such as strongly agree (SS), agree (S), disagree (TS), and strongly disagree (STS), and the researcher used a closed questionnaire, that is, each question has a choice of answers and the respondent only chooses the most appropriate answer. In this study, questionnaires were distributed and filled out online using the Google Form application.

The number of statements in this questionnaire is 19 items. After validation by experts and calculation of item validity, the remaining statements became 12 items. The questionnaire grid for research can be seen in Table 1.

Table 1. Self-Regulated Learning Questionnaire Grid

No	Indikator <i>Self-Regulated Learning</i>	Nomor Pernyataan	Jumlah
1	Study initiative	9	1
2	Have the ability to determine your own destiny	8 & 1	2
3	Diagnosing learning needs	10 & 11	2
4	Creative and initiative in utilizing learning resources and choosing learning strategies	2	1
5	Monitor, organize, and control learning	4 & 5	2
6	Able to hold back	7 & 6	2
7	Make your own decisions	12	1
8	Able to solve problems	3	1

RESULT AND DISCUSSION

The research was conducted by distributing questionnaires to class VIII students via google form. Furthermore, the data is drawn so that a quantitative description is obtained in Table 2.

Table 2. Total Scores of Statements and Indicators

I1	I2		I3		I4	I5		I6		I7	I8
P9	P8	P1	P10	P11	P2	P4	P5	P7	P6	P12	P3
190	197	137	197	166	220	214	208	183	115	215	122
190	167		181.5		220	211		149		215	122

Information:

I1 : Indicator Number 1

P1 : Statement Number 1

P1 : Including the three statements that get the lowest total score

P2 : Including the three statements that get the highest total score

Based on the results of the study in Table 2, it is known that Indicator 2 has the highest total score while Indicator 6 has the lowest average total score of the two statements. Meanwhile, if viewed based on the statement items, it is known that P2, P12, and P4 are the three statements with the highest total score while P6, P3, and P1 are the three statements with the lowest total score. The sounds of the indicators and statements can be seen in Table 3.

Table 3. Highest and Lowest Statements/Indicators

Number Statement/ Indicator	Statement/Indicator	Keterangan
I2	Creative and initiative in utilizing learning resources and choosing learning strategies	Highest
I6	Able to hold back	Lowest
P2	I try to find various sources for my assignment	Highest 1
P12	I always double check assignments before they are submitted	Highest 2
P4	I have a target to achieve in the learning process	Highest 3
P6	I prefer to study in groups	Lowest 1
P3	I ask a friend for help when I have difficulty solving math problems	Lowest 2
P1	I study when there is an exam or test	Lowest 3

Indicator 2 obtains the highest average total score. When learning mathematics online, students are required to be creative and take the initiative to obtain learning

resources. According to Meiliana & Aripin (2019, p. 645) attitudes and habits of creative thinking are actions that will shape and grow self-regulated learning in mathematics. While Putro & Desynatria (2016, p. 94) state that initiative is the ability or encouragement to find many possible answers to problems and be able to take action to solve problems. So, creativity and initiative are abilities that are used to identify problems and are able to solve problems in utilizing learning resources and choosing learning strategies, so that they will shape and grow students' self-regulated learning in mathematics.

The indicator 6 obtained the lowest average number of scores. Based on this, students still find it difficult to hold back when learning mathematics online. Marsela & Supriatna (2019, p. 67) state that students who are able to restrain themselves have an ability to guide, organize, and be responsible as students who are used to deal with conditions in their surrounding environment. Being able to restrain oneself is a potential that individuals can use during processes in life, including in dealing with conditions in the surrounding environment (Fachrurrozi, Firman, & Ibrahim, 2013, p. 5). If students are able to restrain themselves in the learning process, they will direct themselves to positive behavior, namely the ability to be responsible in dealing with conditions in the surrounding environment.

Statement 2 gets the highest score which indicates students are creative and take the initiative to find learning resources during online learning both from the internet and printed books. This is in line with research (Yanti et al., 2020) which states that students of MTs Negeri 3 Kampar conduct online mathematics learning where 75% of students use the internet/websites to find learning resources.

Statement 12 is included in the item that gets the second highest total score. This shows that during online learning students still recheck assignments before they are submitted. Assignments are collected online making it easier for students to re-check the answers.

Furthermore, statement 4 is the item that gets the third highest total score. This shows that when learning mathematics online students still have targets to achieve. These results are in line with research conducted at one SMPN in Bekasi Regency where students have a learning target of being able to understand mathematics subject matter and get maximum grades when participating in online mathematics learning (Yahya & Warmi, 2021).

The statement 6 is the item that gets the lowest total score. This shows that students do not like to study in groups when learning mathematics online. The current pandemic

makes students unable to do face-to-face learning so they have limitations to interact, especially with fellow students. The number of movements generated in online discussions is less than during face-to-face discussions. In addition, students are less skilled in communicating in online mathematics learning discussions (Sari et al., 2021). This is also shown in statement 3 which includes items that get the second lowest total score where students are also less likely to ask friends for help when having difficulty solving math problems. Next is statement 1 which gets the third lowest total score. This shows that students do not only study when there are exams or tests. Learning mathematics online does not make students only study during tests but at other times such as doing assignments where the collection is done online or at school.

CONCLUSION

Based on the research, it is known that the elements of online mathematics learning that strengthen students' self-regulated learning are when students try to find various sources for assignments, re-examine assignments before they are collected, and have targets to achieve in the learning process. This shows that when online learning independence and independence from others arise, namely when looking for learning resources. Meanwhile, students are still not happy with the online learning process in groups. Based on this, it is necessary to have a new technique in forming groups during online learning where each student can actively interact with each other and the teacher can monitor group activities.

Suggestions for further research are based on the results obtained in the form of classroom action research to improve student interaction with other students in online mathematics learning. In addition, beforehand it is also necessary to know the cause of the lack of student interaction in online mathematics learning.

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