



The Importance of Shaping to Student Regulation Learning

Rahmatika Nur Aisyah Windra Putri^(✉) and Sigit Sanyata

Yogyakarta State University, Yogyakarta, Indonesia

aisyahwindra@gmail.com, sanyatasigit@uny.ac.id

Abstract. Students' abilities are arranged by metacognitive aspects, which include prior knowledge, learning styles, strategies in learning (cognitive, motivational, and environmental) reflected by self-regulated learning consisting of plans, observations, and evaluations. It can be said that self-regulated learning is an aspect that controls metacognition by using previous knowledge to gain new knowledge. Based on the results of the DCM analysis for class XI found learning problems in students with a percentage above 50%, where student data revealed that their study time was irregular, felt lazy to study, sleepy while studying, and found it difficult to start learning. This is shown from the data analysed by the BK teacher through the DCM (Problem Check List) instrument. The behaviors mentioned by the students above are aspects of low self-regulated learning. This is because the person does not control himself well to learn, so the results of his performance or behavior have an impact on his learning achievement. This classroom action research is to find out whether counselling with shaping techniques is effective in increasing the low self-regulated learning of students. The research hypothesis, namely "The use of shaping techniques can effectively improve self-regulated learning in students", is accepted based on the value of t count ($10.583 > t$ table 2.365) and Sig ($0.000 < 0.05$). The criteria for success have also met the research target, which is 87.5% of students in the high category ($>80\%$).

Keywords: shaping · self-regulation

1 Introduction

Students' abilities are arranged by metacognitive aspects, which include prior knowledge, learning styles, and strategies in learning (cognitive, motivational, and environmental). These are reflected by self-regulated learning, which consists of planning, observation, and evaluation. It can be said that independent learning is an aspect that controls metacognition by using previous knowledge to acquire new knowledge. Metacognition is a way of thinking in solving problems and processing information at each step of the independent learning process, using metacognitive knowledge and involving previous experience to identify conditions in cognitive, motivational and environmental aspects to find effective solutions.

Based on the results of the DCM analysis for class XI, it was found that there were learning problems in students with a percentage above 50%, where student data

revealed that their study time was irregular, felt lazy to study, fell asleep while studying, and found it difficult to start learning. This is shown from the data analysed by the BK teacher through the DCM (Problem Check List) instrument.

Based on the results of an interview with one of the BK teachers, the DCM (Daftar Cek Masalah) assessment containing a list of questions formatted as problems has a substantial impact on the problems. Results of the instrument included students feeling unprepared for exams, complaining, and blaming the subject teacher if the score was below expectations. School counsellors have suggested a number of solutions for overcoming these issues, but what has actually been done is to discipline students by monitoring the assignments given by subject teachers and consulting with parents of students about disciplining them while studying at home. However, this is not deemed effective because student learning outcomes have not improved.

Based on the data above, the researcher concludes that class XI students continue to demonstrate a low capacity for taking responsibility for their academic tasks. The aforementioned student behaviors are indicators of poor self-regulation in learning. This is because the individual lacks the self-control necessary for learning so that his performance or behavior has an effect on his learning achievement. When classmates exhibit the same behavior, the behavior of the environment does not support the self-regulated learning that is expected.

According to previous research, self-regulated learning plays an important role in education, particularly in promoting the academic success of students."Self-directed learning is a crucial aspect of education because it correlates with student achievement. Self-regulated learning has a significant impact on education, particularly for junior and senior high school students [1]. Studied the effect of self-regulated learning on academic emotions, which in turn can influence the improvement of academic performance [2].

A combination of academic learning skills and self-control, self-regulated learning facilitates student motivation by making learning easier. They have the capacity and motivation to learn. Students who demonstrate self-management translate their cognitive abilities into academic strategies [3]. Self-regulated learning empowers students to become more independent, proficient in regulating their own learning, and academically successful. Self-Regulated Learning appears to play an important role for students in implementing strategies to regulate motivation, which involve multiple activities in which students with specific intentions attempt to initiate, regulate, or increase their willingness to initiate, prepare for the next task, or complete. Certain activities or objectives. The motivational setting encompasses any thought, action, or behavior by which students attempt to influence their academic task selection, effort, and persistence.

Tutoring and counselling guidance are two approaches that can be used to improve Self-Regulated Learning. However, when selecting a counseling guidance approach, the behavioral theory is one of the counseling theories that can be used.

The advantages of behavioral counseling include a number of models that can be used to modify behavior, one of which is the model employed in this study, namely the shaping technique. Where to form new, previously unobserved behaviors by providing systematic and direct reinforcement each time the behavior is exhibited. Behavior is altered gradually by systematically reinforcing the small elements of the desired new behavior until they become nearly automatic [4].

After receiving behavioral counseling with shaping techniques, the researchers hope that students with low Self-Regulated Learning can change their behavior to have high Self-Regulated Learning in the learning process, particularly in class XI. Given the preceding context, this issue is crucial for a discovery titled "Improving Self-Regulated Learning through Behavioral Counseling of Adolescents." "Shaping Techniques".

2 Research Method

This research uses action research. Classroom Action Research consists of three words, namely research, action, and class. Research is an activity to examine an object using a certain methodology and aims to obtain useful data to improve the quality of a thing. Actions are actions that are deliberately carried out to achieve certain goals.

Action research on things that happen in the community or target group and the results can be directly applied to the community concerned [5]. Classroom action research is research that occurs in certain communities, or groups, the results of which can be imposed on the subject and aims to improve learning abilities in class.

In this study, researchers used a quantitative approach. Researchers are directly involved from the planning stage until the next researcher monitors analyzes, and collects data in this study is carried out in two stages, namely the preliminary stage and initial reflection and also the stage of implementing the action.

1. Planning Stage

At this stage, the research conducted direct observations regarding the condition of the school, which was used as a place to conduct research. The researchers also conducted interviews with BK teachers and several students of class XI. In addition, researchers also spread about self-regulated learning to class XI students. The results of the distribution of the scale will help researchers to determine the level of independent learning possessed by students.

2. Action Implementation Stage

At this stage the researcher uses the Spiral model from Kemiis and Taggart [5]. The cycle will be as follows:

2.1 Planning

At this stage, the researcher developed the observation and interview format, and prepared an instrument in the form of a self-regulated learning scale. Prior to that stage, the preparation stage begins by determining in advance determining the behavior to be changed by using group counseling with shaping techniques, determining the provision of group counseling treatment with shaping techniques.

2.2 Action Execution

Implementation refers to a plan that has been prepared previously. In its implementation assisted by BK teachers, the implementation of the action is divided into three stages,

namely, the initial stage, the core stage, and the final stage. Information about the level of self-regulated learning of students is obtained from the results of the analysis of the Problem Check List (DCM) of students owned by BK teachers, conducting observations and the scale of self-regulated learning.

2.3 Observation

Observations were carried out during and after the act of increasing the level of self-regulated learning behavior by using group counseling with shaping techniques. This observation includes how the attitudes of students are active in groups and can follow each shaping stage based on self-regulated learning indicators on a regular basis.

2.4 Reflection

In this reflection stage, the data that has been collected is then analyzed as a result of reflection. The results of the data that have been analyzed, it can be seen whether the actions that have been taken can increase self-regulated learning or not. The results of the reflection are used as motivation to plan more effective actions in the next cycle.

Based on the description above, it can be concluded that the design researcher using the Kremmis & Mc Taggart model includes the stages of planning, action, observation, and reflection.

The subjects in this study were students who had low self-regulated learning behavior. The selection of research subjects was based on the results of the DCM (Problem Checklist) instrument by the BK teacher and the results of the self-regulated learning scale. Based on the results of these recommendations, students who are subject to are students who have low self-regulated learning based on the SRL scale.

Researchers took data through a scale to measure students' self-regulated learning level, who then ranked the ninth lowest as the research subject. Before taking action, the researcher conducted a pre-test to measure the self-regulated learning ability of class XI students. After the pre-test is done, then the action is given, and the last step is the post-test to measure the level of self-regulated learning ability after being given the action. In the implementation of group counseling carried out, researchers collaborated with guidance and counseling teachers at schools. It aims to provide direction to researchers about the description of class XI students in order to understand students in class XI. In addition, the supervising teacher provides direction for students regarding the process and objectives of group counseling activities.

In group counseling, the researcher revealed that the BK teacher, as the group leader should also observe and provide examples of the application of the shaping technique to students.

Class actions are carried out in at least two cycles. Because only if one cycle the researcher has not been able to observe the process properly [5]. In line with this opinion, this study establishes the basis for considering the success of the research. The research cycle will be terminated if 80% of the research subjects have a high level of self-regulated learning. However, if the students have not reached the criteria for having a high level of self-regulated learning, they will proceed to the next cycle.

In this study, the action cycle of planning, action, observation, and reflection. This action research was carried out in collaboration between the researcher and the supervising teacher.

1. Pre Action

The pre-action stage of research on increasing self-regulated learning in class XI students is as follows:

- a) Spread the self-study scale to class XI students in SMA Muhammadiyah 1 Yogyakarta
- b) Deploy the pre-test scale. A pre-test is given to determine students' self-regulated learning level before taking action.
- c) The researcher, as the leader of the group counseling group, between the researcher and the counseling teacher plays a role and then collaborates in determining strategic action steps.
- d) Researchers with the school counselor in identifying, and analyzing the results of the pre-test to be given, then making a decision to take action.
- e) Researchers with the practice of school counselor to take action.

2. Cycle

a. Planning

Before taking action, the researcher carried out several activities so that the research could run smoothly. These activities include:

- 1) Researchers with Bk teachers determine students who fit the criteria based on the Self-Regulated Learning scale. The students who will be the subjects in this study are those in the low category.
- 2) Researchers will collaborate with BK teachers to prepare time, as well as media that will help the group counseling process.
- 3) Researchers will find facts from observations and interviews to help record what happened during the action.
- 4) The researcher will determine the success criteria after taking action on the research results.

b. Action

The action in this research uses group counseling using the Shaping technique. To create a healthy atmosphere in the group, the atmosphere is formed between group members and the facilitator by creating relationships based on certain attitudes such as empathic understanding, acceptance, appreciation, warmth, concern, respect, authenticity, spontaneity, and mutual respect. The steps for implementing the action are as follows:

1) Early stage

The initial stages carried out in the implementation of group counseling are as follows: a) Build closeness between group leaders and group members, b) The group leader and group members introduce each other. c) The group leader

explains the purpose of the group formation. d) Group leaders form mutual need relationships within the group. e) The group leader finds out the expectations of each group member. f) The group leader addresses the concerns felt by group members by discussing the agreed norms and rules within the group to reduce members' concerns. g) After group members can trust each other and have comfort in the group, the group leader asks group members to express and open up to problems that occur related to low self-regulated learning.

2) Work Stage

After the first stage, the work stage will be carried out while the stages of work carried out in group counseling are: a) The group leader helps group members to make a behavior contract from any complaints about independent learning that each group member has not had. b) The group leader and group members determine the reinforcement for each development of behavior that resembles the target behavior that has been determined. One of the students' self-learning problems from members will be discussed first. c) Group leaders with the homeroom teacher to support the implementation and provide reinforcement to students from the group. d) The group leader explains the stages of self-regulated learning based on indicators. Each stage that is successfully achieved by students in improving self-regulated learning will be given reinforcement in the form of rewards, namely giving stars on student learning progress, but if the stages are not achieved, students do not get class progress and have not continued to the next stage.

3) Final Stage

After the next stage, move on to the next stage, namely the termination stage, following the termination stage; a) Group leaders and members of group counseling groups that have been carried out. b) Group members are given time to express what they feel during the group counseling process. c) Group members share their experiences on how to solve problems they did to the changes they achieved. d) Then, the group leader and members evaluate the implementation of group counseling services.

c. Observation

On the behavior of students when given group counseling services using observation sheets. Things that were observed during the implementation of the action were regarding the behavior of students in SRL in the school environment based on the observation guidelines that had been designed previously.

d. Reflection

Reflection is an activity to restate what has been done during the action process. In reflection, it is analyzed whether the action process carried out has been successful as expected or not so that the shortcomings can be identified. If it is not as expected, then a learning plan is made for the next cycle, and so on, until it reaches the desired result. Reflection can be done if the researcher feels that he has gained experience, in the sense that he has obtained the information needed to improve the method that has been tried.

3. Reliability Test Instrument

The results of the reliability test in this study showed a coefficient of 0.894, where the results of the reliability test were said to be very high reliability.

3 Result and Discussion

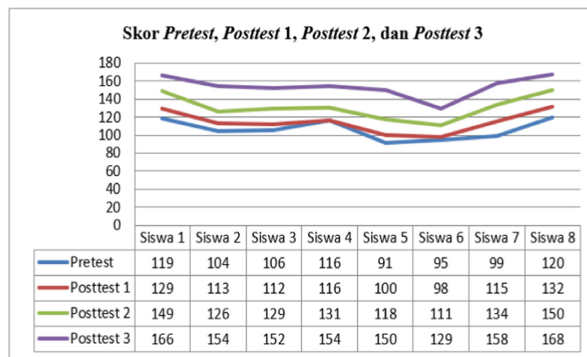
The research instrument for self-regulated learning variables on students use an assessment consisting of 3 sub-variables, namely Planning (Forethought); Implementation (Performance/Valition Control); and Evaluation using a Likert scale with numbers 1 to 4. For statements that are categorized as very appropriate answers with a score of 4, appropriate with a score of 3, not appropriate with a score of 2 and very inappropriate with score.

For unfavorable statements, the answer category is very appropriate with a score of 1, appropriate with a score of 2, not appropriate with a score of 3 and very inappropriate with a score of 4. Self-regulated data learning students which consists of data values of pretest, posttest 1, posttest 2, and posttest 3 are as follows.

1. Student Self-Regulated Learning before Action (Pretest) it can be seen that the average pretest score is 106.25 with a maximum of 7 students (87.5%) who have a low level of self-regulated learning. These results indicate that students' self-regulated learning before being given action is in the low category. The graph of the frequency distribution of self-regulated learning in the pretest test is as follows.
2. Student Independent Learning in Cycle I it can be seen that the average value of posttest 1 is 114.38 with a maximum of 6 students (75.0%) who have a low level of self-regulated learning. These results indicate that students' learning independence after being given action in cycle I (posttest 1) is in the low category. The results of the first cycle did not meet the target of the success of the action that had been set, 80% of the students were in the high category, so the researchers continued to provide action in the second cycle. The graph of the frequency distribution of self-regulated learning in the posttest 1 test is as follows.
3. Student Independent Learning Cycle II it can be seen that the average score of posttest 2 is 131.00 with a maximum of 4 students (50.0%) who have a level of self-regulated learning in the medium category. These results indicate that the independent learning given to students after the action in cycle II (posttest 2) is in the moderate category. The results of the second cycle have not met the target for the success of the action that has been set, 80% of the students are in the high category, so the researcher continues to present the action in the third cycle.
4. Student Self-Regulated Learning Cycle III it can be seen that the average score of posttest 3 is 158.88 with a maximum of 7 students (87.5%) who have a high level of self-regulated learning. These results indicate that independent learning in SMA Muhammadiyah 1 Yogyakarta students given after the action in cycle III (posttest 3) is in the high category. The results of the third cycle have met the target for the success of the action that has been set, 80% of students are in the high category, so the researcher provides sufficient action until the third cycle.

Table 1. Data pretest - posttest 1 - posttest 2 - and posttest 3 self-regulated learning on students.

Subject	Score	Category	Score	Category	Score	Category	Score	Category
1	119	low	129	medium	149	high	166	high
2	104	low	113	low	126	medium	154	high
3	106	low	112	low	129	medium	152	high
4	116	low	116	low	131	medium	154	high
5	91	very low	100	low	118	low	150	high
6	95	low	98	low	111	low	129	medium
7	99	low	115	low	134	medium	158	high
8	120	low	132	medium	150	high	168	high
Sum	850		915		1048		1231	
Min	91		98		111		129	
Max	120		132		150		168	
Mean	106.3		114		131		153.9	
SD	11.11		12.01		13.59		11.96	

**Fig. 1.** Graph of changes in students' self-regulated learning values on pretest, posttest 1, posttest 2, and posttest 3 tests

Description of Changes in Student Self-Regulated Learning. The research data shows that there is a change in students' Self-Regulated Learning scores on the pretest, posttest 1, posttest 2, and posttest 3 tests which can be seen from Table 1 and Fig. 1.

Based on the picture above, it can be seen that there is a change in the score line of students' self-regulated learning in the pretest, posttest 1, posttest 2, and posttest 3 tests. This result is supported by changes in the average score of students' self-regulated learning, which was 106.25 in the pretest test, it increased by 8.13 points to 114.38 points in posttest 1, it increased by 17.13 points to 131.51 points in posttest 2, and it increased by 151.88 in posttest 3.

Table 2. Results of student self-regulated learning paired t-test (pretest - posttest)

No	Sample Uji	t hitung	df	t table	Sig.	% Ketuntasan
1	Pretest-posttest 1	10,583	7	2,365	0,080	0,0%
2	Pretest-posttest 2	4,965	7	2,365	0,002	25,0%
3	Pretest-posttest 3	2,049	7	2,365	0,000	87,5%

The hypothesis proposed in this study is “The use of shaping techniques can effectively improve independent learning in students”. Before the hypothesis was accepted or rejected in this study, the research hypothesis was changed to a null hypothesis (Ho) and an alternative hypothesis (Ha), as follows:

- a. Null Hypothesis (Ho): The use of forming techniques cannot improve self-regulated learning in students.
- b. Alternative Hypothesis (Ha): The use of shaping techniques can effectively improve self-regulated learning in students.

Hypothesis testing in this study was using paired sample t-test, which was processed using the SPSS for Windows program. The results of the t-test are as in Table 2.

Independent learning on students testing Pretest - Posttest 1 obtained the value of t count (2.049) < t table (2.365), and Sig (0.080) > (0.05). These results indicate no change in students’ self-regulated learning between pretest and posttest 1. This is following the results of the pretest, which showed a maximum of 7 students (87.5%) with self-regulated learning in the low category, and the results of posttest 1 with the highest results. a lot of 6 students (75.0%) in the low category.

Then in the pretest - posttest 2 student learning concentration test, the value of tcount (4.965) > t table (2.365), and Sig (0.002) < (0.05). These results indicate that there is a change in students’ self-regulated learning between the pretest and posttest 2 tests. This is in accordance with the results of posttest 2 which shows a maximum of 4 students (50.0%) with moderate self-regulated learning.

Then in the pretest - posttest 3 student learning concentration test, the value of tcount (10.583) > ttable (2.365), and Sig (0.000) < (0.05). These results indicate that there is a change in students’ self-regulated learning between the pretest and posttest 3. This is in accordance with the results of posttest 3 which shows a maximum of 7 students (87.5%) with high category self-regulated learning. The researcher presents the action up to cycle III (posttest 3) based on the criteria of completeness that have met the research target, namely there are at least 80% of students who have a high level of independent learning.

Based on the description above, the proposed null hypothesis (Ho) which reads “The use of shaping techniques cannot improve self-regulated learning in students” is rejected. While the alternative hypothesis (Ha) proposed “Using shaping techniques can effectively improve self-regulated learning in students” is accepted so that it is proven true.

Based on the results of paired t-test, the value of t count (10.583) > t table (2.365) and Sig (0.000) < (0.05), which means that the research hypothesis “Use of shaping

techniques can effectively improve self-regulated learning in students” is acceptable. The results of this study indicate that behavioral counseling services with shaping techniques can be used as an alternative assistance to improve self-regulated learning in students.

4 Conclusion

After completing the research by collecting, analyzing, and interpreting data, the researcher draws conclusions about what was discovered. This topic is summed up as follows: Students’ Self-Regulated Learning on the pretest was in the low category with an average score of 106.25; on the posttest 1 test, it was in the medium category with an average score of 114.38; on the posttest 2 test, it was in the moderate category with an average score of 131.00; and on the posttest 3, it was in the high category with an average score of 158.88. In the first cycle, 75.0% of the observations fell into the less category, in the second cycle, 62.5% fell into the sufficient category, and in the third cycle, 75.0% fell into the good category. Based on the values of t count (10.583) > t table (2.365) and Sig (0.000) 0.05, the research hypothesis “The use of shaping techniques can effectively improve students’ self-regulated learning” is accepted (0.05). The success criteria have also met the research objective of 87.5% of students in the high category (>80%).

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