Effectiveness of Group Counseling with Digital Mind Mapping (DMM) Techniques to Improve Self-Regulation

Hijrah Eko Putro (✉), Astiwi Kurniati, and Lutfi Fahrurozi

Department of Guidance and Counseling, Universitas Muhammadiyah Magelang, Magelang, Indonesia
hijrah_ekoputro@unimma.ac.id

Abstract. The research carried out aims are: (1) Explain the real situation related to the implementation of group counseling at SMP Al Iman, (2) Knowing the influence of group counseling with digital mind mapping strategies to improve self-regulation. The population in the study conducted was grade IX MTs Al Iman Magelang City students with a total of 22 students and the sample in this study was 8 students. The design in this study is pre experimental one group pre-test-posttest design with purposive sampling technique. Data analysis with paired sample t-test because in this study using one independent variable. The effectiveness related to this research is that there is an increase in student self-regulation using group counseling with digital mind mapping strategies. Student self-regulation increased after being given group counseling services for digital mind mapping techniques, as seen from the increase in self-regulation scale before and after being given group counseling interventions digital mind mapping techniques with an average percentage of 22% and strengthened by t-tests that showed -t count -4.894<-t table -2.365 or Significant 0.002< 0.05.

Keywords: Self-Regulation, Group Counseling, Digital Mind Mapping Techniques.

1 Introduction

In cognitive social theory states that there are several factors namely social, cognitive as well as behavioral factors, very important roles in the learning and learning process. One of the processes involves all three factors, namely Self-regulated learning. Zimmerman [1] defines self-regulation as the process by which students activate and maintain cognition and systematic behavior oriented towards the achievement of the objectives of the learning and learning process. The student in question naturally begins to study directly to acquire the desired knowledge and expertise, without relying on teachers, parents or other people. Self-regulation is very important to develop because by having high self-regulation the learner is naturally able to start a direct learning effort to obtain the desired knowledge and expertise.

The perspective in the teaching and learning process is based on self-regulation that puts students to be responsible for the learning process. Students will become more

aware of the reasons for the relationship or the explanation of questions that occur during the teaching and learning process. Students can construct learning concepts and solutions. Therefore, it is hoped that students should not depend on the teacher to start learning, but it is expected that students will become independent in learning throughout their lives. This is a concept of self-regulation learning, so based on these various considerations, self-regulated learning becomes interesting to learn.

From the results of preliminary surveys conducted through observations in schools, bail with interviews with homeroom teachers and Counseling Guidance teachers, 50% of junior high school students in Magelang City have low SRL, this is shown by; a) students are less diligent to study, b) do not have a study plan, c) are not interested in finding information related to the school, d) students lack concentration in doing tasks given by the teacher, e) cannot evaluate a problem, f) do not seek help when finding problems at school, g) students do not like challenges so they are always afraid of making mistakes, h) students do not like to take notes on important things in learning, this is evidenced by the empty and unworked student assignments, i) students easily forget about learning, j) students in a learning environment that is not conducive.

For the effectiveness and benefits of using mind mapping techniques [2] research using mixing methods, namely the combination of quantitative and qualitative methods. The results were obtained that the use of mind mapping techniques was able to increase the creativity of students.

In relation to the student problems that have been described in [3], it is very necessary to have a very significant collaboration from the role of subject teachers, BK teachers and principals who are responsive to the problems faced by students. But that problem is not easy to overcome, because until now the education system in schools still shows that subject teachers are central to learning even though the perception is wrong. Teachers have a dominant role as disseminators of knowledge or sources of knowledge, so students are only considered a container that will be filled with knowledge by the teacher. This model of teaching and learning processes that is not conducive creates a climate of self-regulation of students not developing.

The Group Form is considered as the most appropriate and effective option as well as alternative to improve self-regulation because with the method or model of the group it is possible for them to adopt positive values that occur in group dynamics. Based on Saadatzaade's research (2012) in the International Journal for Cross-Diciplinnary Subject in Education entitled "Focused Group Counseling On Student Self Regulation and Academic Achievement", it was concluded that this study showed that in the process of group counseling services had a very positive impact on increasing SRL. This form of intervention emphasizes improving students' abilities and skills to be able to formulate positive goals and be effective and efficient.

In addition, the low self-regulation of students is also related to academic procrastination. This is evidenced in research conducted by [4], [5], [6] and [7] in the journals they wrote. The results showed that the relationship between student self-regulation and academic procrastination was large and significant. Students with low self-regulation will usually tend to have low motivation, lack of learning strategies, lack of planning and timing in their lessons. Meanwhile, students who have high self-regulation usually

have a plan to achieve a goal, besides that the student has also been able to organize and organize learning well.

SMP Al Iman Kota Magelang is one of the School Laboratories for students to practice internships, surveys, and also PPL, and the title raised is suitable for application in the school due to the limited human resources of BK teachers and students who from pre-survey results show that almost 75% have low SRL.

Based on this background description, researchers consider it important to develop a group counseling model with digital mind mapping strategies to improve student self-regulation. On this basis, researchers want to develop group counseling with digital mind mapping strategies to improve student self-regulation at Al Iman Junior High School, Magelang City.

2   Method

The method used in this study is quasi-experimental, using a pretest-posttest design. The students will be measured with regard to self-regulation characteristics using a self-regulation scale. the characteristics of the study subjects were included in one group, namely the experimental group without the use of a control group (One Group Pretest-Posttest Design). The experimental group was given treatment in the form of group counseling with a digital mind mapping strategy. The shape of the measurement model can be seen in Table 1.

Table 1. Research- Design

Group	Pretest	Treatment	Posttest
Experiment	O1	X	O2

Information :
O1 : Pre-test
O2 : Pos-ttest
X : treatment

The type of sample in this study used was purposive sampling (sampling based on a specific purpose). Goals intended to achieve a specific goal, that is, for the self-regulation of students. The subjects in this study were students of class IX MTs Al Iman Magelang City.

Data collection techniques and instruments use interview, observation, and self-regulation scales. The sampling technique uses purposive non-random sampling. Data analysis for the implementation of group guidance services is descriptive quality data, data analysis on a self-regulation scale using quantitative data analysis using t-test.

After the data is collected completely and accurately, the next implementation of the activities carried out is to analyze the data into a unified fact data so as to obtain conclusions from the basis of facts in the field using statistical tests Paired Sample T-test analysis.

3   Results and Discussion

After obtaining data in the study, both the initial pre-test evaluation data and the final post-test evaluation, the next step is to conduct data analysis. Data analysis wants to be used to test the hypotheses proposed earlier. The results of testing the hypothesis will then be used as a discussion of existing problems. Paired Sample T-test is a test performed on two paired samples. A paired sample is defined as a sample with the same subject, but subjected to two different treatments or measurements. Quantitatively, the increase in self-regulated learning can be seen from the comparison of pretest and post-test values obtained by each group member. The following is a breakdown of the score of group counseling services using digital mind mapping techniques on all indicators.

3.1   Self-Monitoring Indicator

Quantitatively, the increase in student self-regulation can be seen in the self-monitoring indicators. Table 2 are the details of obtaining pre-test and post-test scores on self-monitoring indicators.

Table 2. Pre-test and Post-test Self-Monitoring Indicators

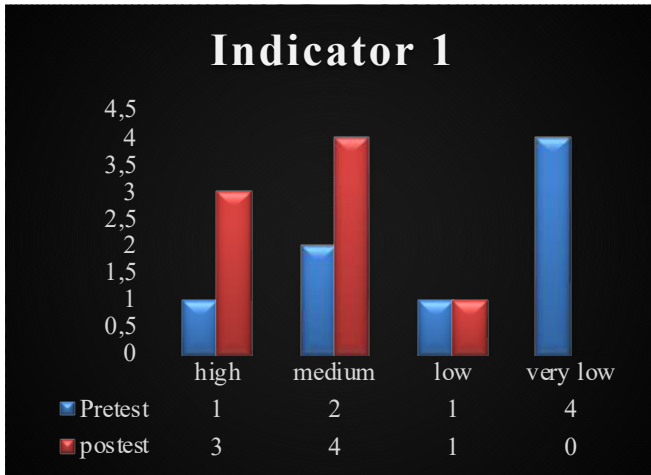| Initial	Self-Monitoring					
	Pre test X1	%	Post test X2	%	Change x2-x1	%
AS	23	11	44	20	21	10
AAF	23	11	47	22	24	11
AAP	34	16	40	19	6	3
ANR	43	20	45	21	2	1
APP	23	11	47	22	24	11
APK	39	18	42	19	3	1
ANA	47	22	51	24	4	2
EP	23	11	29	13	6	3
AS	23	11	44	20	21	10
AAF	23	11	47	22	24	11

Fig. 1. Self-monitoring indicator

Based on Fig. 1 above, it can be seen that in indicator 1 there is an increase in self-regulation in group members who participate in group counseling activities and can be proven by an average increase of as much as (20%). The increase in indicators is shown by the presence of post test results that are higher than the pre-test results. In other words, the interventions carried out can control and change aspects of self-monitoring related to low academic self-regulation of students.

3.2   Self-Evaluating Indicators

Quantitatively, the increase in student self-regulation can be seen in the Self-Evaluation indicator. Table 3 are the details of obtaining pre-test and post-test scores on the Self-Evaluation indicator.

Table 3. Pre-test and Post-test Self-Evaluating Indicators

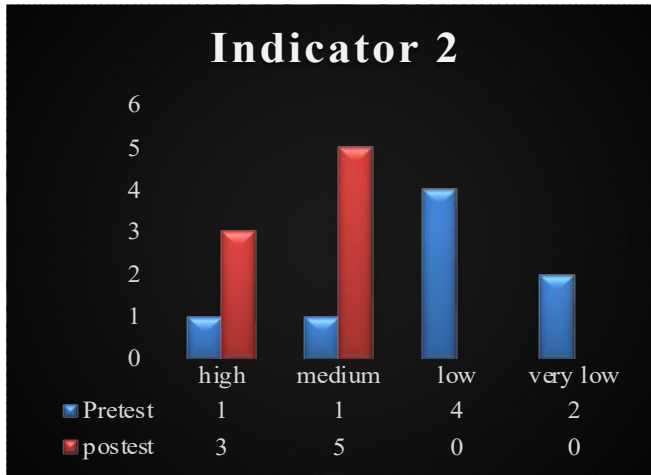| Initial | Self-Evaluating | | | | | |
	Pre test X1	%	Post test X2	%	Change x2-x1	%
AS	22	10	48	22	26	43
AAF	26	12	52	24	26	43
AAP	26	12	40	19	14	23
ANR	48	22	48	22	0	0
APP	26	12	52	24	26	43
APK	22	10	45	21	23	38
ANA	56	26	56	26	0	0
EP	26	12	39	18	13	22

Fig. 2. Self-evaluation indicator

Based on Fig. 2 above, it can be seen that in indicator 2 there is an increase in self-regulation following group counseling activities and can be proven by an average increase of (27%). The increase in indicator 2 is shown by the presence of post test results that are higher than the pre-test results. In other words, the interventions carried out can control and change aspects of self-evaluation related to self-regulation.

3.3   Make Planning & Learning Goals Indicators

Quantitatively, the increase in student self-regulation can be seen in the indicators of Making Planning & Learning Goals. Table 4 are the details of obtaining pre-test and post-test scores on the Making Planning & Learning Objectives indicators.

Table 4. Pre-test and Post-test

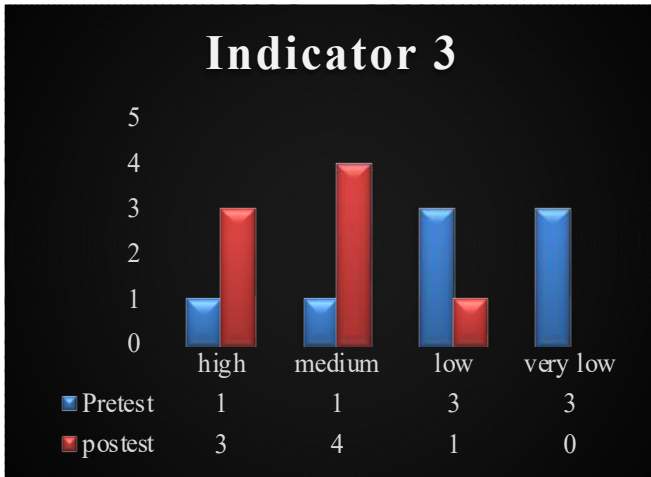| Initial	Make Planning & Learning Goals					
	Pre test X1	%	Post test X2	%	change x2-x1	%
AS	26	12	51	24	25	38
AAF	39	18	54	25	15	23
AAP	34	16	39	18	5	8
ANR	44	20	51	24	7	11
APK	39	18	56	26	17	26
APP	26	12	44	20	18	27
ANA	52	24	53	25	1	2
EP	26	12	42	19	16	24

Fig. 3. Make planning and learning indikacator

Based on Fig. 3, it can be seen that in indicator 3 there is an increase in self-regulation in group members who participate in group counseling activities and can be proven by an average increase of as much as (20%). The increase in indicator 3 is shown by the presence of post test results that are higher than the pre-test results. In other words, the interventions carried out can control and change aspects of self-evaluation related to self-regulation.

3.4   Seeking Information & Seeking Social Assistance Indicators

Quantitatively, the increase in student self-regulation can be seen in the indicators of Seeking Information & Seeking Social Assistance. Table 5 are the details of obtaining pre-test and post-test scores on the indicators of Seeking Information & Seeking Social Assistance.

Table 5. Pre-test and Post-test

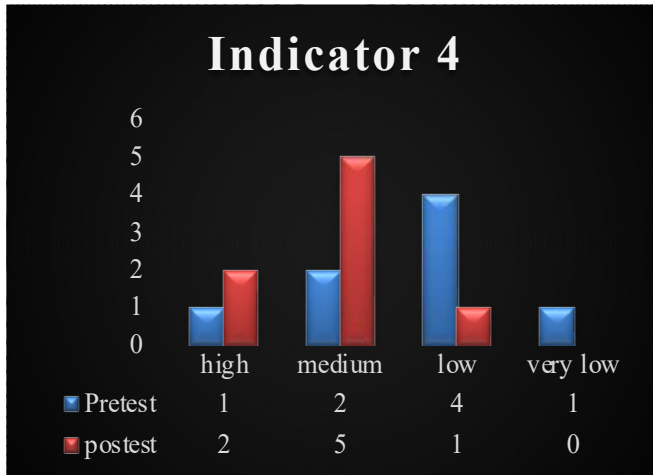| Inisial	Looking for Information & Seeking Social Assistanc Indicators					
	Pre test X1	%	Post test X2	%	Changes x2-x1	%
AS	23	11	27	13	4	11
AAF	16	7	21	10	5	14
AAP	19	9	27	13	8	22
ANR	19	9	28	13	9	25
APP	19	9	32	15	13	36
APP	24	11	27	13	3	8
ANA	32	15	32	15	0	0
EP	14	6	31	14	17	47

Fig. 4. Seeking Information & Seeking Social Assistance Indicators

Fig. 4 shows that there is an increase in self-regulation in group members who partici-pate in group counseling activities and can be proven by an average increase of (20%). The increase in indicator 4 is shown by the presence of post test results that are higher than the pre-test results. In other words, the interventions carried out can control and change aspects of self-evaluation related to self-regulation.

4   Conclusions

From the results of the analysis of 4 (four) indicators in self-regulation that on average there is an increase in the results of the initial evaluation (pretest) and final evaluation (post-test) in addition to the increase in the scale of self-regulation based on categori-zation on the scale. This conclusion is based on the difference in initial evaluation and final evaluation scores, where there is an increase in student self-regulation before and after being given group counseling with digital mind mapping techniques by 22%. These results were strengthened through effectiveness tests using t-tests that showed -t count (-6.637) < -t table (-2.365). The group counseling model is still possible to de-velop further by expanding the components of the model and the various parties that can contribute so that the guidance and counseling service program becomes more com-prehensive. The implementation of group counseling services is still not optimal due to the pandemic, so that in providing treatment to students, it is felt that it is lacking due to limited time to carry out treatment at school. Group counseling services at Al Iman Junior High School, Magelang City, are carried out in several stages, namely: the stages of formation, transition, activities, and termination are carried out quite well. Although the implementation of activities has been adjusted to the planned stages, the results of the analysis have not been effective and optimal as a whole. Some implementations are not carried out systematically by group leaders in the implementation process, counsel-

ing guidance teachers have never provided services using digital mind mapping techniques when conducting group counseling services, so that the level of effectiveness / influence of group counseling services has not been achieved optimally and maximally.

References

1. D. H. Schunk, "Metacognition, Self-Regulation, and Self-Regulated Learning: Research Recommendations," *Educ Psychol*, vol. 20, pp. 463–467, 2008.
2. F. Wahyuni, "Pengembangan Model Bimbingan Kelompok Dengan Teknik Mind Mapping Untuk Mengembangkan Kreativitas Siswa," *J. Bimbing. Konseling*, vol. 2, no. 2, pp. 1–6, 2013.
3. N. H. Yoenanto, "Hubungan antara Self-regulated Learning dengan Self- efficacy pada Siswa Akselerasi Sekolah Menengah Pertama di Jawa Timur," *Insan*, vol. 12, no. 2, pp. 88–94, 2010.
4. Fitria Savira dan Yudi Suharsono, "Self-Regulated Learning (Srl) Dengan Prokrastnasi Akademik Pada Siswa Akselerasi," *J. Ilm. Psikol. Terap.*, vol. 1, no. 1, pp. 66–75, 2013.
5. I. Alfina, P. S. Psikologi, and U. M. Samarinda, "Hubungan Self-Regulated Learning Dengan Prokrastinasi Akademik Pada Siswa Akselerasi," *Psikoborneo*, vol. 2, no. 1, pp. 60–66, 2014.
6. H. E. Putro, M. Japar, and U. M. Magelang, "Studi Pengaruh Layanan Bimbingan Kelompok Dengan Teknik Mind Mapping Berbasis Mindmaple," vol. 3, no. 2, 2018.
7. Putri Saraswati, "Self Regulated Learning Strategy, academic procrastionation and academic achievement," *Intuisi J. Psikol. Ilm.*, vol. 9, no. 3, pp. 210–223, 2017.