Group Counseling with Stimulus Control Techniques to Improve the Basic Ability of Mathematical Learning

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Abstract. The use of Mathematics not only gives ability in quantitative calculations, but also in structuring the way of thinking, especially in terms of the formation of the ability to analyze, make synthesis, conduct evaluations to solve problems. Counting skills for students lately receive less attention both at school and at home. Some of the causes are the first the increasing number of calculators that are all modern so that children are lazy to think for themselves in completing calculations. Both numerology is not specifically obtained by children and only the parts that enter into mathematics as a result of counting is less popular. This happens because mathematics learning has only tended to be an activity of counting numbers, which seems to have no meaning and relation to improving thinking skills to solve various problems. Group counseling can help alleviate all types of student problems. By using the control stimulus technique included in group counseling, it will help students solve problems in student mathematics learning. Control stimulus techniques direct students by helping new stimuli that are able to improve students' basic mathematical abilities that are very important and become the basis of their daily life journey.

Keywords: Group counseling, stimulus control, mathematical learning.

1. INTRODUCTION

Mathematics has an important role in life. Many things and activities in life that must be completed with mathematics such as counting, measuring, and so on. Because mathematics is very important in life, it should be a necessity and a fun activity. Because it is in line with the mathematical goal of training students to think and reason in drawing conclusions, developing creative activities that involve imagination, and developing problem solving skills.

Mathematics also has a role as a symbolic language that enables the realization of accurate and accurate communication. The usefulness of Mathematics not only provides the ability in quantitative calculations, but also in structuring ways of thinking, especially in terms of forming the ability to analyze, synthesize, conduct evaluations to the ability to solve problems. Based on the Circular of the Director General of Primary and Secondary Education (1992) in the Ministry of Education and Culture (1994) regarding the Implementation of Teaching Reading, Writing and Counting (calistung) in Elementary Schools, it was stated that teaching of three basic abilities namely: reading, writing and arithmetic in Primary Schools must be continuously improved and teaching materials for the three basic skills referred to are available in Indonesian and Mathematics (numeracy) subjects. The ability to count becomes part of the ability of mathematics, because one of the prerequisites for learning mathematics is

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learning to count which both support one another. Mathematics and counting are two inseparable things. In fact, many teachers complain that students are slow and less skilled in completing the calculation of a problem solving.

Group counseling is a form of guidance service. Group counseling is an integrated part of the overall Guidance and Counseling program, which is an integrated part of the overall education program of each school in accordance with student development. The ability that a counselor needs to have and apply is the ability to provide counseling services in group activities. These skills are acquired through special courses namely Group Guidance and Counseling, theory, and group counseling techniques, or group counseling and psychotherapy. Group counseling is important for counselees, especially individuals who have difficulties needing a group atmosphere to solve their difficulties. Sometimes the counselee has difficulty expressing the problem individually or need someone else. Sometimes a counselee does not dare to come face to face with a counselor. There is also a need for social observation of the counselee's behavior in the group environment.

Group counseling can help alleviate all types of student problems. Using stimulus control techniques included in group counseling will help students in solving problems in student mathematics learning. Stimulation control techniques direct students by helping new stimuli that are able to improve students' basic mathematical abilities that are very important and become the basis of their daily lives.

Students' numeracy skills lately lack special attention both at school and at home. Some of the causes are firstly the increasing number of modern calculating tools so that children are lazy to think for themselves in completing a calculation. Both the science of arithmetic is not specifically obtained by the child and is only the parts that go into mathematics as a result of arithmetic less popular. In fact mathematics learning is very less desirable by students, even learning mathematics seems scary to students. This happens because learning mathematics so far only tends to be an activity of counting numbers, which seems to have no meaning and relation to improve the ability to think to solve various problems. As we also know that studying mathematics should not be broken up because mathematics will relate to every part of it. Mathematics lessons are also inseparable from arithmetic so that if children lack mastering the ability to count well will get unfavorable results too. Counting skills in elementary school are the basic ability to solve further problems, so it is appropriate to get attention from the start. So, this research want to solve this problem with *Group Counseling With Stimulus Control Techniques To Improve The Basic Ability Of Mathematical Learning.*

2. METHOD

The participants was the students in 4th grade of SD N 2 MI NU Banat Kudus. For revealing the data at the preliminary study stage, the instrument used is interview, observation and instrumentasion.

The approach used in this study is inferential research to analyze the relationship between the model developed by testing hypotheses developed previously. This study uses a mixed sequence design method for quantitative and qualitative approaches are used in an integrated and mutually supportive. A quantitative approach is used to assess the maturity of the student's career, meanwhile, a qualitative approach is used to determine the rational model of *Group Counseling With Stimulus Control Techniques To Improve The Basic Ability Of Mathematical Learning.* At the technical level is performed as follows: descriptive analysis, collaborative participatory methods, and quasi-experimental methods.

According to the focus, concerns, and research objectives, types of the research using R and D (research and development). Research directed development as "a process used to develop and validate adicational product (Borg and Gall, 2003: 271). Products mentioned are the development of career counseling based on BIH to improve the career maturity of primary school students which is low. Furthermore, according to (Borg and Gall, 2003: 271) the steps that should be taken in development research (research and development) include: (1) a preliminary study, (2) planning, (3) development of hypothetical model, (4) a review of the model hypothetical, (5) revision, (6) the trial is limited, (7) the revision of the test results, (8) testing more broadly, (9) the revision of the final model, and (10) the dissemination and socialization. However, research and development model Borg and Gall have application in *Group Counseling With Stimulus Control Techniques To Improve The Basic Ability Of Mathematical Learning*, is not executed until the stage of dissemination and implementation of the product. Researchers will limit the development of research procedures until the sixth stage is a limited test phase.

3. RESULT AND DISCUSSION

Johnson and Rising (Sri Subarinah, 2006: 1) suggest that mathematics is a pattern of thinking, a pattern of organizing logical evidence, organized structure of knowledge containing traits, theories, made deductively based on elements that are not defined, axioms, traits or theories which has been proven true. Mathematics is a science that studies abstract structures and patterns of relationships within it (Sri Subarinah, 2006: 1). Prihandoko (2006: 6) suggested that mathematics is part of the science of numbers and calculations. Thus, it can be concluded that mathematics is an abstract science, which requires carefulness in studying it as a means of systematic, logical, and critical logical thinking using mathematical language.

Prihandoko (2006: 5) stated the purpose of learning mathematics in elementary schools is to provide sufficient provisions for students to deal with mathematics material at the level of further education. The Ministry of National Education (Prihandoko, 2006: 21) outlines that the aim of mathematics learning is to train and foster systematic, logical, critical, creative, and consistent thinking, and develop persistent and confident attitudes in solving problems.

Wakiman (2001: 4) argues that the purpose of teaching mathematics in elementary schools is divided into two objectives as follows.

a. The general objective, in the general objectives of elementary school mathematics aims that students are able to deal with changing circumstances, can use mathematics and mathematical thinking patterns.
b. Specific objectives, in the special objectives elementary school mathematics aims to foster and develop, numeracy skills, foster the ability of students who can be used, develop basic mathematical abilities as provisions for learning in junior high school, and form a logical, critical, creative, careful and disciplined attitude.

Mathematics is said to have practical value because mathematics is a tool that can be directly used to solve everyday problems. Mathematics has the value of discipline with the intention that learning mathematics will train people to apply discipline in their thinking patterns. Mathematics has cultural value because mathematics arises from the results of human culture and plays a major role in the development of culture itself. Based on the explanation above, it can be concluded that mathematics aims to train and foster systematic, logical, critical, creative, and consistent ways of dealing with mathematical material at an advanced level, as well as developing a persistent and confident attitude in solving problems and having primary values that contained so that mathematics is useful in forming students' mindset.

Bloom (Suprijono, 2009: 6) suggests that learning outcomes include cognitive, affective, and psychomotor abilities. The cognitive domain is knowledge (knowledge, memory), comprehension (understanding, explaining, summarizing, examples), application (applying), analysis (describing, determining relationships), synthesis (organizing, planning, forming new buildings), and evaluating (evaluating) . Affective domain is receiving (responding attitude), responding (giving response), valuing (value), organization (organization), characterization (characterization). Psychomotor domains include initiatory, pre-routine, and rountinized. Psychomotor also includes productive, technical, physical, social, managerial, and intellectual skills.

Basic mathematical abilities are limited in four ways: 1) addition, 2) subtraction, 3) Multiplication, and 4) division. Based on some understanding of learning outcomes it can be concluded that learning outcomes are behavioral changes that include cognitive, affective, and psychomotor aspects in the learner. The learning outcomes in this study are behavioral changes in cognitive aspects. This is based on the observation that the mathematics learning outcomes of Grade IV students, especially on the cognitive aspects, are very low. The low cognitive aspect of mathematics learning outcomes is seen in the average grade of fourth grade students who do not reach the KKM.

3.1 COUNSELING GROUP WITH STIMULUS CONTROL TECHNIQUES TO IMPROVE BASIC SKILLS FOR LEARNING MATHEMATICS IN CHILDREN.

Sukardi (2000: 49) describes group counseling services, namely guidance and counseling services that allow students to get the opportunity to discuss and alleviate the problems they experience through group dynamics. Group dynamics is a lively, pulsating, moving, developing atmosphere that is characterized by interactions between group members. Group counseling services are counseling services held in a group setting.

According to Mungin Eddy Wibowo, (2005: 20). The goals to be achieved in group counseling, namely personal development, discussion and personal problem solving experienced by each group member, in order to avoid problems and problems resolved quickly through the help of other group members.

According to Prayitno (2004), the general purpose of group counseling is to develop students' personalities to develop social skills, communication, self-confidence, personality, and be able to solve problems based on science and religion. While the specific objectives of group counseling, namely:

1. Discuss topics that contain actual, current problems, and attract the attention of group members.
2. Development of feelings, thoughts, perceptions, insights, and attitudes directed towards social / communication behavior.
3. Solving individual problems concerned and obtaining the balance of problem solving for other participants in group counseling participants.
4. Individuals can overcome the problem quickly and do not cause emotion.

The group guidance that will be carried out in this research collaborates with the stimulus control technique. The stimulus is closely related to the Behaviorist view of learning. Ormord (2008: 422) explains the basic assumptions of behaviorism, namely: people tend to study and show behaviors that produce, at least in their eyes, the desired consequences. And more generally, people's behavior is largely the result of their experience with environmental stimuli.

1. People's behavior is largely the result of their experience with environmental stimuli.

2. Learning can be described in terms of associations between events that can be observed, namely: the association between stimulus and response.
3. Learning tends to occur when stimuli and responses occur in close proximity.
4. Many species of animals, including humans learn in the same ways.

Mahmud (2004: 123) explains that behavior can be changed by changing the antecendent, the consequences or both.

1. Controlling consequences, in controlling consequences are very closely related to reinforcement and punishment.
2. Controlling an antecendent can be a notification or invitation before someone is asked to do something. Antecendent can have positive or negative consequences.

Thoresen and Mahoney (in Cormier and Cormier, 1985: 534) explained that Stimulus control is a way to reduce stimuli associated with undesirable behavior and simultaneously increase antecedents of cues associated with expected behavior. Furthermore Kanfer (in Cormier and Cormier, 1985: 534) defines stimulus control as determining the plan of environmental conditions for a behavior that is not expected to occur.

Brian (1985: 18) explains that stimulus control is a technique that is realized based on the principles of behavioral psychology. However the behavior that was previously owned quickly occurs but some control in the future can occur in the behavior. Stimulus control is based on the principles of psychological psychology by conditioning stimuli that are expected to bring out and enhance the expected response and even reduce unexpected responses.

Ormrod (2008: 448) explains several phenomena that have an influence on stimuli and antesedent responses among them: Cueing, event setting, generalization, discrimination and behavioral momentum, with the following description:

1. Cueing is a sign of reminder that involves verbal and nonverbal reminders.
2. Setting events. In giving signals, use specific stimuli as a reminder to students to behave in certain ways. An alternative approach is to form an environment - a setting of events - that easily drives the desired behavior.
3. Generalization. Once students have learned that a response might be given reinforcement in a set of circumstances (which act as antecedent stimuli), they make a similar response in the same situation. In other words they show generalizations.
4. Discrimination. Sometimes people learn that responses are reinforced only when certain stimuli are present. When people learn that responses are given reinforcement by the presence of one particular stimulus but not by another stimulus, which might be similar, they have studied discrimination (differences) between the two stimuli. In this case, it is a teaching for them to be able to distinguish between suitable and incompatible stimulus conditions.
5. Momentum behavior. Ardoin Martens (in Ormrod, 2008: 450) explains that students are more likely to make the desired response if they have made similar responses.

So, it is very clear that the stimulus and response that precedes is very influential on the response or current behavior.

According to Block and Block (in Gufron and Risnawita, 2004: 31) there are three types of quality self-control, namely over control, under control, and appropriate control. Over control is self-control carried out by an excessive individual that causes many individuals to refrain from reacting to stimuli. Under control is an individual's tendency to release impulsivity freely without careful calculation. Appropriate control is the control of individuals in an effort to control the implus appropriately.

Cormier and Cormier (1985: 538) mention methods / techniques that can be done in stimulus control:

1. Specify the behaviors found that are expected to be improved.
2. Choose one of the stimuli and the expected response
3. Implement in a few days.
4. After doing it in a few days / weeks, do self monitoring
5. Review the results.

Brian (1985: 19) mentions the steps in stimulus control, namely:

1. Select the target response (behavior, thoughts, feelings) you want to improve
2. Finding a stimulus that makes the target of the response easy to do adan that is blocking it
3. Change the frequency, duration and intensity
4. After several times, make the desired stimulus control (imagined)

The implementation of group counseling basically follows the steps of group counseling in general, namely the stages consisting of: opening, implementation, termination, evaluation and follow-up. However, because the Group Counseling is designed as a group counseling to improve the basic abilities of students' mathematics learning, in the implementation given stimulus to be able to improve self-understanding and improve the basic abilities of mathematics. The following is a description of guidelines for implementing Group Counseling for each session after the group is formed. The seating position of group members in a circular shape.

The implementation of group counseling using stimulus control techniques to improve students' basic mathematics learning skills is carried out in four stages:

1. Formation Stage.

This stage aims to foster an atmosphere of getting to know each other, trusting, accepting, and helping one another in the group members in understanding and alleviating their problems, involving themselves and entering themselves fully in group counseling activities. The activities include:

1) Express the group counseling understanding, goals and principles,
2) Introducing and revealing oneself,
3) Explain the roles and responsibilities of members and counselors.
4) Show communication that respects the counselee.
5) Showing sincerity, warmth, and empathy to the counselee.
6) Encourage member participation.
7) Generating interests and needs as well as the importance of members to follow group activities.
8) Foster a group attitude and feelings of the group.
9) Explain the principles that need to be followed by group members.
10) Foster a sense of mutual recognition, mutual trust and mutual acceptance of fellow members
11) Provide Stimulus Techniques to familiarize members and increase members' confidence with the game: out of the box, magic finger rings, make something beautifull, the egg hardness and can also show short videos that are able to stimulate member attention.

2. Transition Phase

At the transition stage group atmosphere begins to form, group activities should be directed towards the actual group activities. Some of the activities carried out at this stage are:

a) Increase the participation of members in group counseling activities by providing stimulus in the form of giving light questions to each member in turn to answer questions about what was explained by the group leader in the initial stages
b) Encourage the discussion of moods by asking the members' readiness to continue the stages in group counseling activities and providing stimulus in the form of expressions of the feelings of each member in this activity,
c) The counselor needs to explain the role of the counselor and also the role of a member,
d) Counselors need to recognize the emotional atmosphere of members, this is important to form group cohesiveness.

3. Activity Stage (core)

This stage is the actual stage of group counseling activities, if at the stage of formation and transition goes well then at this stage the group is expected to walk by itself in achieving the desired goals, however the role of group leaders remains important in directing the course of activities. At the activity stage in group counseling, the group leader will provide a stimulus control strategy to improve the basic abilities of students' mathematics learning and students as group members will be given a card that will be randomized and discussed at each meeting in each session in group counseling. These cards contain topics that are stimuli that can later improve indicators in students' basic mathematical abilities. Before entering into the stimulus control technique is given an introduction to the method of assignment, life modeling, games and symbolic models. The steps in using stimulus control techniques in group counseling are:

1. At first students discuss the topic.
2. Students are able to find the right response from the stimulus provided, (by way of assignment, FGD, or game)
3. Students choose the target response (behavior / thoughts / feelings) that they want to increase or decrease, (by way of assignment, FGD, or game)
4. Finding a stimulus that makes the target of the response easy to do (can be practiced directly)
5. Find things that are blocking him,
6. After each student is able to find the above (numbers 2-5) students write it down in the card provided,
7. Students are able to change the frequency, duration or intensity that supports the earning independence that is able to improve the basic abilities of basic mathematics based on the stimulus provided,
8. The results are written and reported on the card that has been provided,
9. The card is a development control that has been obtained in the next 1 week,
10. Evaluate the results at the next meeting.

4. Termination Phase

Some of the activities carried out at this stage include:

a. The group leader suggested that the activity would end soon,
b. Conclude and look for important things from the subject
c. Emphasize the strong commitment of each member.
d. Do a review on the main things that have not been completely solved.
e. Express member impressions.
f. Reveal the results of the discussion that has been achieved.
g. Maintaining group relationships and a sense of togetherness even though the activity has ended.

h. Provide stimulus in the form of a game by giving a piece of paper to be filled in on the experiences gained by group members, then the paper is rotated and read by other members, then randomly one of the members concludes the group's experience
i. Assess changes and group development
j. Provide feedback
k. Plan for the next problem solving.
l. Provide motivation and reinforcement of what has been achieved,
m. Discuss activities / follow-up meetings. At this stage also needs to be evaluated to see the extent to which the achievements of the group activities carried out.

The stimulus control technique is used as one of the techniques in group counseling. This technique is included in the third stage or stages of activities in group counseling. after students are given material based on indicators of success in learning mathematics, students are given a stimulus to find out the response that appears. Important points that students must master are simple addition, subtraction, multiplication and division. Students will be given a new stimulus that can help them to prefer the four fundamentals. For students who dare to answer or even explain to their peers how these students can master the four basic mathematical concepts will be given reinforcement in the form of words such as: "very good". Finally, students are given a card control containing the stimulus and response that has been done. The control card will be filled every day for one week. If a positive response is made, it will immediately be given a reinforcement in the form of a reward motion, which is a picture of a smiling face and if a negative response is carried out, then also be given a reward in the form of a sad face. The control card also functions as a student self-evaluation and sees the progress of students every day. Conditions like this are able to bring awareness and self-habituation of students to be more confident and be able to improve their mathematical learning abilities.

4. CONCLUSION

Group counseling can help alleviate all types of student problems. Using stimulus control techniques included in group counseling will help students in solving problems in student mathematics learning. Stimulation control techniques direct students by helping new stimuli that are able to improve students' basic mathematical abilities that are very important and become the basis of their daily lives. The stimulus control technique is included in the third stage in group counseling, which is at the core / activity stage. In this stage the focus of the use of stimulus control techniques is to help students improve basic mathematical learning skills which include: addition, subtraction, division and multiplication.

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