Mathematics remedial teaching under model of countenance stake for a senior high school in Bandung

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Abstract. Remedial teaching plays an important role in the whole teaching program. Through remedial teaching, the teacher tries to provide students with the opportunity to create their mathematical abilities optimally. This study aims to describe the implementation of remedial teaching based on antecedents, transactions, and outcome components. Using the countenance stake model, the subjects in this study were a mathematics teacher who conducted the remedial teaching and students who taken the remedial teaching. The data were collected using interviews and documentation. The results of the study show that the antecedents’ component of remedial teaching was not well-planned. Based on the transaction component, the remedial teaching was not well implemented. Based on the outcome component, the remedial teaching did not achieve good results.

1. Introduction

Indonesian ministry of education and culture defined remedial as a teaching program intended for students who have not yet achieved the minimum completeness criteria in particular basic competencies [1]. In remedial teaching, teachers help students to understand learning difficulties faced independently, overcome difficulties by improving their own learning methods and learning attitudes that can encourage the achievement of optimal learning outcomes. Hafid and Kartono said that one of teaching approach that can be used to help students who have difficulty in achieving optimal learning is remedial teaching [2]. The implementation of remedial teaching during the teaching process successfully increases the knowledge of students who are low on mathematical competencies, fosters student interest and confidence in mathematics [3]. Usually, students ensure the correctness of the solution using an external source, namely the teacher’s approval. There are also students making sure the truth of the work using is based on students’ own understanding and experience [4]. In this case, the assessment is assessment as learning. Since the beginning of the minimum completeness criteria the teacher has set it at the beginning of the school year. Teachers in establishing minimum completeness criteria are not just about setting them. There are several references used by teachers in establishing minimum completeness criteria, including student input, the complexity of subject matter, and carrying capacity. Carrying capacity here includes existing facilities/infrastructure and the ability of the teacher itself.

The phenomenon of teaching Mathematics in remedial teaching shows that there is no clarity so far regarding the implementation of remedial teaching on mathematics subjects [5]. The ambiguity that is intended is the extent to which the effectiveness of the implementation of remedial teaching so far, especially on mathematics subjects. Often the question arises that whether the implementation of
remedial that so far has a positive impact on teaching mathematics? Or has no significant impact at all. Based on these problems, researchers realized that there is a need for an evaluation study of the implementation of remedial teaching, especially on Mathematics subjects. The implementation of this evaluation is of course aimed so that researchers can obtain information regarding the implementation of the remedial at the school. From the information obtained, it can be known the success that has been achieved and also the obstacles that need to be addressed. Such information is certainly very needed by the policy makers as the basis for the implementation of remedial teaching in the next period.

The implementation of the evaluation, a model is needed to guide the researcher in carrying out the evaluation [6]. Various evaluation models offered by evaluation experts such as, Goal Oriented Evaluation Model, developed by Tyler, Goal Free Evaluation Model, developed by Scriven, Formative-Summative Evaluation Model, developed by Michael Scriven, Countenance Evaluation Model, developed by Robert Stake, CSE-UCLA Evaluation Model, emphasize on “when” evaluation carried out, CIPP Evaluation Model, developed by Stufflebeam, Discrepancy Model, developed by Provus. With the many evaluation models put forward, what is considered appropriate and relevant to the problems to be evaluated is to implement the Countenance Evaluation Model. The difference between the description of actions and decisions in accordance with the educational program on antecedents, transactions and outcomes is interesting from this evaluation model [7]. The choice of the model is due to the strength of this evaluation model, namely the evaluation process in planning, process and results that is very suitable with the problem of this research. Based on this description, the advantage of Countenance Stake evaluation model relies on a program’s evaluation needs, which leads to describe the study program that is applied by the teacher complexly also has a great potential to gather the experiences and theories through the study program being evaluated [8].

2. Methods
This study is an evaluation study that uses the Countenance Stake Model, which includes evaluation antecedents, transactions, and outcome. The subjects in this study were a mathematics teacher who conducted the remedial teaching (she became a teacher from 2005 until now and has been certified as a professional teacher) and 20 science students of 10th grade who taken the remedial teaching at a secondary school in Cimahi. Data collection is presented as follows:

| Component   | Indicator                                      | Data Source         | Data Collection       |
|-------------|------------------------------------------------|---------------------|-----------------------|
| Antecedents | Diagnosis of learning difficulties            | Teacher             | Interview and documentation |
|             | Identification of the causes of learning difficulties | Teacher             | Interview and documentation |
|             | Preparation of remedial schedules             | Teacher             | Interview and documentation |
|             | Preparation of RPP                           | Teacher             | Interview and documentation |
| Transactions| Process implementation                        | Teacher             | Interview and documentation |
|             | Learning process                              | Teacher and students | Interview and documentation |
|             | Aplication of learning methods                | Teacher and students | Interview and documentation |
|             | Implementation of learning evaluation         | Teacher and students | Interview and documentation |
| Outcome     | Teaching outcome                              | Teacher             | Interview and documentation |
The data analysis technique used is qualitative method through data collection, data reduction, data presentation and conclusion [9]. The collected data for qualitative research are in the form words, images, and not in the form of numbers [10]. By using a qualitative with phenomenological approach, researchers can relate directly to the respondents to know more about things related to remedial teaching [11].

3. Result and Discussion
3.1. Implementation of Remedial Teaching Based on Antecedents Component
The implementation of remedial teaching based on antecedents component in this study was measured based on the evaluation aspect of the diagnosis of learning difficulties, identification of causes of learning difficulties and preparation of remedial activity plans [5]. The research findings were obtained based on the diagnostic aspects of learning difficulties in the remedial teaching for mathematics that was not well implemented. This is shown after the absence of data or records that indicate the implementation of the diagnosis of learning difficulties of students in the remedial teaching. Furthermore, empirically on the identification aspects of the causes of learning difficulties students found that the teacher did not identify the causes of learning difficulties of students, the next finding in the aspect of planning is to develop a plan for implementing remedial teaching activities for mathematics that is not well implemented.

Theoretically, remedial is a teaching system that is based on diagnosis to find deficiencies experienced by students in learning, so as to optimize learning achievement. In other words, the improvement activities carried out are made to identify the types and characteristics of learning difficulties, find the causes, and then seek alternative solutions to problems in learning based on complete and objective information [12]. While National Education Department explain that the adaptive function of remedial teaching is that each student has its own uniqueness [13]. Therefore remedial teaching should enable students to learn according to their speed, opportunity and learning style. In other words, remedial teaching must accommodate individual differences in students.

Before designing remedial activities, firstly it is necessary to know why students have difficulty in mastering the subject matter [12]. The causes of illiteracy must be identified first, because the same symptoms shown by students can cause different causes and these factors will influence the selection of remedial activities. After knowing the students who need to get remedial, topics that have not been mastered by each student, and the factors that cause difficulties, the next step is to develop a learning plan.

The theoretical concept shows that remedial teaching should be well planned starting from the diagnosis of learning difficulties of students, identifying the causes of learning difficulties of students to the preparation of planning programs. However, the results of this study indicate that conditions in the field do not appear to be in accordance with the actual theoretical review of remedial teaching. In general antecedents component, it can be concluded that the implementation of remedial teaching for mathematics in class X IPA 1 of secondary school in Cimahi has not been carried out properly based on the theoretical concept of real remedial teaching.

3.2. Implementation of remedial teaching based on transactions component
The remedial teaching program based on transactions component in this study is measured based on aspects of the conformity evaluation of the implementation with the time specified, the effectiveness of the methods applied by the teacher, and the implementation of evaluations on remedial teaching [5]. The research findings obtained based on the suitability aspects of the implementation with the specified time is the teacher has carried out remedial teaching according to the set time.

The next finding is that the method applied by the teacher in remedial teaching seems to be ineffective. This is supported by data that the implementation of remedial teaching carried out only reworked the wrong questions during the exam (UH and UTS). Values are considered to reach KKM,
if they are able to solve the problem and the answer is correct. The general result is that students cannot complete the remedial questions, students who answer the wrong questions are still unable to solve the problem. The next finding is that the teacher does not evaluate remedial teaching in mathematics.

Theoretically, remedial teaching is directed so that students can interact intensively with educators and available learning resources [13]. This is based on the consideration that the learning activities of improvement students need to always get monitoring and supervision so that their learning progress is known. If you find students who have difficulty immediately given assistance. Furthermore, all students will be able to achieve the specified competency standards, only different achievement times [14]. Therefore it is necessary to have a remedial teaching program. Remedial teaching method is a method that is implemented in the overall activity of guidance on learning difficulties ranging from identifying cases to follow up. The accuracy of the learning method used greatly influences the remedial results.

This is also relevant to Mukhtar and Rusmini, after the remedial planning activities are prepared, carry out remedial activities [12]. It is better to do remedial activities as soon as possible, because the faster students are helped to overcome the difficulties they face, the more likely they are to succeed in learning. To determine the success or failure of the remedial activities that have been carried out, an assessment must be carried out. This assessment can be done by examining student learning progress. If students experience learning progress as expected, it means that remedial activities planned and implemented are effective enough to help students who have learning difficulties. However, if students do not experience progress in learning, it means that remedial activities planned and implemented are less effective.

The theoretical concept shows how important the remedial teaching process is carried out properly in accordance with the right time, effective methods to the implementation of evaluations to measure the success of the process. If the empirical findings in this study are related to theoretical concepts based on the components of the remedial teaching process, it can be concluded that the transactions component on the implementation of remedial teaching for mathematics have so far been less effective. Because students should be given are explanation of the material that they think they don't understand or don't even understand, they are not only asked to complete the wrong questions again. Because they are worried that if they are only asked to complete the wrong questions again, when there are problems with different types students will find it difficult. However, if students are given an understanding and re-material about the material that is poorly understood, then getting a different type of problem is expected to be able to solve it.

In other words, the implementation of remedial teaching for mathematics in class X IPA 1 of secondary school in Cimahi has not been carried out properly based on the theoretical concept of the real remedial teaching process because it only provides remedial tests rather than remedial teaching that are in accordance with the theoretical concept of proper remedial teaching.

### 3.3. Implementation of Remedial Teaching Based on Outcome Component

The remedial teaching program based on the outcome component in this study was measured based on student learning outcomes obtained after participating in the implementation of remedial teaching [5]. The research findings obtained based on the diagnostic aspects of learning difficulties show the unsuccessful implementation of remedial teaching for mathematics so that it cannot help students in achieving the competencies of the mathematics subject.

Generally, remedial teaching goals are not much different from the usual teaching that is in order to achieve the set teaching goals [12]. Besides, remedial teaching particularly aims to make students who have learning difficulties can achieve the learning achievement expected through the process of improvement, both in terms of the teaching and learning process and the personality of students. If the theoretical concept is associated with the findings of this study, it can be explained that the implementation of remedial teaching for mathematics does not succeed in overcoming the learning difficulties of students.
The findings of this study are also supported by previous relevant research findings from Arofah, which concluded the findings that remedial teaching significantly improved the learning outcomes of Madrasah Aliyah students [14]. The study suggests that remedial programs are constantly applied to teaching programs to help students who need special assistance. Because of the importance of remedial teaching for students, the evaluation of the implementation of remedial teaching is needed to improve the program in the future.

As the results of empirical findings and theoretical studies conducted in this study it can be concluded that the implementation of remedial teaching for mathematics does not give good results and is not in accordance with the 2013 curriculum. Based on the findings of the scores of students who were asked to solve remedial questions did not increase. The results obtained are students who solve the problem before doing the remedial correctly then the remedial test remains correct and students who solve the problem before the remedial wrong at the time of the remedial test are still wrong. This means that the implementation of remedial teaching for mathematics in class X IPA 1 of secondary school in Cimahi has been proven unable to overcome the learning difficulties of students, especially for mathematics.

4. Conclusion
Based on the results and discussion obtained in the implementation of this research, research conclusions can be stated as follows. In the antecedents component, the implementation of remedial teaching for mathematics was not planned well. There was no planning documents arranged by the teacher related to the diagnosis of student’s difficulties in learning, as well as the identification of student’s learning difficulty issues also the preparation of plans for remedial activities is not carried out had been seen as the prove of this indecisive plan.

From the transaction component, it can be seen that the implementation of remedial teaching for mathematics was not implemented well. This was supported by the research finding that the effectiveness of the methods used and the implementation of learning evaluations were not implemented well.

Based on the outcome component, the implementation of remedial teaching for mathematics did not achieve a good result. This was supported by the research findings above that all students who was participated in the remedial teaching implementation for mathematics did not get good result according to the minimum completeness criteria expected.

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