Implementation of Mathematics Learning in the Semester Credit System Implementation in Senior High School State 1 Jember

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ABSTRACT

This study aims to describe the profile of the implementation of mathematics learning in the class, the challenges that the teachers did, and the efforts which did is to overcome the challenges in the credit semester system in mathematics learning activities. The research subjects are the students and mathematics teachers of X class in SMA 1 Jember. Data collection methods used documentation, observation, and interview. Based on the results of research that can be proven by mathematical learning in the implementation of the Credit Semester System described based on learning planning, learning activities, and the authentic answer. The mathematics teacher make a preparation by compiling lesson plans that guided by the 2013 Curriculum RPP and compiling the UKBM that adapted to appropriate scientific indicators. In the implementation of learning, the teacher carries out learning activities by applying scientific request. The assessment also adjusted to the 2013 Curriculum indicators. The teacher's assessment consisted of the preparation of the Credit Semester System, students' readiness, and conversation. Efforts which did is to overcome these challenges are by conducting socialization and MGMP as well as providing motivation and stimulus to students while conducting learning activities.

INTRODUCTION

Education is an important thing and in its essence cannot be separated from human life [1]. Education is also an element that can decide the existence of a nation [2]. National development in the field of education, managing that the curriculum, learners, and education staff especially teacher, lecturer or teaching staff, are three elements that can not be separated in teaching and learning activities. From some elements of education, the curriculum is one of the elements that can give an important role in improving the development process of learners’ quality. The curriculum is a set of planning containing about rules and subject materials used as an implementation guide of learning activity to achieve the goal of national education. The goal of national education will be achieved if balanced with the existence of the development from the aspect of the
adequate curriculum, facilities, and infrastructure.

Education in Indonesia has already had a fairly good curriculum theoretically, but in the implementation is still less indeed, maybe because the preparation of the learners or the resource of the teacher who has not been ready with the curriculum applied [4]. The success of education in the school environment is located on the implemented process of learning well. The success of learning in school is very closely related to teaching staff’s role because the main function is designing, managing, and evaluating the learning supported with creativity and innovation. Thus the role from the teaching staff is very affected in the goal achievement of education.

The organizer pattern of education currently mostly uses the learning pattern of packet system or conventional, that is generalizing the learning ability of each learner found in the class and completing the learning at secondary school during six semesters (corresponding to educational level). At this pattern, in completing the learning process all learners are generalized and they do not notice the diversity of learners’ ability.

Thus it is necessary to innovate the education system that can notice the potency of diverse learners. By the existence of innovation, it is expected to be able to develop the previous curriculum. Curriculum 2013 is assessed the most suitable to accommodate learners’ need. The orientation of curriculum 2013 is the achievement of balanced competence between attitude, skills, and knowledge, besides the holistic and fun way of learning. [5]

The program of education that can accommodate diverse student’s talent is very needed. This program can be said as a special education program. The special education program is a program that has a goal so that the diversity of potency owned by learners can be actualized. Type of special education program is SKS. SKS is a program replacing acceleration. SKS program is different from acceleration, in acceleration, school obliges the learners to accelerate the study period in other words, school accelerates the learning material which should be mastered by the learners at that moment, here the learners can complete the study period for two years or more that their learning activity becomes one year, therefore the learners who are relatively fast in the learning will be easy, but the slow learners in learning will be left behind. Different from SKS, SKS gives free space to the learners to carry out their study period through acceleration, normal, and deceleration programs. The implementation of SKS is based on the reality that the speed of someone's learning (the learners) is not the same caused by their potential ability is not the same so that their learning potency is not the same as well.

The existence of SKS in Curriculum 2013 becomes an answer from the innovation of education in this modern era. SKS gives a service to the learners in fulfilling their need. The structure if SKS curriculum is intended to accommodate various individual differences of learners so that the student can be given an optimal service by the school in developing their potential in accelerating their learning process [8].

From the exposure above, this research describes the implementation of SKS on mathematics learning which took place in SMA Negeri 1 Jember. That is because SMA Negeri 1 Jember is one of the senior high schools which implement SKS program in East Java.

**METHODOLOGY**

Type of research used in this research is descriptive research type with a qualitative approach. Research with the qualitative approach is a research where the researcher in conducting the research uses techniques of observation, interview, content analysis, and other data retrieval methods to show present the respond and subject behavior [9]. This research subject is mathematics teachers of the X class in SMA Negeri 1 Jember and the learners of the X class in SMA Negeri 1 Jember. This research subject is obtained based on the sample retrieval technique of purposive sampling. In this research, the research procedure is needed which is a stage done until the data is obtained to be analyzed until achieved a conclusion corresponding to the research goal. The first stage in this research is
doing a literature review related to SKS problem and continued by making the research instrument. The research instrument used is observation sheet and interview guidelines. The instrument that has been made then validated by validators that are two lecturers of the study program of Mathematics Education UNEJ. The instrument is stated valid if $2.5 \leq Va \leq 3$. The validation result of observation sheet got $Va = 2.67$, while for the interview guidelines got $Va = 2.83$. Data analysis used in this research was observation and interview. Observation data obtained will be analyzed in descriptive, that is by managing and grouping corresponding to the aspect observed. From the interview results, it was obtained the data that would be analyzed in descriptive to complete the data of observation results. Next, a review is done about the relationship between the observation and interview results. These linkages are used to conclude the implementation of SKS on mathematics learning.

**RESULT AND DISCUSSION**

The implementation of mathematics learning in the SKS implementation aims to facilitate diverse learners’ ability. This diverse learners’ ability for example located on the learning speed. Every learner is divided into three learning speeds that are fast, normal, and slow learning groups.

The implementation of mathematics learning in Semester Credit System which is done by SMA Negeri 1 Jember can be seen from the activity done by the teachers and learners in the process of learning implementation. Mathematics teachers have been arranged Learning Implementation Plan (RPP) based on the indicator of Curriculum 2013, but there is a difference in the stimulus at the first learning. Teachers also make Independent Learning Activity Unit (UKBM) which loads KD, learning indicator, learning activity, and learning activity exercises.

Based on the description of research results known that mathematics teachers of the X Mipa-8 in SMA Negeri 1 Jember has implemented the learning activity corresponding to the learning activity of Curriculum 2013. Learning activity which is done covers introduction, core, and closing activities with scientific approach steps which have been adjusted to SKS implementation that are observing fast, questioning critically, collecting information, reasoning, and communicating. From the observation in the class of X Mipa-8. Teachers had implemented the scientific approach on the vector material of the third part, that was the angle between two vectors. Learning activity was done by grouping, that was fast, normal, and slow learning groups. This was done to ease teachers in implementing the learning in the class. Although in one class the learning material was different for each learner, at that moment the teachers generalized to discuss the material of vector. Teachers assumed the learners entering in fast learning group could learn independently in the class. While for slow and normal learning groups was generalized in the material delivering so that indirectly the learners of the slow group could catch up with the subject material.

Mathematics learning activity was started from observing the problem that had been shown This observing activity was done by the teachers by asking the learners to open their UKBM and observing the existing problem fast. The questioning activity was done by the teachers in the first time go around the class to observe the learners who were looking at their UKBM and make the learners personally to ask critically. Collecting information activity was done by the teachers to give a stimulus to get the information from the problem existing in UKBM. Reasoning activity on the learning of vector was done by analyzing the problem existing in UKBM, discussing problems example which
had been done by the learners and linking with the material that is just finished to be
discussed. The communicating activity was done by delivering any information that had
been understood from the problem obtained. The closing learning activity, the teachers
did a reflection activity at the end of learning hour to evaluate the learning activity so that
the next activity could run better.

The learners who were included in the fast learning group could finish every one
UKBM with the duration of one week. While for slow and normal learning groups could
finish one UKBM corresponding to the learning plan of mathematics teachers. This can
be seen in Table 1 below.

The learners who were included in fast learning group could complete math
specialization subject of two semesters (class X) for 13 weeks, while slow and normal
groups completed math specialization subject of two semesters (class X) for 42 weeks.
This diverse learning speed becomes a proof that in the class X-Mipa 8 is using SKS in
the learning because the students who are fast in learning can ask the test early, then if
finished can ask the new UKBM. The mathematics learning in the class X-Mipa 8 started
with the material of Exponential and Logarithmic Functions. Exponential and
Logarithmic Functions were divided into several meetings The first meeting was
Exponential Equation and continued by the next subject material. At the first semester,
math specialization teachers made 5 UKBM with the material of Exponential Equation,
Exponential Function.

Equations and Inequalities of Exponential, Logarithmic Function, and Circle. At
the second semester, math specialization teachers also made 5 UKBM with the material
of Quadratic Inequalities, Irrational Inequalities, Vectors (1) in 1 Dimension, Vectors (2)
in 2 Dimensions and Vectors (3) in 3 Dimensions. As for mathematics learning can be
seen in Figure 1

<table>
<thead>
<tr>
<th>UKBM</th>
<th>Learning Speed in completing every one UKBM</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRC</td>
<td>IR</td>
</tr>
<tr>
<td>1</td>
<td>6 Weeks</td>
</tr>
<tr>
<td>2</td>
<td>4 Weeks</td>
</tr>
<tr>
<td>3</td>
<td>5 Weeks</td>
</tr>
<tr>
<td>4</td>
<td>1 Weeks</td>
</tr>
<tr>
<td>5</td>
<td>10 Weeks</td>
</tr>
<tr>
<td>6</td>
<td>3 Weeks</td>
</tr>
<tr>
<td>7</td>
<td>4 Weeks</td>
</tr>
<tr>
<td>8</td>
<td>4 Weeks</td>
</tr>
<tr>
<td>9</td>
<td>3 Weeks</td>
</tr>
<tr>
<td>10</td>
<td>2 Weeks</td>
</tr>
<tr>
<td>Total</td>
<td>42 Weeks</td>
</tr>
</tbody>
</table>

**Table 1** List of Learners’ Learning Speed for 2 semesters
Teachers, learners, and the school also experienced several problems in the implementation of the Semester Credit System program, but they strived to solve the problem so that the learning activity could run according to the goal. School solved the change of teachers’ mindset through MGMP workshop, comparative study to the school which had done early Semester Credit System program to stabilize teachers’ ability and to discuss Semester Credit System document, and to discuss the difficulty faced in the field and to find the solution.

Figure 1 Flowchart of Mathematics Learning
The effort done by mathematics teachers to solve the problem related to the learners’ preparation was by giving the description information of activity in the early learning, giving learning stimulus by giving beneficial information of subject material, doing learning activity by using a scientific approach. Teachers also designed UKBM for the learners in easy to understand the subject material. Besides, teachers also gave assignments to the learners to increase the knowledge and understanding of the learners.

The exposure of mathematics learning implementation in the implementation of SKS which was done in SMA Negeri 1 Jember and relation to the implementation indicator is as follows. The first step which was done by the school in implementing SKS learning was doing socialization about SKS. The form of socialization to the learners was done by following MGMP activity and comparative study to the school which had implemented the SKS program early. The activity discussed characteristic, component, and assessment in SKS. Based on the research results, mathematics teachers and the learners of class X Mipa-8 in SMA Negeri 1 Jember have understood and comprehended about SKS.

Principally, this SKS learning pattern is good to be applied in SMA Negeri 1 Jember. This learning pattern is special because it facilitates the student’s ability who has not the same learning speed. But, the implementation in the field needs many supports from the society and the government. Based on the research results, this SKS learning pattern is good to be applied in SMA Negeri 1 Jember. Although it is still necessary for obvious document completeness in the implementation of SKS in senior high schools.

CONCLUSION

Based on the research results that have been done, it can be concluded that the implementation profile of mathematics learning of class X Mipa-8 in the implementation of SKS in SMA Negeri 1 Jember is described based on the learning plan, learning activity, and authentic assessment that is done. Based on the description of research results known that mathematics teachers of the X Mipa-8 in SMA Negeri 1 Jember has implemented the learning activity corresponding to the learning activity of Curriculum 2013. Learning activity which is done covers introduction, core, and closing activities with scientific approach steps which have been adjusted to SKS implementation that are observing fast, questioning critically, collecting information, reasoning, and communicating. As for the assessment is also adjusted with the assessment indicator of Curriculum 2013 that is attitude, knowledge, and skills with the guidelines existing at the implementation guidelines of SKS. The problems faced by mathematics teachers in the implementation of SKS are the preparation of SKS implementation, the learners’ readiness, and the assessment. The problem related to the preparation of SKS implementation can be solved by socialization and MGPM to discuss the document about the implementation of SKS. The problem related to the learners’ readiness can be solved by giving a stimulus or motivation, and group learning model to ease the discussion in the learning which is individual. The problem related to the assessment can be solved by applying the policy given by the headmaster and tailoring with the guidelines of SKS implementation.
Based on the research that has been done, it is expected that this research can be developed by adding the research subject because in this research the subject is still limited so that the result and the benefit have not been perfect yet, it is expected there is advanced research related to mathematics learning in the implementation of SKS.

REFERENCES


