The Implementation of Inquiry Learning Model in Social Science Instruction on Production, Communication, and Transportation Technology to Enhance Learning Motivation and Achievement of 4th Grade Students at Public Elementary School 1 of Mrawan Jember

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ABSTRACT

This research was conducted in the fourth grade class of Public Elementary School 1 of Mrawan Jember with the purpose of investigating the application of inquiry instructional method to improve the fourth grade student's motivation and learning achievement in Social Science subject concerning Product, Communication, and Transportation Technology. The study was backgrounded by the fact that the students’ learning motivation and learning achievement in the very subject were rather low. The study applied Classroom Action Research (SAC), which was conducted in two cycles carried on for three meetings, through four stages, including planning, implementation, observation, and reflection. The subjects of this research were fourth grade students with the total number of 39 students. Data collection methods applied in this research were observation, interview, documentation, and test. Data Analysis in this research was descriptive qualitative in nature. Based on the results of research, the scores of students’ motivation in the first to the second cycle were 79 (high category) and 88.43% (very high category), subsequent to 9.43% increase, respectively. Based on the analysis on students’ learning achievement, improvement was also evident in that in the first cycle reached they reached 60.1 (medium/enough category) and in the second cycle they gained 81.3 (very good category).
INTRODUCTION

The progress a nation makes is determined by the quality of its human source, and the indicators of human resources are determined by the level of community education. The higher the level of education is, the better the quality of human resources will become, and vice versa. According to Law No. 20 of 2003 it is stated that education is a conscious and planned effort to create an atmosphere of learning and learning process devoted to encouraging learners’ active development on their potential to mastersatisfactory spiritual strength, self-control, personality, intelligence, noble character, and skills they themselves, society, nation, and country call forth (MoNE, 2006:7). Therefore, the goal to be achieved through education is not only pertinent to intelligence (intellectual), but also concerned with the aspects of attitude and skills.

This comprehensive educational goal can be achieved not only through a learning process that emphasizes on the delivery of learning materials, but also through learning activity which complies with the demands of educational goals and functions. Therefore, it is imperative that every human being gain education so as to deal with harsh life and intense challenges in the future. This is in line with the objectives of the 2013 curriculum, which deals with preparing Indonesian human beings to have the ability to live as productive, creative, innovative, and effective citizens, encouraging them to contribute to the life of society, nation, state and civilization world (Supangat, 2013).

Based on the 2006 curriculum, Social Science (IPS) is a subject that examines a set of events, facts, concepts and generalizations related to social issues. Through IPS subjects, learners are directed to become democratic, responsible, and peace-loving Indonesian citizens. The field fact regarding Social Science instruction indicates that the implementation of its learning activities in the class are quite apprehensive because there is a gap between the demands of the modern world, which is increasingly complex and rapidly changing, with the resources given to the students in charge with advanced technological developments to keep developing their talent, realizing a quality society, and becoming skilled, intelligent, advanced, independent, and modern human. As a result, it is expected that students will be able to bear an important role in social transformation in society. By contrast, the students are more trained to listen, remember and memorize concepts and information, especially in IPS. The situation is very influential on the motivation and student learning achievement in IPS.

Based on the results of questionnaires distributed to the students of Public Elementary School 1 of Mrawan Jember on January 17th, 2014, the students’ learning motivation on IPS was low, in that their motivation scores in the classical amount were only 39.8. Of 39 students, only 2 students showed high learning motivation, while 15 students had fair learning motivation, and 22 students were hardly motivated. Based on the information germane to the results of students’ learning, amassed from the teacher’s assessment (periodical test), the students in semester 2 were required to meet a minimum criteria specified on IPS in the school, which was 65. Their current achievement in the very subject attained 50.6, classified as unsatisfactory category. Among 39 students, 6 students showed good learning achievement, 5 students were found to have fair achievement, 6 students were at unsatisfactory category, and 22 students were at very unsatisfactory category.
Based on the results of interviews conducted to teachers and students at Public Elementary School 1 of Mrawan Jember, especially grade IV, the students were less enthusiastic in learning IPS. The learning process did not improve their motivation, thus causing low students’ learning achievement. The learning process was barely interesting, leaving the students passive and unmotivated in learning. When listening to teacher’s explanations, students looked barely attentive and only a few who paid attention to what was delivered by the teacher. As a corollary, they were not motivated to explore their knowledge. In addition, students found it hard understanding the explanation from the teacher, so their interest and passion to learn decreased.

Therefore, IPS instruction requires the use of methods that can involve students actively in the learning process, one of which is to apply the method of the inquiry learning method. This method evolved from the idea of John Dewey in 1913 known as the "Problem Solving Method", a method involving the steps taken from formulating problems, hypotheses, collecting data, testing hypotheses against data, and drawing conclusions to guide students to think objectively in problem solving. With inquiry method, students will be involved in an investigation they never experience and this will result in high motivation. The method of inquiry gives students the opportunity to learn to develop their intellectual potential in a series of students-led activities to find something. Students are encouraged to actively seek answers to the problems they face and then draw their own conclusions through critical, logical, and systematic scientific thinking processes. Consequently, students’ motivation and learning achievement will be improved.

The steps of implementing inquiry learning can develop the ability to think systematically, logically, and critically, or develop intellectual ability as part of mental development. In inquiry learning, students are not only required to master the subject matter, but they are also required to apply what they have learnt. Students who only master the lessons may not be able to develop the ability to think optimally. In fact, it is believed that students will be able to develop their thinking skills when they can master the subject matter.

Based on the abovementioned elaboration, the researcher conducted research entitled The Implementation of Inquiry Learning Model in Social Science Instruction on Production, Communication, and Transportation Technology to Enhance Learning Motivation and Achievement of 4th Grade Students at Public Elementary School 1 of Mrawan Jember.

**METHODS**

This research was conducted at Public Elementary School 1 of Mrawan Jember, Mayang Sub-district, Jember District. The determination of research subjects was done by involving the population of all students at grade 4, including 39 students consisting of 20 male students and 19 female students.

The research was Classroom Action Research (CAR). The classroom action research is a series of steps (a spiral of steps). Such steps, according Kemmis & Taggart (in Sari, 2011:31), is described as a dynamic process, covering four aspects, *inter alia* planning, action, observation, and reflection. The research data were collected using learning achievement test, observation, interview, and documentation.

Learning motivation under research alludes to desire, willingness, and spirit of learning that arise in students to take active involvement in the learning. This motivation consists of the following indicators:
students’ interest and attention to learning;
• the students’ passion to perform their learning tasks;
• students’ responsibilities in doing their learning tasks;
• the reactions that students show to the teacher's stimulus;
• the pleasure and satisfaction in doing the tasks assigned by the teacher.

The data concerned with the students’ learning achievement was obtained from learning assessment by providing a written test in the form of subjective test. The learning achievement under investigation were the cognitive learning achievement that included the cognitive levels of C1, C2, C3 and C4.

The data in the study were analyzed using the following formula:

a. The Score of Students’ Motivation

\[ P = \frac{M}{N} \times 100 \]

Description:

\( P \) = the actual score of learning motivation
\( M \) = motivation score achieved
\( N \) = the maximum motivation score

The formula above determines the category of students’ learning activity in the following criteria.

<table>
<thead>
<tr>
<th>Motivation Score</th>
<th>The Category of Motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>81 - 100</td>
<td>Very High</td>
</tr>
<tr>
<td>61 - 80</td>
<td>High</td>
</tr>
<tr>
<td>41 - 60</td>
<td>Fair</td>
</tr>
<tr>
<td>21 - 40</td>
<td>Low</td>
</tr>
<tr>
<td>0 - 20</td>
<td>Very Low</td>
</tr>
</tbody>
</table>

Adapted from Masyhud (2012).

b. The Score of Students’ Learning Achievement

The students’ learning achievement in Social Science instruction conducted through inquiry method was analyzed in descriptive statistics employing the following formula.

\[ P = \frac{n}{N} \times 100\% \]

Description:

\( P \) = The score of students’ learning achievement
\( n \) = The score students achieve
\( N \) = The maximum achievement score

Referring to the abovementioned formula, the students’ learning achievement can be categorized into the following level.
Table 2. The Category of Students’ Learning Achievement

<table>
<thead>
<tr>
<th>Achievement Category</th>
<th>Score Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Good</td>
<td>80-100</td>
</tr>
<tr>
<td>Good</td>
<td>70-80</td>
</tr>
<tr>
<td>Fair</td>
<td>60-70</td>
</tr>
<tr>
<td>Poor</td>
<td>50-60</td>
</tr>
<tr>
<td>Very Poor</td>
<td>0-50</td>
</tr>
</tbody>
</table>

Adopted from Masyhud (2012)

RESULTS AND DISCUSSION

The first step before conducting the research was to ask for the research permit to the Principal of Public Elementary School 1 of Mrawan Jember. In this preliminary action, the researcher deployed various data collection methods such as interview technique, document, observation, and questionnaire.

Interview with fourth grade teacher of Public Elementary School 1 of Mrawan Jember was done to find out the current teaching method applied by the teacher in teaching and learning process and study the condition of the fourth grade student. Based on interview result, it was found that teachers used lecture method and question-and-answer method, but the one frequently applied by the teacher was question-and-answer method. Students displayed low enthusiasm in learning and their learning achievement was still under the minimum passing criteria applicable in Public Elementary School 1 of Mrawan Jember. The result of data collection through documentation was the list of student’s name and students’ achievement score, gained from teacher’s made test, in Social Science in even semester.

The questionnaires were conducted to determine the students’ learning motivation when learning in the classroom before the action was held. Based on the questionnaire disseminated to the students, the researcher revealed that the students’ learning motivation in the subject was categorized as low, in that their learning motivation score in the pre-cycle was 39.8. Out of 39 students, only 2 students possessed high learning motivation, comprising of 5% of the total class, while 15 students posed fair level learning motivation, comprising 39% of the total class, and 22 students, 56% of the total class, belonged to low motivation. The students in the category of very high and very low had yet to exist.

Based on the analysis result of students’ learning motivation after the implementation of inquiry method, an increase in students’ learning motivation was evident, in pre-cycle, cycle I, and cycle II. The increase can be seen in the following table.

Table 3. The Category of Students’ Activeness in Pre-Cycle, Cycle I, and Cycle II.

<table>
<thead>
<tr>
<th>Activeness Category</th>
<th>Pre-Cycle</th>
<th>Cycle I</th>
<th>Cycle II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td>0</td>
<td>16</td>
<td>28</td>
</tr>
<tr>
<td>High</td>
<td>2</td>
<td>18</td>
<td>11</td>
</tr>
<tr>
<td>Fair</td>
<td>15</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>
Based on Table 3, it can be seen that before the action, no students were found to have very high motivation, high motivation, and very low motivation. Fair motivation was present on 15 students, and 22 students showed low motivation. Subsequent to the first cycle, an increase in students’ motivation was marked at very high motivation (16 students), high motivation (18 students), fair motivation (5 students). At this juncture, no students showed low motivation or very low motivation. From cycle I to cycle II was marked another improvement in students’ learning motivation. In this regard, 28 students showed very high motivation, 11 students possessed high motivation, and no students were found at fair motivation, low motivation, or very low motivation. The comparison of students’ learning motivation in pre-cycle, cycle I, and cycle II can be seen in Figure 1.

<table>
<thead>
<tr>
<th></th>
<th>Pre-cycle</th>
<th>Cycle I</th>
<th>Cycle II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>22</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Very Low</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>39</td>
<td>39</td>
</tr>
</tbody>
</table>

Figure 1. The Chart on The Comparison on Students’ Learning Motivation in Pre-Cycle, Cycle I, and Cycle II.

The result of the analysis showed that there was an increase in students’ learning activity in the classical learning of Social Science focusing on Production, Communication, and Transportation Technology through the application of inquiry learning method. Before the implementation, the students' learning motivation score was 38.9. This score increased to 79 in cycle I and to 88.43 in cycle II. From pre-cycle to the first cycle was discovered an increase by 40.1%, and an increase by 9.43% was evident from cycle I to cycle II.

The application of inquiry method, in addition to improving students’ learning motivation, can also improve the students’ learning achievement. This can be seen from the average score of their learning achievement which increased from pre-cycle to cycle I and from cycle I to cycle II. The increase is presented in the following table.
Table 4. The Comparison of Students’ Learning Achievement among Pre-cycle, Cycle I, and Cycle II

<table>
<thead>
<tr>
<th>The Category of Learning Achievement</th>
<th>Pre-Cycle</th>
<th>Cycle I</th>
<th>Cycle II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Good</td>
<td>0</td>
<td>7</td>
<td>23</td>
</tr>
<tr>
<td>Good</td>
<td>6</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Fair</td>
<td>5</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Poor</td>
<td>6</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Very Poor</td>
<td>22</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>39</strong></td>
<td><strong>39</strong></td>
<td><strong>39</strong></td>
</tr>
</tbody>
</table>

The comparison of students’ learning achievement among pre-cycle, cycle I and cycle II is presented in the following chart.

![Chart Comparing Students' Learning Achievement in Pre-Cycle, Cycle I, and Cycle II](chart.png)

Based on Figure 2, it can be seen that there is an increase in students’ learning achievement from pre-cycle to cycle I and from cycle I to cycle II. The scores of students’ learning achievement in the class also increased. Students’ learning achievement in pre-cycle was 50.6. In the first cycle, their learning achievement score indicated an increase to 60.1. The improvement of students’ learning achievement from pre-cycle to cycle I was 9.5. In cycle II the score reached 81.3, which marked an increase by 21.2. The increased students’ learning motivation score and learning achievement score indicated that ran better than before. Due to poster presentation in material delivery, the students felt so much attracted by the teacher’s explanation, and every time the teacher raised a question, the students were able to answer it. This was followed by group discussion, in which they proceeded the steps in the method of inquiry and teachers guided the students. Even in cycle I, many students, who were initially found so passive, took active role in the group. In the second cycle, they began...
to show more responsibility to their group, leading to deeper comprehension through group work.

In cycle I and cycle II a number of findings were discovered. The students’ low confidence in asking questions and raising opinions was surmounted by giving feedback to students and motivation, therefore improving their learning. However, there were some students who experienced decrease in their learning achievement in cycle I as well as in cycle II. The application of inquiry method in learning made students become more active and excited to take part in the learning, although some students still appeared to find it hard following the lesson.

CONCLUSION

Based on the research results and discussions elaborated in the previous sections, the study concluded that, the application of inquiry method can improve students' learning motivation in Social Science learning at the fourth grade students of Public Elementary School I of Mrawan Jember in the even semester of the 2013/2014 academic year. The students’ initial learning motivation score, based on the results of questionnaire in pre-cycle was 38.9. Increased student's motivation was marked in the first cycle, which attained 79. This indicated an increase from pre cycle to cycle I by 40.1. While in the second cycle students' learning motivation scores were 88.43, classified at very high category. So, the increase of students' learning motivation from cycle I to cycle II was 9.43. The application of inquiry method was proven effective to improve students’ learning achievement in IPS learning of the fourth-grade students of Public Elementary School I of Mrawan Jember in the even semester of academic year 2013/2014. Students’ learning achievement score in pre cycle was 50.6. In the first cycle, the score increased to 60.1. The improvement of students’ learning achievement from pre cycle to cycle I was 9.5. In cycle II the score reached 81.3, which indicated that the improvement from cycle I to cycle II was 21.2.

Based on the results of observations and research, the researcher suggested the teacher to apply inquiry method in Social Science instruction, so as to enhance their motivation and achievement. For students, it is expected that, with the teacher guidance in group work, they be more enthusiastic and encouraged to pay attention to the material presented by the teacher well. For future researchers, the present study can serve as the reference for conducting similar research aimed to explore the very subject for something new and, resulting to benefits for many people.

REFERENCES


Rahayu et al: The Implementation of Inquiry Learning Model in Social


