

## The Effectiveness of The Thematic Instructional Materials in Improving Social Sciences Basic Competence by Using Problem-Based Learning Model in Elementary School

Bekti Sulistya Rini<sup>1✉</sup>, Hamdan Tri Atmaja<sup>2</sup> & Dewi Liesnoor Setyowati<sup>2</sup>

<sup>1</sup> Public Elementary School 3 Mejobo, Kudus, Jawa Tengah, Indonesia

<sup>2</sup> Universitas Negeri Semarang, Indonesia

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### Abstract

The objective of this study is to implement thematic instructional materials on Social Sciences Basic Competence through Problem Based Learning model in order to improve students learning achievement of V graders of elementary schools. This research method was an experiment method that was conducted in State Elementary Schools in Mejobo District, Kudus Regency through observation, interviews, questionnaires, and tests. The data were analyzed by using descriptive analysis, normality test, homogeneity test, independent t-test, and N gain value. The results of this research indicate that the implementation of thematic instructional materials Social Sciences Basic Competence has a significant effect on students' learning achievement. This is indicated by the average score of the experiment class is higher than the control class. This effect is also strengthened by N gain score of students' learning that is 0.47 in moderate category.

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✉ Correspondence address:

Mejobo No. 715 RT.06/RW.03, Kudus, Jawa Tengah, 59381

E-mail: [buektyusuelistyarinie@yahoo.com](mailto:buektyusuelistyarinie@yahoo.com)

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## INTRODUCTION

Learning is a process of reciprocal relationships between teachers and students in a particular environment and has material that is used as a learning resource.

The unfortunately, teachers often convey material as facts rather than as events that must be observed, questioned, discussed, and concluded so that they can be linked, them to the students' daily lives

The teaching and learning process will be successful if a teacher is able to implement his/her teaching materials in a complete, inspiring, creative, motivating, and in a fun way. The use of the right learning model can pursue students to feel happy in the teaching and learning process.

According to Yuniwati (2016) Problem Based Learning learning model is a learning model that provide the condition. Problem Based Learning models are learning models that use real problems encountered in the environment as a basis for acquiring knowledge and concepts through the skill to think critically and solve problems (Fakhriyah, 2014)

Through the Problem Based Learning model, students obtain experience in handling realistic problems, and force the use of communication, collaboration, and available resources to formulate ideas and develop reasoning skills (Yunin Nafiah, 2014).

Problem Based Learning takes into account the mindset of students (Niluh, 2015). Therefore, the implemented learning model is an important factor that must be grown and developed in the learning so that learning is successful.

Social Science is a subject in the school whose scope of study studies are human life in society, therefore Social Science learning process will become more meaningful if it presents the problems or social phenomena that occur in society (Madyarini, 2015)

Social Science is a combination of various disciplines of social studies and concepts of humanities with the main goal of the practical

ability of one's citizenship or society to criticize social issues (Suharto, 2016)

Social science learning that is applied in an integrated manner requires the skills of an Social Science teacher in choosing the right learning method to be used in the classroom learning process (Prihma Sinta, 2015)

The purpose of social science subjects is to make students have a balanced competence among attitude competencies, knowledge competencies, and skills competencies which are better than before (Rini, 2016)

The social science subjects is, usually presented by combining concrete and complete facts. This modewill able to encourage students to make it easier to understand the symptoms around them and how to solve problems

The school expectations are the creation of an innovative, creative teaching and learning process, and the student achievement obtain the Minimum Mastery Criteria score of 70 in the Social Studies Basic Competence. According to Laurensia Martrianingtyas (2014) learning results are behavioral changes in the form of developing abilities acquired by students after experiencing a learning process.

## METHODS

This study used an experimental method by using the control class and experiment class patterns. The design of this study took into account the final score of students' learning achievement. This is supported by Dantes's statement (2012) "giving pre-tests was usually used to measure equivalence or equalization of groups".

This research used the parametric differentiation test (t-test or ANOVA test) duet to the results of normality and homogeneity test shows that the data to be analyzed meets the assumption of normality.

Since the homegeneity test results are known, the next step is to determine the type of advanced difference test that will be selected to test the different scores of each class.

The stated that "the population is a generalization region consisting of objects or

subjects that have certain qualities and characteristics applied by researchers to be studied so that the conclusions can be drawn (Sugiyono, 2012). While, Sample is part of the number of characteristics possessed by the population (Sugiyono, 2012).

This research used 4 classes of different schools as the sample and the were divided into 2 experiment classes and 2 control classes. The sample in this research was chosen by using random sampling. The consideration of the random sampling technique was that the samples taken had the same ability. These 4 classes had similarities in almost aspects but differ only in the provision of models and learning methods.

This research was conducted on fifth graders students of 1,3,4 Adiwarno and 2 Jojo State Elementary Schools, in Mejobo District, Kudus Regency. The data were obtained through observation, interviews, questionnaires, and tests. The variables examined were the problem based learning model as an independent variable and the Social Science learning result as the dependent variable. There were 28 students who choose as the control class (1, and 4 Adiwarno Elementary School) and 28 students were in the experiment class (3 Adiwarno Elementary School, 2 Jojo Elementary School). In the experiment class, it was given the treatment by using thematic materials with Problem Based Learning model, while, the control class was using conventional model learning. The learning results in the experiment class and control class are then compared.

The data analysis was conducted to test the research hypothesis. By using the SPSS version 17 program to determine the normality, homogeneity, independent t-test, scores and N gain scores.

## RESULTS AND DISCUSSION

### Validation Results by Material Expert

After the instrument is submitted to the expert validator there are several inputs that are given for the improvement. The inputs are (1) Clarify some picture illustrations;

(2) Unreadable text on the module content map; (3) Some sentences in the module need to be corrected; (4) Some writings about beach areas should be replaced with coastal areas. Then the instrument is revised in accordance with the advices of the validator.

From the whole validation of by material experts, it is obtained an average score of 94.05% in the excellent category, with the following details: (1) The content feasibility aspect obtains an average score of 84% with good categories; (2) The language feasibility aspect gets an average score of 80% in a good category; (3) presentation feasibility aspects obtain an average score of 80% with good categories.

### Validation Results by Media Experts

The purpose of media experts validation is to obtain data in the form of assessments, criticisms, and suggestions for the preparation of modules related to the fulfillments of the correct module characteristics. After the instrument is submitted to the expert validator, there are several inputs that are given for improvement. The input are (1) Improvement to the cover of the module such as some images that lack theme, low image resolution; (2) The clear of the instructions in using books; (3) description of the basis of the model; (4) making on the type of writing.

Furthermore, the instrument is revised, then it is submitted back to the expert validator. The results score of the assessment by media validator is 81.9% which means the mode of results is very feasible to use as a teaching material. The validator provides input, the font for writing the source of the image is to be minimized more.

### Validation Results by Learning Experts

The purpose of expert learning validation is to obtain data in the form of assessment, opinions, and suggestions on learning instruments, They are Lesson Plan, syllabus, assessment, and the suitability of questions with aspects of knowledge. Based on the validation results, there were some input given by the expert. They are (1) There is no assessment rubric for spiritual attitude tests and knowledge; (2) the

outlines, answer keys, rules, and assessment norms for knowledge are missing; (3) Lack of time to finish on knowledge test questions. Based on the results of the validation of the learning instrument the learning instrument then revised, so that the learning instrument that had been made is very good and feasible to be applied in the learning activities.

The results of the assessment by material validators are 80%. Based on the results of the assessment by the media validator, it is obtained the score of 80%, which means that the module is suitable for use as teaching material. The validator provides input, it is necessary to give a glossary to find difficult words.

The validation results from all validators and practitioners are categorized excellent. The average percentage of material experts is 94.05%, it is in very good category, media experts is 81.9%, excellent category, learning experts of 80%, it is in good category.

### The Test Results of PBL Effectiveness in Improving Social Science Learning Results

In this research, the effectiveness of using PBL learning methods in improving social science learning result will be analyzed by using different tests. Before a different test is performed, the data is first tested by using normality test and homogeneity test.

#### Normality Test

The normality test is using Kolmogorov Smirnov. In this test, the data is stated to be normally distributed if it has a significant value  $> 0.05$ . In the Social Science value score, it is obtained a significant value higher than 0.05, this shows that the data of students' pretest and posttest scores in both control and experiment classes are normally distributed.

**Table 1.** Normality Test Results

Class	P value	Discription
Pre test of Control	0.696	Normal
Pre test of Experiment	0.507	Normal

#### Homogeneity Test

The homogeneity test can be conducted by using Levene test. p value of the results of the

pretest score of the control and experiment class is 0.451 since the the p value obtained  $> 0.05$ . It is concluded that the data of the pre-test score of students in the control and experiment classes had homogeneous variance. It since the data is normally distributed and had a homogeneous variance, the difference test was carried out in a parametric, mode by using the independet t-test.

**Table 2.** Homogeneity Test Results

Class	P value	Homogeneity
Pretest of experiment	0.451	Homogeneous
Post-test experiment	0.784	Homogeneous

#### Pretest Score of Difference Test

The average score of students in the control and experiment class is not significantly different or in other words, the initial abilities of students in the control and experiment class where the same. The average score of students in the control class (61.071) is not much different from the average score of students in the experiment class (61.309).

#### Post-test Score of Difference Test

The average score of students in the control and experiment class is not significantly different or in other words, the initial ability of students in the control and experiment class is the same. The average score of students in the control class (70.357), is much lower than the post-test score of the experiment class of 77.976.

#### The Calculation of N Gain

The results of the calculation of the N gain average score of the two classes, it is obtained, that the average score of N gain score in the control class is 0.26, This means that the effectiveness of direct learning methods in improving students learning result is low. In contrast to the effectiveness of the Problem Based Learning model, the results of the calculation of the average of N gain score of the experimental class is 0.47. It shows that PBL effectiveness in improving students' learning result in the experiment class is in moderate category. This shows that PBL learning methods are more

effective in improving students' learning result compared to direct learning methods.

This study provides social studies learning in both classes with the same basic materials and competencies. Students in the control class are given learning materials directly, while students in the experimental class are given social science learning materials with thematic materials through Problem Based Learning model.

The basic competencies of social sciences that have increased are (1) understanding the activities and changes in human life in space, connectivity between space and time and their continuity in social, economic, educational and cultural life in the national scope. (2) presenting observations regarding activities and changes in human life in space, connectivity between space and time and and its sustainability in social, economic, educational and cultural life in a national scope from available sources. Indicator:

1. Know the activities of human life and its changes in space in the social, economic, educational and cultural fields in the national scope.
2. Prepare written reports about activities and changes in human life in space, connectivity between space and time and their sustainability in social, economic, educational and cultural life in the national scope.

Present reports on observations about activities and changes in human life in space, connectivity between space and time and their sustainability in social, economic, educational and cultural life in the national scope.

The following is the results of improving calculation of student learning results using N gain Score.

Based on the calculation of the average gain score in both classes, the average gain score in the control class is 0.26, this means that the effectiveness of direct learning methods in improving student learning outcomes is low, in contrast to the effectiveness of PBL methods, results calculation of the average gain score of the experimental class is 0.47 which indicates that PBL effectiveness in improving student learning outcomes in the experimental class in the low category. This suggests that PBL learning

methods are more effective in improving student learning outcomes than direct learning methods.

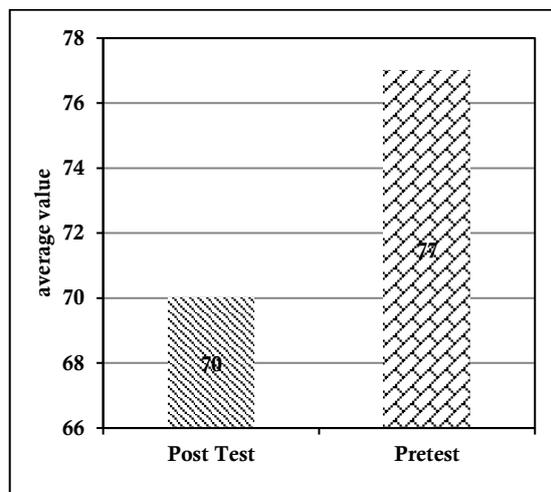


Figure 1. Learning Result Diagram

## CONCLUSION

The results of this study indicate that the implementation of thematic instructional materials in social science Basic Competence has an effect on students' learning results. This is indicated by the average score of the experiment class which is higher than the control class. This effect appears based on the N gain test which shows students' learning results of 0.47 in medium category.

Based on the results of this study, the researcher suggests that: (1) Elementary School Teachers should continuously develop, implement models and learning media, hence, it improves student learning outcomes; (2) the next research needs to use thematic instructional materials combined with the Problem Based Learning model so that teaching and learning activities are more effective and interesting; (3) It needs to do further research in wider and longer period.

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