

**EFFECTIVENESS OF IMPLEMENTATION SIMULATION METHOD IN
ECONOMIC STUDIES (EXPERIMENTAL ON STUDENTS OF 1ST
GRADE SENIOR HIGH SCHOOL STUDENTS FROM SMA
LABORATORIUM UM)**

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Abstract

Students learning outcomes can be improved through learning methods according to the characteristics of the material and how the trend of students' learning styles. This study uses simulation learning methods and inquiry to test the effectiveness of simulation learning methods. This study is a quasi-experiment research which aims to test the effectiveness of simulation learning methods on students learning outcomes who have a high level of economic literacy, medium, low as well as the student's learning style: concrete sequential, abstract sequential, concrete random, and abstract random. The results showed that, there is a difference in student learning outcomes who are learning to use simulation methods. It is known from the average achieved of pre test and post test increase with the gain score of -25.581, 2) There is a difference in students learning outcomes who are learning to use inquiry methods with an average pre test of 60.47 and an average post test of 76.63. There is a difference in students learning outcomes who are learning to use simulation methods and inquiry through high level of economic literacy, medium, low as well as the student's learning style: concrete sequential, abstract sequential, concrete random, and abstract random indicated by the tables of Tests of Between-Subjects Effects with significance $0,033 < 0,05$ and there are interactions between learning method users, economic literacy, and learning styles to increase students learning outcomes.

Key Words: simulation, inquiry, economic literacy, learning style, learning outcomes.

INTRODUCTION

Education plays an important role in preparing human resources for life in the future. Through the learning process is expected to achieve the learning objectives. Learning objectives can be achieved if the student involve himself actively in learning activities both physically, mentally, and emotionally. If further

investigation, the purpose of education not only requires students to obtain a high output, but how education can develop a human.

Based on this, the education should be able to prioritize how achievement by floating all the potential contained within human beings. Student success in learning can be seen from the results of study or evaluation of the students' learning. High student learning outcomes will provide impetus and encouragement to develop students' interest in learning of the subjects, because interest is something that is very important for a person to do something activities. Habits and characteristics of student learning is also one of the factors that influence student success in learning achievement factors beyond the basic capabilities of students.

In addition to the basic capabilities of students, learning the way adopted by the teacher in the classroom will affect of emotional and interest in student learning. Selection of learning methods to be one of the factors conducive learning how. The phenomenon of elections that are less appropriate learning method is also the case in the High School (SMA) Laboratorium UM based on interviews and observations. Selection of the conventional method that is often applied teachers do not always have a negative impact on learning outcomes, but may affect the student's interest in learning.

Economic subjects are subjects that are basically more to the economic experiences of everyday student. Based on the experience gained daily student is then the selection of simulation methods will be effective on the material inflation in class X. In addition, to know how the basic capabilities economics student, also measured how the levels of economic literacy capabilities. In the learning activities of students, each student have different learning characteristics so that learning achievement is also influenced by the learning styles of each student.

Based on this background, the researchers attempted to apply the method of studying the simulation to test its effectiveness by providing control class using inquiry learning methods. In addition, the researchers grouped the results of student learning to the level of economic literacy and learning styles of students.

The purpose of this study was to examine the effectiveness of student learning outcomes that are taught using simulation methods and inquiry. In addition, researchers will look at whether there is an interaction between learning

method, the level of economic literacy and learning styles of students with the help of statistical analysis of variance.

This study was designed using experiment study design (quasi-experimental design). Quasi-experimental study design aimed to test the effect of independent variables on the dependent variable.

METHODS

According to Tuckman (1978: 133) argues that the factorial design is to modify the design of experimental research with the further complication that the independent variable (usually variable moderator) additional variables are included in addition to treatment. In this study, there are two variables moderator namely economic literacy and learning styles of students.

This experimental study using a 2x2 factorial experimental design means the first variable has 2 levels and the second variable has two levels. The significance of the design is, the first variable is the learning model consists of three models of learning that is inquiry and simulation. The second variable is the result of learning. The first moderator variable using the ability of economic literacy levels of students with high, medium, and low. The second moderator variable is the student's learning style consisting of concrete sequential, abstract sequential, concrete random, and abstract random. Selection of the design of this study refers to reference proposed by Gay. L (2006: 261) concerning the design of factorial design.

Data collection instruments using tests and questionnaires. The test is used to determine how the level of economic literacy ability of students and tests to determine student learning outcomes. Both test instruments such as the matter has previously been examined how the validity, reliability, power differentiator, and the level of difficulty matter. As for the questionnaire used to determine how the tendency of students' learning styles. Furthermore, there is an interview guide and observation to determine how the success of teachers in applying methods of learning.

Analysis of the data used is the analysis of variance were used to overcome the difference in the value of the dependent variable which are categorized by

independent variables are many and each consists of several groups. Hypothesis testing is done with a significance level of 5% ($\alpha =$ of 0.05%). Prior to the analysis of variance of data previously have passed the test requirements analysis is test of normality and homogeneity.

RESEARCH RESULT

Description of the level of economic literacy

Identification of the level of economic literacy is used to determine the level of economic literacy abilities of students. Whether the student is included into the category of economic literacy level of high, medium, or low. In the simulation classroom with student number 44. Details of the level of economic literacy in each class simulation and inquiry are listed in the following table.

Table 1.1 Number of students by level of economic literacy in the experimental class and control class.

Class	Economic literacy level		
	High	Middle	Low
Simulation	14	17	12
Inquiry	12	21	10

Description of the type of student learning styles

Identify the learning style aims to determine the learning style of each student. Are these students fall into the category of students with learning style tendency Concrete Sequential, Abstract Sequential, Concrete Random, or Abstract Random. Tabulation student's learning style can be seen in the table below.

Table 1.2 The number of students based on the student's learning style experimental class and control class

Class	Student Learning Styles			
	CS	AS	CR	AR
Simulation	5	14	5	22
Inquiry	14	6	8	13

Information: CS : Concrete sequential
AS : Abstract sequential
CR : Concrete random
AR : Abstract random

Testing Hypothesis 1, Difference Average Student Results are Learning Using Simulation Method

In the statistical calculation using SPSS 16.0 for Windows gained a significance level of 0.000 and t value of 14 712. From the calculation results obtained gain score of -25 581 indicates that an increase of the initial learning outcomes and student learning outcomes after application of simulation learning. So it can be concluded that the average value of the post-test and post-test on the learning value of the simulation is better than the beginning of students' abilities in other words learning model simulation of influence on student learning outcomes. This is similar to research conducted by Sandi (2013).

Testing Hypothesis 2, Difference Average Student Learning Outcomes Learning Method Using Inquiry

Based on the results of testing the hypothesis by using SPSS 16:00. From the analysis of different test t-test shown in the table paired samples t test values for the post-test probability amounted to 12 664 by 0000 (two-tailed). So it can be concluded that the average value of the post-test and post-test on inquiry learning has significant differences. Retrieved gain score of -16 163 with a final value higher than the initial value. On testing this hypothesis 3rd student learning outcomes improved after the treatment using inquiry learning. This can be seen there is a difference of achievement tests students' initial and final tests.

Table 1.3 Description of Data Acquisition Learning Outcomes At Simulation Based Learning Type Test

Learning Outcomes	Means	Std. Deviation	N
Pre test	55.35	10.142	44
Post test	80.93	4.120	44
<i>Gain Score</i>	-25.581	11.402	44

Based on the test for the first hypothesis by using the computer program SPSS 16:00, the results of different test analysis t-test shown in the table paired samples t test to post-test value of 14 712 with a probability of 0.000 significance (2-tailed). Obtained results gain score of -25 581 indicates that an increase of the initial learning outcomes and student learning outcomes after application of simulation learning. So it can be concluded that the average value of the post-test

and post-test values in simulation learning through economic literacy levels and learning styles better than initial ability of students in other words learning model simulation of influence on student learning outcomes.

Table 1.4 Description of the data acquisition on the learning inquiry learning outcomes based on the type of test

Learning Outcomes	Means	Std. Deviation	N
Pre test	60.47	7.222	44
Post test	76.63	4.326	44
Gain Score	-16.163	8.279	44

Based on the results of hypothesis testing using SPSS 16:00 3 available can be annex 37 From the analysis of different test t-test shown in the table paired samples t test values for the post-test probability amounted to 12 664 by 0000 (two-tailed). So it can be concluded that the average value of the post-test and post-test on inquiry learning has significant differences. Retrieved gain score of -16 163 with a final value higher than the initial value. On testing this hypothesis 3rd student learning outcomes improved after the treatment using inquiry learning. This can be seen there is a difference of achievement tests students' initial and final tests.

Characteristics graders have a tendency X.6 most random abstract learning styles. Where students who have a tendency to have random abstract learning style traits that he learned a lot through the five senses. Son of this type tend to have problems in teaching in the school system because it is not the type of imitators. The difficulty is doing the same thing, because for him it is very boring.

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REFERENCES

- Abimayu, S. dan Purwanto, N. 1980. *Simulasi sebagai Metode Belajar Mengajar*. Pengembangan Pendidikan Guru (P3). Jakarta: Departemen Pendidikan dan Kebudayaan

- Cassidy, S. 2004. *Learning Styles: An Overview of Theories, Models, and Measures*. *Journal of Educatinal Psychology*, 24 (4): 420
- Cresswell, J. W. 2009. *Research Design: Pendekatan Kualitatif dan Mixed*. Terjemahan Achmad Fawaid. 2010. Yogyakarta: Pustaka Pelajar
- Dimiyati dan Mujiono. 2002. *Belajar dan Pembelajaran*. Jakarta: Rineka Cipta
- Foeller, W. H. 1988. *Student/Teacher Interaction and Thei Effect on Pre-Collage Economic Literacy*. New York: State University of New York
- Forsyth, A. 2006. *Economic Education – An Essential Dimention In The Social Education Curicullum for the Twenty-First Century*. Monash University
- Gay, L. R. dkk. 2006. *Educational Research Competencies for Analysis and Application*. Ohio: Upper Saddle River, New Jersey Colombus
- Guinkel. 2007. NCEE (*The national Council on Economic Education*). 2007. *Training of Trainers, Seminar A-Ukraine, Simulation*. New York: NCEE (*The national Council on Economic Education*)
- Haryono, A. 2008. *Pengaruh Sistem Pembelajaran dan Status Sosial Ekonomi Terhadap Tingkat Economic Literacy Siswa SMA di Kota Malang*. Disertasi tidak diterbitkan. Malang: PPS Universitas Negeri Malang.
- Lina. 2010. *Pengaruh Model Pembelajaran dan Modalitas Belajar serta Kemampuan Berfikir Formal terhadap Hasil Belajar dan HOT Ability Siswa Kelas XI IPA MAN Sumenep*. Tesis tidak diterbitkan. Malang: PPS Universitas Negeri Malang
- Mansyur, J. 2011. *Pengembangan Paket Permainan Simulasi Sebagai Media Layanan Konsultasi Bagi Orangtua Siswa*. Malang: Universitas Negeri Malang
- Martin, Michaela. 1999. *The Role of The University in Initial Teacher Training: Trends, Current Problems and Strategies for Improvement*. *Journal of Educations*, 32 (1): 7-8.
- Menik. 2012. *Efektivitas Penerapan Model Pembelajaran Inkuiri dan Kooperatif Tipe Jigsaw untuk Meningkatkan Higher Order Thinking Siswa yang Diintermediasi oleh Gaya Belajar (Visual-Auditorial-Kinestetik) Siswa pada Mata Pelajaran Ekonomi SMAN 10 Malang*. Tesis tidak diterbitkan. Malang: PPS Universitas Negeri Malang.
- Myers and Dyer. 2006. *The Influence of Students Learning Style on Critical Thinking Skill*. *Journal of Agricultural Education*, 47 (1): 46
- Nasution, S. 2006. *Metode Research (Penelitian Ilmiah)*. Jakarta: Bumi Aksara

- NCEE (*The national Council on Economic Education*). 2007. *Training of Trainers, Seminar A-Ukraine, Inquiry*. New York: NCEE (*The national Council on Economic Education*)
- Nurhadi, dkk.2004. *Pembelajaran Kontekstual dan Penerapannya dalam KBK*. Malang: Universitas Negeri Malang (UM Press)
- Prasetyo, Budi. 2009. *Mengefektifkan Kemampuan Guru dalam Menerapkan KTSP Melalui MGMP Swadaya*. *Jurnal Pendidikan Inovatif*, 4 (2): 48-53
- Purwanto. 2011. *Statistika untuk Penelitian*. Yogyakarta: Pustaka Pelajar
- Sandi. 2013. *Efektivitas Penerapan Strategi Pembelajaran Kooperatif Kolaborasi Think Pair Share dengan Simulasi dalam Pembelajaran Ekonomi terhadap Hasil Belajar Siswa (Studi Eksperimen pada Siswa di SMP Negeri 5 Probolinggo)*. Tesis tidak diterbitkan. Malang: PPS Universitas Negeri Malang.
- Rusman. 2012. *Model-model Pembelajaran*. Jakarta: PT. Raja Grafindo Persada
- Samuelson, Paul A. 2001. *Microeconomics*. New York: Mc. Grow-Hill
- Sardiman. A.M. 2005. *Interaksi dan Motivasi Belajar Mengajar*. Jakarta: Rajawali
- Subana, dkk. 2000. *Statistika Pendidikan*. Bandung: Pustaka Setia
- Sugiono. 2012. *Metode Penelitian Kuantitatif, Kualitatif, dan R & D*. Bandung: Alfabeta
- Syahdan. 2011. *Pengertian Belajar*. (Online), (<http://www.syahdanxsmile.blogspot.com/2011/02/pengertian-belajar.html?m=n>) diakses 14 Mei 2013
- Tuckman, B, W. 1978. *Conducting Education Research (Second Edition)*. New York: Harcourt Brace Jovanovich, Publisers.
- Undang-Undang Republik Indonesia Nomor 20 Tahun 2003 tentang Sistem Pendidikan Nasional. 2003. Bandung: Citra Umbara.
- Villegas, Elenora & Reimers. 2003. *Teacher Professional Development: An International Review of The Literature*. *Journal of Educational Planning*, 7 (9): 7-11
- Wahab. 2010. *Pengaruh Implementasi Perangkat Pembelajaran Berbasis Inkuiri (PPBI) dengan Strategi Kooperatif terhadap Keterampilan Berfikir Kritis, Sikap, dan Hasil Belajar Kognitif Siswa SMA N di Kota Mataram*. Disertasi tidak diterbitkan. Malang: PPS Universitas Negeri Malang
- Winoyo, B.B. 2003. *Evaluasi Pembelajaran*. Malang: FIP UM
- Winkel. 2005. *Psikologi Pengajaran*. Jakarta: Gramedia