
ASSESSING STUDENT SOCIAL STUDIES LEARNING: EFFECTS OF LEARNING ENVIRONMENT, INQUIRY, AND STUDENT LEARNING INTEREST

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Abstract

This study aims to examine the effect of the learning environment, inquiry, and learning interest on student social studies learning assessment. The participants involved in this study are 130 students from public primary schools in South Jakarta. Data collection consists of social studies learning score, learning environment scale, inquiry scale, and learning interest scale. The results of the study show that the learning environment, inquiry, and learning interest directly influenced student social studies learning assessment in which inquiry and learning interest have a significant effect on student social studies learning assessment.

Keywords: learning environment; inquiry; interest on student social studies learning; assessment; meta-analysis

Abstrak

Penelitian ini bertujuan untuk menguji pengaruh lingkungan belajar, inkuiri, dan minat belajar terhadap penilaian belajar Ilmu Pendidikan Sosial (IPS) siswa. Peserta yang terlibat adalah 130 siswa dari sekolah dasar negeri di Jakarta Selatan. Pengumpulan data terdiri dari skor pembelajaran IPS, skala lingkungan belajar, skala inkuiri, dan skala minat belajar. Hasil penelitian menunjukkan bahwa lingkungan belajar, inkuiri, dan minat belajar secara langsung mempengaruhi penilaian belajar IPS siswa. Dimana inkuiri dan minat belajar memiliki pengaruh yang signifikan terhadap penilaian pembelajaran IPS.

Kata kunci: lingkungan belajar; inkuiri; minat belajar ilmu pendidikan sosial siswa; penilaian; meta-analisis

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Introduction

In social studies, knowledge, attitudes, and skills as well as science are given in order to train students' skills to solve problems from questions that arise from their own thoughts about the social situation of society and become intellectually independent (Batra, 2010). George and Madan (2009) mentions, the social sciences are about people-our wealth, our problems and our values. Social studies are ultimately a set of courses that enable students to understand human experiences (Lee, 2008). The curriculum views social studies in three traditions, ie, social studies as citizenship transmission, social studies as social science and social studies as reflective inquiry (p. 6). Success in the learning process for social studies learners results in effective participation in public life. Teachers can support this goal if they are able to help students develop knowledge, thinking processes, and an inquiring disposition (Erekson, 2014).

The learning environment is a series of features that affect learning that can be structured physically and mentally. A positive learning environment can shape student outcomes in the cognitive, motivational, emotional, and behavioral domain (Chan, 2013) also significantly correlated with student academic progress, safety and respect, communication, and engagement, therefore, recommendations were made for the improvement of the learning environment (Davis & Warner, 2015; Ado, 2015).

Inquiry indicates a positive effect on student learning, with a particularly large effect of students engaging in the epistemic domain of inquiry and the procedural, epistemic, and social domains combined (Furtak et al., 2012; Wozniak, 2012), primarily available in the areas of cognitive and affective outcomes (e.g., knowledge, skills, motivation, attitudes, and

creativity) (Saunders-Stewart, Gyles, & Shore, 2012).

Interest in learning is a source of intrinsic motivation that encourages students to do what they want so that it impacts on learning achievement. Children who are interested in an activity, both games, and work, will try harder to learn, then think about and solve it. Lee, Chao, and Chen studies (2011) show that the learning interest has a positive and significant interactive effect on learning outcomes.

Achievement tests are designed to measure what the student has learned. These tests may measure performance in a certain area of the educational curriculum (Overton, 2012). Such assessment can be applied to both processes and products of performance: processes are ongoing procedures leading to a final result, such as collecting sources and writing rough drafts en route to a finished paper, whereas products are the culminating results accomplished through a series or sequence of procedures (Badgett & Edwin, 2009). In this study, we use both namely the assessment of processes and products in order to assess students' learning of social studies. According to the Hall & Burke (2004) the score allocation is needed, or even confirm the correct answer.

Student learning outcomes in this context are social studies. Various meta-analyses and systematic review studies showed the effect of learning environments, inquiry, and interest on the assessment of learning social studies students (Suleman & Hussain, 2014; Donnelly, Linn, & Ludvigsen, 2014; Xu, 2008). However, the results of the various studies are not final. Other studies have argued that the learning environment has influenced student learning outcomes (e.g., Ebanks, 2010; Oonk, 2017; Frumkin's, 2013). To review more deeply about this study, it is necessary to do the latest meta-analysis that focuses on student learning outcomes.

Method

This study uses a quantitative approach, correlational design, with path analysis techniques. According to Creswell (2012, p. 338), correlational designs provide an opportunity to predict scores and explain the relationship among variables. In correlational research designs, investigators use the correlation statistical test to describe and measure the degree of association (or relationship) between two or more variables or sets of scores.

Participants

The participants involved were 130 students from public primary schools in South Jakarta. According to Creswell (2012, p. 146), approximately 30 participants for a correlational study that relates variables. So the number of samples is considered to have met. Participants were selected based on probabilistic sampling using simple random sampling.

Data Collection Tools

Data collection consists of social studies learning score, learning environment scale, inquiry scale, and learning interest scale. All participants received a questionnaire and test package, which consisted of a learning environment questionnaire, inquiry, learning interest, and social studies test.

Social Studies Learning a Score

We measure the cognitive domain of students. According to Bloom et al (1956), this is the domain which is most central to the work of much current test development. It is the domain in which most of the work in curriculum development has taken place and where the clearest definitions of objectives are to be found phrased as descriptions of student behavior. In this study, we have developed a series of indicators based on core competencies and basic competencies social studies of grade 5th students of elementary school from the

national curriculum of the Republic of Indonesia, then we tested the validity and reliability. According to Creswell (2012) conducted the tests with a number of individuals, averaged their scores, and looked at the differences in their scores. So that they can compare individual scores with typical scores for people who have taken the test. We use a range of scores 1-3 to determine the assessment of their social studies. Students work on essays for as many as 8 questions. From the 16 items test criteria were given to participants, 8 test items declared valid. Valid if the correlation value (Pearson correlation $> r$ table). Whereas if Cronbach's Alpha $> r$ table = reliable, Cronbach's Alpha $0.700 > 0.329$.

Learning Environment Scale

We measure the affective domain of students towards their learning environment. Researchers develop a measure of attitude through writing own questions. We develop a series of indicators based on the operational definition of the learning environment. The learning environment referred to in this study is a series of features that affect students' social studies learning that can be structured physically and mentally. There are 15 physically structured items of the learning environment and 15 mentally structured learning environment items. From the 30 items of questionnaires were given to participants, 18 questionnaire items were declared valid. We use a range of scale 1-3 to measure students feelings toward learning environment. Valid if the correlation value (Pearson correlation $> r$ table). Whereas if Cronbach's Alpha $> r$ table = reliable, Cronbach's Alpha $0.761 > 0.329$.

Inquiry Scale

The affective domain of students towards their inquiry is measured. Researchers develop own questions from a series of indicators in inquiry, namely observations of the child's social

environment from authentic sources; asking questions about problematic situations; conduct investigations in order to answer hypotheses or find out answers, and draw conclusions or formulate solutions that are reflected in the form of problem-solving in social studies. From 30 items of questionnaires were given to participants, 24 of which were valid. We use a range of scale 1-3 to measure students feelings toward inquiry. Valid if the correlation value (Pearson correlation $> r$ table). Whereas if Cronbach's Alpha $> r$ table = reliable, Cronbach's Alpha $0,862 > 0.329$.

Learning Interest Scale

The affective domain of students towards their learning interest is measured. Researchers develop own questions from a series of indicators in learning interest, namely, the intrinsic motivation that encourages students to do what they want in learning so that it impacts on learning achievement. From 16 items of questionnaires were given to participants, 15 of which were valid. We use a range of scale 1-3 to measure students feelings toward learning interest. Valid if the correlation value (Pearson correlation $> r$ table). Whereas if Cronbach's Alpha $> r$ table = reliable, Cronbach's Alpha $0,824 > 0.329$.

Data Analysis

Data were analyzed using SPSS version 20.0. Data analysis in this study was carried out in three stages: 1) Descriptive statistics. To test whether the scores reported by participants are valid and reliable. The score is declared valid if Pearson correlation $> r$ table. The score is declared reliable if Cronbach's Alpha $> r$ table. In the social studies learning assessment variable, there are 8 valid and reliable test questions. Learning environment variables have 18 valid and reliable questionnaire items. The Inquiry variable has 24 valid and reliable questionnaire items. And in the interest in learning interest,

there are 15 valid and reliable questionnaire items; 2) Normality test. To investigate skewness & kurtosis z-values; Shapiro-Wilk test p-value; and histograms, normal Q-Q plots & box plots. A Shapiro-Wilk's test ($p > .05$) (Shapiro & Wilk 1965; Razali & Wah, 2011) and a visual inspection of their histograms, normal Q-Q plots and box plots showed that the exam scores were approximately normally distributed, with a skewness of 0.074 (SE = 0.251) and a kurtosis 0.128 (SE = 0.498) (Cramer, 1998; Cramer & Howitt, 2004; Doane & Seward, 2011). 3) Path analysis. To test whether there are a direct influence and indirect influence given by independent variables (learning environment, inquiry, and learning interest) through intervening variables (social studies) on the dependent variable (learning assessment). If the significance value is < 0.05 , there is a direct and significant effect of the independent variable on the dependent variable.

Results and Discussion

Path analysis is carried out between the learning environment toward social studies learning assessment; inquiry toward social studies learning assessment; learning interest towards social studies learning assessment; learning environment toward inquiry; learning environment toward learning interests; and inquiry toward learning interest.

The results of the study demonstrate that the learning environment has a direct effect on social studies learning assessment. The significance value of the learning environment = $0.000 < 0.05$. R Square value = 0.242. This shows that the contribution of the influence of the learning environment to the social studies learning assessment is equal to 24.2%, while the remaining 75.8% is contributed by other variables not included in the study. Meanwhile,

for the value Std. Error 1 can be searched by formula $SE1 = \sqrt{(1 - 0.242)} = 0.870$.

The inquiry has a direct effect on social studies learning assessment. Inquiry significance value = $0,000 < 0.05$. R Square value = 0.521. This shows that the contribution of the influence of inquiry on social studies learning assessment is 52.1%, while the remaining 47.9% is contributed by other variables not included in the study. Meanwhile, for Std. Error 2 values can be searched by formula $SE2 = \sqrt{(1 - 0.521)} = 0.692$.

Learning interest has a direct effect on social studies learning assessment. The significance value of learning interest = $0,000 < 0.05$. R Square value = 0.910. This shows that the contribution of learning interest in social studies learning assessment is 91.0%, while the remaining 9% is a contribution from other variables not included in the study. Meanwhile, for the value of Std. Error 3 can be found with the formula $SE3 = \sqrt{(1 - 0.910)} = 0.3$.

Learning environment has a direct effect on inquiry. The significance value of the learning environment = $0,000 < 0.05$. R Square value of 0.284. This shows that the contribution of the influence of the learning environment to the inquiry is 28.4%, while the remaining 71.6% is a contribution from other variables not included in the study. Meanwhile, for the value of Std. Error 4 can be found with the formula $SE4 = \sqrt{(1 - 0.284)} = 0.533$.

Learning environment has a direct effect on learning interest. The significance value of the learning environment = $0,000 < 0.05$. R Square Value = 0.212. This shows that the contribution of the influence of the learning environment to learning interest is 21.2%, while the remaining 78.8% is a contribution from other variables not included in the study. Meanwhile, for the value of Std. Error 5 can be searched with the formula $SE5 = \sqrt{(1 - 0.212)} = 0.888$.

The inquiry has a direct effect on learning interest. Inquiry significance value = $0,000 < 0.05$. R Square value = 0.555. This shows that the contribution of the influence of inquiry to interest in learning is equal to 55.5%, while the remaining 44.5% is a contribution from other variables not included in the study. Meanwhile, for the value of Std. Error 6 can be searched with the formula $SE6 = \sqrt{(1 - 0.555)} = 0.667$. The following table shows the relationship between learning environment variables, inquiry, and interest in learning towards student social studies learning assessment.

Table 1. The Relationship Between Learning Environment Variables, Inquiry, and Interest in Learning Towards Student Social Studies Learning Assessment

Variable	Sig.	p.05	R Square	SE
Learning environment → Social studies learning assessment	.000	p.05	.242	0.870
Inquiry → Social studies learning assessment	.000	p.05	.521	0.692
Learning interest → Social studies learning assessment	.000	p.05	.910	0.3
Learning environment → Inquiry	.000	p.05	.284	0.533
Learning environment → Learning interest	.000	p.05	.212	0.888
Inquiry → Learning interest	.000	p.05	.555	0.667

The results of this study have answered six research questions, including there is a direct influence between the learning environment on social studies learning assessment, the learning environment contribution to social studies learning assessment is 24.2% while the remaining 75.8% is contributed by other variables not included in the research. There was a direct influence of inquiry on social studies learning assessment, the contribution of inquiry influence on social studies learning assessment was 52.1% while the remaining 47.9% was contributed by other variables not included in the study. There is a direct influence of learning interest on social studies learning assessment, the

contribution of learning interest influences on social studies learning assessment is 91.0% while the remaining 9% is contributed by other variables not included in the study. There is a direct effect of learning environment on inquiry, the contribution of the influence of learning environment on inquiry is 28.4% while the remaining 71.6% is a contribution from other variables not included in the study. There is a direct effect of learning environment on learning interest, the contribution of the influence of learning environment on learning interest is 21.2% while the remaining 78.8% is a contribution from other variables not included in the study. There is a direct influence of inquiry on learning interest, the contribution of inquiry influence on learning interest is 55.5% while the remaining 44.5% is contributed by other variables not included in the study.

The results showed that the influence of the learning environment on student social studies learning assessment was only 24.2%, very small compared to other variables. This is possible because there are other variable contributions that were not included in the study, but contributed as expressed in the Oonk study (2017) study which stated that the regional learning environment does not significantly improve learning. Only two components of the learning environment are positively correlated with students' academic performance that is housing environment and school/teacher involvement (Kamaruddin, Zainal, Aminuddin, 2009; Kluczniok, 2017). However, the findings of Frumkin's (2013) study revealed that the home learning environment does not play as large a role as was predicted in raising the assessment scores overall for learners. Whereas Kožuh et al. (2015) revealed that although the use of the social interaction tool was positively associated with students' academic success, the perceived ease of using the social presence tool was negatively related to students' success. The

findings provide clues to carefully design and develop a learning environment to ensure that it has a positive impact on students' academic success. Learning environment could facilitate student learning (Lee, 2010; Heinström & Sormunen, 2016), has a significant positive effect on the academic achievement scores (Suleman & Hussain, 2014; Muvawala, 2012; Samruayruen, 2013) so that achieve the learning objectives (Terzano & Morckel, 2016). Physical learning environment using proven methods can improve student instructor's understanding (Hall, McLean, & Jensen, 2012), also is one key to effective knowledge (Dove, 2006), there are positive correlations between learning environment and their final mark (Mogus, Djurdjevic, & Suvak, 2012). The learning environment can increase student understanding of the subject matter (Orsini-Jones & Jones, 2007). Learning environment had a positive effect on students' performance (Stappenbelt, 2015; Shernoff, Ruzek, & Sinha, 2017). Student-centered learning environments may support outcomes learning (Stefanou et al., 2013). So that can be suggested, teachers can contribute to students' successes and progresses by encouraging them in areas they are good at; feedback and rewards obtained as a result of the student; motivate students; and form working groups (Doğan & Sezer, 2011). Therefore, many strategies are needed to increase student motivation (Blazer, 2010).

The effect of the inquiry on student social studies learning assessment is 52.1%, which is quite large compared to the learning environment. The results of this study are supported by Donnelly, Linn, and Ludvigsen (2014), Abdi (2014), Ellis (2016) which mention that students are taught with inquiry learning environments typically enhance student learning, higher scores are achieved than those taught through traditional methods. Inquiry instruction produced significantly greater

impacts on measures of student achievement compared to direct instruction (Estrella et al., 2018), and more effective than other (Lazonder & Harmsen, 2016), there were considerable effect size gains in student achievement (Parr & Timperley, 2010). The unique value of these exercises is that students not only engage the course material throughout the course but also learn to examine their own writing as data. In doing so, students learn to value the process of learning, inquiry, and critical self-reflection while acquiring and constructing self-knowledge (Rusche & Jason, 2011; Eysink et al., 2009; Pittaway, 2009; Engel & Randall, 2009), produce more meaningful outcomes (Howard et al., 2015), more curiosity, more questions, and more unique experiments (Yager, Abd-Hamid, & Akcay, 2005), could themselves create favorable conditions for transformative learning (Nicolaidis & Dzubinski, 2016), and enhance learning outcomes (Spector, 2000). Even inquiry has a positive correlation among the three presences – cognitive, social and teaching (Pifarré, Guijosa, & Argelagós, 2014; Powell et al., 2008), other findings reported asynchronous (Shea & Bidjerano, 2008). We recommend establishing technology inquiry groups within school settings (Hughes, Kerr, & Ooms, 2005).

Learning interest has a direct effect on student social studies learning assessment, which is 91.0%. There is a substantially linear relationship between interest and prior knowledge...research suggests that working on interesting, compared to neutral, materials may engage deeper cognitive processing, arouse a wider, more emotional, and more personal associative network, and employ more imagery (Tobias, 1994; Ney, Tam, Maurice, 1990), in addition, it also increased students' interest, increased their delayed recall of the key science concepts, and improved their abilities to solve complex problems (Hong & Lin-Siegler, 2011), also impacted to their success and retention

(Nguyen, Williams, & Ludwikowski, 2016), and significantly higher scores (Xu, 2008).

The results of the study demonstrate that the learning environment affects inquiry by 28.4%. Learning environment had a positive effect on students' ability to managing their research project the depth of learning and their development as autonomous learners, as well as their perception of the research project experience (Stappenbelt, 2015; Suomala & Alajaaski, 2002), also encourage critical thinking about the discipline in ways that promote its potential for addressing social issues (Kane, 2015).

The study showed the effect of learning environment on learning interest by 21.2%. The results of our study were also supported by Rosen (2009), Snape et al. (2013), Müller & Louw (2004), Chen et al. (2013), Ataya & Kulikowich, (2002), Cox & Walker (2005), Terzano & Morckel (2016) who said that a significant impact of learning environment on learning interest. Physical learning environment helps stimulate learning intention, and effective to increase student interest in the topics as well as student comprehension also encourages student interest in community engagement (Kane, 2015). Learning environment can increase student understanding of the subject matter (Orsini-Jones & Jones, 2007), facilitate the active participation of students who have a lot of difficulties in traditional school learning (Hakkarainen et al., 1999), until finally impact on individual interest (Tröbst et al., 2016; Xu et al., 2012).

The effect of inquiry on learning interest is 55.5%. Inquiry can engage students in authentic disciplinary problem posing (Chisholm & Godley, 2011), increase everyone's expectations for student voice and involvement (Eisenman, Chamberlin, McGahee-Kovac, 2005).

Conclusion

The results of the study show that the learning environment, inquiry, and learning interest directly influence student social studies learning assessment. Where inquiry and learning interest have a significant effect on student social studies learning assessment. Therefore, the results of this study suggest that teachers and parents need to create a learning environment that involves the experience of inquiry, and that encourages students' learning interest. The results of this study also show that stakeholders should make policies that support the inquiry learning environment to increase student learning interest, which not only affects student outcomes in the cognitive domain but also in the affective and psychomotor domains.

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