

## Correlation of the Application of Problem-Based Learning towards Social Studies Learning Independence

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### ABSTRACT

Social studies learning discusses various real and developing problems in a society. Learning independence can focus on learning activities that are full of responsibility so as to achieve high learning achievement. increasing learning independence, which can be influenced by the application of PBL. This study aims to analyze the correlation between the application of problem-based learning and social studies learning independence for SMPN 4 Ponorogo students. The theory used is the model theory of personal responsibility by Hiemstra. The purpose of this research is to measure correlation using a quantitative approach using the product moment correlation method. Data retrieval using a closed questionnaire model The study respondents were students in grades VII A to E at SMPN 4 Ponorogo who were selected by the random stratification sampling technique. The sample for this study amounted to 114 people. Based on the results of data analysis, it was found that the application of PBL has a positive correlation with the independence of social studies learning. In this case, the prominent indicators of PBL application are that students are able to present and discuss in front of the class and that students tend to make plans for carrying out schoolwork so that learning objectives can be achieved.

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## INTRODUCTION

The paradigm of education in Indonesia since 2020 has changed rapidly. All elements of society and government are required to adjust to existing conditions. For example, the learning system that was originally carried out face-to-face switched to distance learning. The Indonesian government has tried to cope with all the changes that occur. All these efforts certainly have the potential to cause unpreparedness in educational institutions.

SMPN 4 Ponorogo is an A-accredited public school with a total of 7 classes. There are 8 rombels with a total of 220 students. There are two teaching staff members (teachers) for class VII social studies subjects. Every teacher certainly uses a learning model when carrying out learning activities. When the learning process is given the flexibility to determine the model applied to the learning process. This flexibility is in accordance with the characteristics of subjects, students, and teachers, and of course, with the conditions of existing resources. This is in line with the characteristics of social studies in the Independent Curriculum, where independent material development can be carried out by education providers.<sup>1</sup>

The independent learning curriculum provides flexibility for teachers to develop educational and fun learning experiences. Teachers must be able to model and apply the learning process to determine the right learning model. In addition, students and teachers are required to be able to use technology as a reference source for learning. The learning outcomes obtained from independent planning are students who can collaborate with friends and teachers, develop an independent self-concept, and, most importantly, students who are able to compete in today's competition.<sup>2</sup>

A teacher needs to strive to develop learning materials independently. This can be done by adjusting the learning model used. Social studies subjects are subjects that discuss various real and developing problems in a society. Therefore, one of the learning methods that is thought to have a positive relationship with student learning independence in social studies subjects is problem-based learning (PBL). According to Arend in Hosnan, the PBL model is a learning approach to authentic or real problems where students can design their own understanding, develop good skills, become independent, and increase student trust.<sup>3</sup>

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<sup>1</sup> Kementerian Pendidikan Kebudayaan Riset dan Teknologi, "Capaian Pembelajaran Pada Pendidikan Anak Usia Dini, Jenjang Pendidikan Dasar Dan Jenjang Pendidikan Menengah Pada Kurikulum Merdeka," Pub. L. No. 008/H/KR/2022, 227 (2022).

<sup>2</sup> Kementerian Pendidikan Kebudayaan Riset dan Teknologi, *Buku Saku Tanya Jawab Kurikulum Merdeka* (Jakarta: Kemendikbudristek, 2021), 9.

<sup>3</sup> Hosnan, *Pendekatan Saintifik Dan Kontekstual Dalam Pembelajaran Abad 21* (Bogor: Ghalia Indonesia, 2014), 298.

According to Majid, there are several steps in problem-based learning, including the following: First, the basic concept If deemed necessary, teachers can share basic concepts, references or links, instructions, and skills needed in classroom learning. Second, defining the problem In this step, the teacher provides a learning scenario, such as a main problem, and divides students into groups. Each group will carry out activities, namely brainstorming and alternative selection, to determine more focused opinions. Third, self-learning. After obtaining their assignment, each student explores all the resources that can clarify the topic being investigated. Fourth, knowledge exchange Students gather with their facilitators, then present the results and decide on conclusions. Fifth, assessment, Assessment is carried out by combining two aspects, namely formative (process) and summative (result) assessments.<sup>4</sup>

This is in accordance with the results of the researchers' observations of social studies subject teachers at SMPN 4 Ponorogo who have applied the problem-based learning (PBL) model. One of the stages of PBL is a group discussion that invites students to actively represent their groups. Student activeness can be seen when students express opinions, elaborate on questions, and become peer tutors. The PBL learning model will effectively help increase student learning independence because it requires students to be active in the group discussion stage, where they will be independent in carrying out learning activities and not dependent on others. With this activity, it is expected that learning independence will increase. PBL can help students be able to solve problems or think critically. PBL also has disadvantages, such as spending a lot of time because it takes a lot of time for students to solve problems, plus students need to present the results of their group work.

According to Budi, the problem-based learning (PBL) model is proven to improve students' independent character. This can be seen from the indicators of the application of problem-based learning (PBL), including: First, students are accustomed to communicating. When students are looking for information about problem topics, they will be accustomed to communicating with other people to prepare problem solution reports. Secondly, students prepare materials and tools independently. Third, Students ask questions and form hypotheses. When the group listens to presentations from other groups, they give their responses or opinions to the reports submitted by other groups. Fourth, Students discuss and present in front of the class. When students have compiled the results of the report, they

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<sup>4</sup> Abdul Majid, *Implementasi Kurikulum 2013: Kajian Teoritis Dan Praktis* (Bandung: Interest Media, 2014), 164-165.

will take turns presenting and discussing them together in front of the class in groups.<sup>5</sup>

The application of PBL, based on the results of various studies, shows positive results. For example, Harry Dwi Putra's research in 2016 revealed that the learning independence of students who get material using project-based learning is better than that of those who get material using expository methods. Another study by Shovia in 2022 stated that student achievement increased by 80% for students who passed the competency test when they received material with a problem-based learning approach.<sup>6</sup>

Darmayanti stated, "Learning independence is a form of learning that has the main responsibility for planning, implementing, and evaluating the efforts of each individual."<sup>7</sup> On the other hand, Desmita said, "Independence is a condition in which individuals have a competitive desire to move forward for their own good, are able to make choices and initiatives to solve problems encountered, have confidence and do all their tasks, and are responsible for their actions."<sup>8</sup> Furthermore, Tirtarahardja and Sulo assert that "independence in learning is the continuity of learning activities more due to will, own choice, and own responsibility for learning."<sup>9</sup>

Through the understanding of experts about learning self-sufficiency, it is concluded that learning self-reliance is an effort to achieve one's will and desires through the ability of students to not depend on others, so that students desire to carry out their own learning and are independently able to carry out learning activities.

Independence will make students work alone of their own accord in exam situations or not. Through high independence, students are expected to have free time both at home and school and apply all learning references, whether printed or non-printed. Student independence focuses on teaching and learning activities that are full of responsibility so that they are able to achieve high learning achievement. This is in line with Budi's research, which suggests that learning independence contributes 21.2% to learning achievement.<sup>10</sup>

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<sup>5</sup> Budi, "Penerapan Pembelajaran Berbasis Masalah ( Problem Based Learning ) Untuk Meningkatkan Prestasi Dan Kemandirian Belajar Siswa Pada Mata Pelajaran PKWU Di Kelas XII IPS 2 Semester 1 Tahun Pelajaran 2019 / 2020."

<sup>6</sup> Shovia Wahyu Purwati, "Metode Pembelajaran Model Problem Based Learning Dalam Meningkatkan Keterampilan Abad Ke-21 Siswa SMPN 1 Kedungpring Lamongan," *ASANKA :Journal of Social Science and Education* 3, no. 2 (2022): 155–76.

<sup>7</sup> Darmayanti, *Psikologi Manajemen* (Jakarta: Proges Cochran, 2004), 36.

<sup>8</sup> Desmita, *Psikologi Perkembangan Peserta Didik* (Bandung: PT. Remaja Rodakarya, 2002), 185.

<sup>9</sup> Umar Rtarahardja and S. L. La Sulo, *Pengantar Pendidikan* (Jakarta: Rineka Cipta, 2005), 50.

<sup>10</sup> S. Budi, "Korelasi Antara Kreativitas Belajar, Motivasi Belajar Dan Kemandirian Belajar Siswa Dengan Prestasi Belajar Keterampilan Elektronika di MAN I Wates Kabupaten Kulon Progo" (Skripsi: Universitas Mercu Buana Yogyakarta, 2012).

The results of the idea by Djaali outlined several internal factors that affect learning independence, including: First, students are accustomed to learning if they have understood the topic conveyed by the teacher. Second, students will always develop motivation with the encouragement of pre-existing interests. Third, students exhibit positive behavior when they are in a community group. While external factors that affect learning independence include, First, environmental factors that can affect students in learning, Second, community factors can channel positive student activities. Third, which school factors ensure that students can make changes for the better? Fourth, family factors are the most ensured and most important factors so that students have encouragement when going to study. <sup>11</sup>

The indicators of independent learners according to Hiemstra in Magdalena include: (1) the relationship between teachers and students remains, but not the relationship of dependence; (2) knowing when to ask for help and need help; (3) knowing who and where to get help from; (4) knowing when to use learning media; (5) knowing how to use media; and (6) knowing various effective learning strategies. <sup>12</sup> Continued again, indicators of learning independence. Self-directed learning is located as an external factor of students, referring to how learning activities are carried out (learning methods from the teacher), and students who carry out learning independently Self-directed learning is located as an external factor of students, referring to how learning activities are carried out (learning methods from the teacher), and students who carry out learning independently (learners' self-direction) are known as internal factors of individuals that refer to student personality characteristics. If these two things (self-directed learning and learner self-direction) can be created in the learning process, then individuals can have independence in learning. Self-direction in learning can be interpreted as the nature, attitudes, and abilities of students to carry out learning activities alone or with the help of others based on their own motivation to master certain competencies so that they can be used to solve the problems they encounter in real life. <sup>13</sup>

Based on the thoughts of the experts above, it can be concluded that indicators of learning independence include having learning initiatives, diagnosing learning needs, setting learning targets, monitoring, organizing, and controlling learning, utilizing and searching for

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<sup>11</sup> Djaali, *Psikologi Pendidikan* (Jakarta: PT Bumi Aksara, 2017), 12.

<sup>12</sup> Magdalena et al., "*Pola Pikir Pada Anak Usia Sekolah (6-12 Tahun) Di SDN Gempol Sari Kabupaten Tangerang.*"

<sup>13</sup> Eti Nurhayati, *Psikologi Pendidikan Inovatif*, (Yogyakarta: Pustaka Pelajar, 2016), 138.

related resources, choosing and implementing learning strategies, and evaluating learning processes and outcomes.

In a study conducted by Jusep Saputra (2017), which focuses on the problem-based learning model assisted by e-learning and learning independence in students, it was concluded that there was an increase in student learning independence after obtaining e-learning-based learning; the increase was in the low category, and positive student attitudes towards mathematics learning using e-learning.<sup>14</sup>

Another reason that became a study in the relationship between the application of PBL and learning madnirian was that it was found that teachers at SMPN 4 Ponorogo had implemented PBL. Based on the results of initial observations in September 2022 at SMPN 4 Ponorogo, information was obtained from observations and interviews with teachers, and an illustration was obtained that the learning model applied was problem-based learning. At that time, students were completing the task of making maps through the medium of ledgers, gadgets, and a crayon. In accordance with the background described above, the researcher is interested in conducting research on "The Correlation of the Application of Problem-Based Learning to Social Studies Learning Independence of Class VII Students of SMPN 4 Ponorogo."

## RESEARCH METHOD

The approach used by researchers in this study is a quantitative one. Correlational research was applied in this study. According to Budiyono, correlational research aims to determine whether the rise or fall of one or more variables is accompanied by the rise or fall of one or more dependent variables. That is, the obtained linear correlation coefficient has a distance value from -1 (minus one) to +1 (plus one).<sup>15</sup> This research was carried out from February 6, 2023, to March 24, 2023, at SMP Negeri 4 Ponorogo. The subjects of the study were students of grades A–F at SMP Negeri 4 Ponorogo who had problems related to the PBL learning model and had the same social studies subject teachers.

The study population numbered 160 students. The sampling technique used in this study was Random Stratification Sampling. According to Budiyono, this sample is a population divided by strata, from which members of the sample are randomly drawn in each

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<sup>14</sup> Jusep Saputra, "Model Problem Based Learning Berbantuan E - Learning Terhadap Kemandirian Belajar Mahasiswa," *Kalamatika Jurnal Pendidikan Matematika* 2, no. 2 (2017): 117–130.

<sup>15</sup> Budiyono, *Pengantar Metodologi Penelitian Pendidikan* (Kentingan: UNS Press, 2019), 133.

subpopulation.<sup>16</sup> Slovin's theory was used to determine the sample size to be used, so that the sample amounted to 114 people. Therefore, the sampling of each class amounted to 22 to 23 students of grades VII, A-E, SMPN 4, Ponorogo.

The variables in this study are the value of learning independence owned by students as a dependent variable and the application of problem-based learning models as independent variables. Then those variables are described as sub-variables and translated into indicators. The first operational understanding of variables in this study is the application of PBL, which in this study was obtained from the results of questionnaire answers that had been filled out by each student in a closed questionnaire. The second is the variable of learning independence, which is an effort to achieve one's will and desires through the ability of students to not depend on others, so that students want to carry out their own learning and are able to independently carry out learning activities. In this study, learning independence can be measured by the number of points obtained from the results of questionnaires answered by each student. Validity indicates that what is measured using a measuring instrument is correct. How to measure validity in this study using expert validity, which is then continued by using the formula of the product moment correlation technique.

The results of the first revision phase were then tested by distributing questionnaires to small classes. During the dissemination in the class, the researcher acts as an observer. The data from the distribution of questionnaires is then analyzed to obtain data information using the product moment table; if  $r_{\text{calculate}} > r_{\text{tabel}}$ , then the item is declared valid, and vice versa, if  $r_{\text{calculate}} < r_{\text{tabel}}$ , then the item is declared invalid. The validity test in this questionnaire uses a random sample of 25 respondents and an error rate of 5%. After checking the validity of the data, the next step is to carry out reliability criteria. The reliability of the instrument is the same when tested at different times and places. The reliability of the instrument is measured by using the Cronbach alpha reliability coefficient formula; if the Cronbach alpha result is  $> 0.05$ , then it can be concluded that the results are reliable.

The data collection technique in this study was a questionnaire. According to Budiyo, the questionnaire method is a collection technique through the presentation of various questions and answers in writing to the research subjects. The type of questionnaire chosen is a closed, fill-in questionnaire. In this type of questionnaire, the answers to the questions asked have been directed by the researcher, which is generally a short answer.<sup>17</sup> As

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<sup>16</sup> *Ibid*, 43.

<sup>17</sup> *Ibid*, 52.

for the measurement method in the questionnaire used, take the Likert Scale. This scale was coined by Rensis Likert to measure attitudes toward something. Statements can be in the form of positive or negative sentences. On the positive form, strongly agree to get the maximum score and strongly disagree to get the minimum score. As for the negative form, strongly agree to get the minimum score and strongly disagree to get the maximum score.<sup>18</sup>

The data analysis technique applied in this study is the product moment analysis technique. This technique is applied to answer the formulation of the problem, namely, to determine the correlation between the application of PBL and the independence of social studies learning for grade VII students of SMPN 4 Ponorogo. In order to obtain an interpretation of the correlation coefficient obtained in this study, large or small, it can adhere to the provisions listed in the table "r" product moment using a certain error level of 5%.

## RESULT AND DISCUSSION

### Correlation of PBL Application to Social Studies Learning Independence.

The number of respondents in this study were students from SMPN 4 Ponorogo who were in grade VII, who were then selected using sampling techniques that were randomly selected for each element or member of the population to be selected (random stratification sampling). The sample in this study consisted of 114 respondents randomly selected in each class. The results of the data used in measuring the application of PBL and the self-reliance owned by the respondents were obtained by obtaining scores obtained after filling out the questionnaire. After the data is ready, preparations can be made to calculate the product moment. The data obtained from the questionnaire data collection resulted in the following numbers:

**Table 1. Research Questionnaire Results**

No	X	Y	X <sup>2</sup>	Y <sup>2</sup>	XY
Total	4381	4487	170119	178163	173658

By entering the results of the questionnaire, the calculation for finding the correlation can be done as follows:

$$r_{xy} = \frac{n \sum xy - \sum x \sum y}{\sqrt{[n \sum x^2 - (\sum x)^2][n \sum y^2 - (\sum y)^2]}}$$

<sup>18</sup> Elvis F. Purba and Parulian Simanjutak, *Metode Penelitian* (Medan: Percetakan SADIA, 2012), 99-100.



$$r_{xy} = \frac{(114)(173658) - (4381)(4487)}{\sqrt{[(114)(170119) - (4381)^2][(114)(178163) - (4487)^2]}}$$

$$r_{xy} = \frac{(19797012) - (19657547)}{\sqrt{[200405][177413]}}$$

$$r_{xy} = \frac{139465}{\sqrt{35554452265}}$$

$$r_{xy} = \frac{139465}{118558.882}$$

$$r_{xy} = 0.74$$

$$r_{tabel} = r_{(114-2)} = 0.182$$

Because  $r_{xy} > r_{tabel}$ , reject  $H_0$ , meaning that there is a positive correlation in the application of PBL to the learning independence of grade VII students in social studies subjects for SMPN 4 Ponorogo students. These results correspond to the data output using calculations through SPSS 23, as follows:

**Table 5. Product Moment Correlation Test between X and Y**

Correlations			
		Penerapan PBL	Kemandirian Belajar
PBL	Pearson Correlation	1	.740**
	Sig. (2-tailed)		.000
	N	114	114
Learning Independence	Pearson Correlation	.740**	1
	Sig. (2-tailed)	.000	
	N	114	114

Based on the table above, a product moment correlation value of 0.740 means that there is a strong (positive) relationship between the variables of PBL application and learning independence. After that, to find out the size of the variable contribution of the use of gadgets to learning independence, the coefficient of determination can be determined as follows:

$$R^2 = r_{xy}^2 \times 100\%$$

$$R^2 = 0.74^2 \times 100\%$$

$$R^2 = 0.548 \times 100\%$$

$$R^2 = 0.548$$

Based on the results of the coefficient of determination, the value obtained of as much as 0.548 means that there is a fairly strong (positive) relationship between the variables of PBL application and learning independence.

## **Discussion**

The preparation of all things needed for these research activities is the first step taken by researchers. The thing that the researcher prepared was to make a questionnaire and then distribute it to grade VII students of SMPN 4 Ponorogo based on the filling instructions that had been prepared by the researcher.

Based on the results of the hypothesis test, the *f* test is used to determine whether the product moment correlation coefficient is significant or not for each independent variable ( $x_1$  and  $x_2$ ) against the dependent variable ( $Y$ ). If the calculated value is  $r_{table}$ , then  $H_0$  is accepted and  $H_1$  is rejected; otherwise, if the calculated value is  $> r_{table}$ , then  $H_0$  is rejected and  $H_1$  is accepted. Then, the coefficient of determination is calculated to determine the participation or contribution given by two variables, namely  $X$  and  $Y$ .

Based on the results of the second hypothesis testing (the application of PBL with learning independence),  $H_0$  is rejected and  $H_1$  is accepted, which can be seen from the product moment correlation value obtained of  $0.74 > 0.182 r_{table}$ . Then, the result of the coefficient of determination of 0.548 means that there is a fairly strong (positive) relationship between the variable of PBL application and the independence of social studies learning for grade VII students of SMPN 4 Ponorogo for the 2022–2023 academic year.

Through the questionnaire answers filled out by respondents, students at SMPN 4 Ponorogo were able to present and discuss in front of the class. This can be seen when students present the results of a group discussion during social studies learning and express opinions in social studies learning activities so that the students can be said to understand the material being discussed. Students tend to make plans for carrying out schoolwork so that learning objectives can be achieved. This can be seen when students set their own learning targets and try to achieve them, and they record the results of discussions independently in social studies learning notebooks. So the results of the research carried out show that SMPN 4 Ponorogo students are able to follow the PBL learning model, which can increase social studies learning independence.

The results of this second test are in line with previous research tests that also support a significant and positive correlation between the application of PBL and learning

independence, namely research conducted by Jusep Saputra in 2017, which also examined the variables of implementing PBL with learning independence and provided results that the application of PBL can increase learning independence.<sup>19</sup>

## CONCLUSION

Based on the results of the research that has been discussed, it can be concluded that the variable of the application of PBL (X2) has a positive correlation with the independence of social studies learning in grade VII SMPN 4 Ponorogo. It can be seen that the product moment correlation value obtained is  $r_{x1y} = 0.74 > 0.182$  rtable, which means that there is a positive correlation with the independence of social studies learning in grade VII SMPN 4 Ponorogo. Although the correlation obtained only produces numbers, the correlation between the two variables is a significant correlation and a positive correlation. From this correlation, it is clear that the higher the PBL ascetic, the higher the independence of social studies learning owned by students.

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<sup>19</sup> Saputra, "Model Problem Based Learning Berbantuan E - Learning Terhadap Kemandirian Belajar Mahasiswa" 117-130.

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