



Self-Directed Learning Model Based on Local Wisdom Values on Student Learning Outcomes

Hilya Puspita^{1*}, Fery Muhamad Firdaus¹, Sekar Purbarini Kawuryan¹

¹Faculty of Education and Psychology, Universitas Negeri Yogyakarta

*Correspondence to: hilyapuspita.2022@student.uny.ac.id

Abstract: Learning models are increasingly varied according to the developments and needs of the times. The delivery of learning materials in elementary schools is usually based on books provided by the government, even though learning materials should be taken from local wisdom in the students' environment. This study aims to determine the effect of the self-directed learning model based on local wisdom values on student learning outcomes. This study used a quasi-experimental research type with a one-group pre-test-post-test research design with a total of 27 students, including 15 boys and 12 girls. The data collection method used a questionnaire. The data analysis used was: 1) Descriptive statistics; 2) Analysis assumption test; and 3) Hypothesis testing. The results show that the self-directed learning model based on local wisdom has a significant effect on student learning outcomes, as evidenced by 27 students, 19 students experienced an increase, and no students experienced a decrease in learning outcomes. This research has implications for the education sector to increase knowledge about self-directed learning models that can improve student learning outcomes to become individuals better prepared to face the challenges of the times.

Keywords: self directed learning, local wisdom, learning outcomes

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INTRODUCTION

The process of learning activities is the most important thing to achieve learning objectives. In practice, the teacher is required to use an interesting learning model so that the learning material provided can be understood by students. Learning models are patterns or plans used in designing learning materials and guiding learning in class (Murwaningsih & Fauziah, 2020). Teachers can choose and use learning models according to the learning material explained to students. The learning model that can be used in Self Directed Learning, namely a student-centered learning approach, can increase interest and motivation in learning and knowledge (Rashid & Asghar, 2016). Success in learning activities is inseparable from the planning that has been prepared by the teacher before the implementation of learning (Han et al., 2015). Effective learning requires a teacher who can identify learning needs, formulate learning objectives, design and implement appropriate learning strategies, and carry out a fun learning process for students (Yilmaz, 2017).

Learning materials are usually given by the teacher to students based on books from the government, but in practice, the teacher can change the learning material by relating it to the surrounding environment but still has to achieve the same learning objectives. During learning activities, the teacher can carry out learning on the basis of local wisdom, which means learning that is linked to community character values. Local wisdom consists of three potentials, namely natural potential, social potential, and cultural potential (Septia et al., 2022). Learning activities based on local wisdom indirectly encourage and develop student character because these values are inherent in the surrounding environment (Astuti, 2021). Based on the description of this opinion, learning activities based on local wisdom can improve students' character based on noble values that can be developed and used in everyday life.

There are so many learning models available today with their respective advantages and disadvantages, so teachers must be creative in having learning models that must adapt to learning materials. According to Huang et al. (2020), teachers need to use learning models to support learning activities to achieve learning objectives actively and effectively. The correct learning model is a learning model that can attract students' attention during the learning process (Trust et al., 2016). The choice of learning model is important in learning because it influences student learning outcomes (Merchant et al., 2014). But in reality, there are still many teachers who only use lectures in learning activities and do not use other learning models. Teachers lack knowledge about creative and innovative learning models of learning activities, but there are also teachers who have knowledge but are limited in their implementation (Kim & Lee, 2018). Another problem faced by the teacher is that the teacher must meet the learning material targets that must be achieved so that they do not pay attention to the learning process.

Elementary school students must be given independent learning so that they can develop their interests and talents. Therefore, teachers must equip students and provide meaningful learning experiences (Darling-Hammond et al., 2020). According to Bozkurt et al. (2020), the Self-Directed Learning Model promotes creativity, responsibility, and independence of students. There is also the view that the learning model Self Directed Learning can measure several aspects of learning independence, including self-management, desire to learn, and self-control, enabling students to be active, independent, self-regulating, and self-exploring (Beghetto & Kaufman, 2014). The results of observations in school show that there are still many students who are not interested in learning activities because they are considered boring. The teacher only conveys learning material or what is commonly called teacher-centered learning.

Learning activities applying the Self-Directed Learning model can give students maximum learning results with their speed and ability to be actively involved in learning (Manian, 2020). Learning independence is in the model of Directed Learning, giving students freedom in determining and managing learning activities so that they can feel responsible for learning on their own without coercion or dependence on others (Greenhow & Lewin, 2016). Using this model in learning activities can create, plan, implement, and evaluate initiatives. According to Reeves et al. (2016), the model of Directed Learning explains the shared commitment between teachers and students, where students hold significant learning activities. In addition to the learning model, the teacher must also design the activities that students will carry out from the beginning to the end of learning so that learning outcomes follow the learning objectives. One way teachers can improve learning outcomes is to use local wisdom to make it easier for students to understand learning material because it is around them (Trust & Whalen, 2020). Learning that applies local wisdom has pedagogical values to regulate student behavior in preserving and developing local wisdom in their area (Ghavifekr & Rosdy, 2015).

According to Ali (2020), the Self-Directed Learning Model provides space for students to gain extensive knowledge with independent control in exploring and developing their potential, therefore in its implementation, this learning model provides freedom for students to plan their learning activities such as learning resources and learning media used. The teacher's role is to supervise the activities carried out by students to achieve learning objectives; providing independent learning to students does not mean that the learning activities follow all the wishes of students, but the teacher only provides space for students to develop their interests and remain under the teacher's supervision.

Students need the ability to be responsible for organizing and controlling learning activities to direct themselves, especially in the 21st century. The development of science and technology that is increasingly advanced makes all countries prepare human resources that can compete according to the needs of the times. Therefore, education in elementary schools is well-prepared to get better learning outcomes, one of which is using the Self-directed learning model in learning activities (Moro et al., 2017). Rini et al. (2022) reveal a positive and significant influence of the Self-directed learning model on student learning outcomes because it develops self-competencies such as creativity, communication, and collaboration. The difference between this study and other studies is the use of learning models that are rarely used and combined with local wisdom values in each student's area. Using local wisdom values in learning activities will make it easier for students to understand learning material because the problems discussed are in the surrounding environment. Learning models are increasingly developing according to the needs of the times. The teacher must understand the various kinds of learning models to be used in learning activities to attract attention. Students do not feel bored learning, so learning outcomes increase and learning objectives are achieved. One learning model that can be used is Self-Directed Learning. This learning model focuses on students and teachers as facilitators. This learning model in learning activities can be associated with local wisdom values and values in the environment around students so that it is easier to understand the learning material delivered by the teacher.

Based on existing problems and previous research, this study aims to prove and see the influence of self-directed learning models based on local wisdom values on the learning outcomes of Elementary students. Through this research, it is hoped that it can be used as one of the choices of learning models used by teachers in learning activities and the application of local wisdom values when learning activities are expected to be remembered and preserved by students because due to globalization which makes foreign cultures very easy to enter society so that students must know and be proud of local wisdom compared to foreign cultures.

METHODS

The type of research in this research was quasi-experimental, which means that experimental research uses only one group, which is the experimental group, which will not use the control group as the comparison group (Liu et al., 2023). This research used a one-group pre-test-post-test design. This study examined the experimental class and had no division between the experimental and control classes. The selection of classes that later became the experimental group was chosen randomly and no assessment of the clarity and stability of the group's condition was carried out before being given a research experiment. Tests of student learning

outcomes were arranged in the form of multiple-choice questions, and essays were used as research instruments. The instruments used were text, numbers, and images arranged into questions validated by lecturers and class teachers. Tests were given to students before and after the treatment to determine the difference in results. This study used a one-group pre-test and post-test research design. Two assessments were held in the class chosen as an experimental class: the first pre-test to see the group condition before treatment and the post-test to see the difference in group conditions after being given different treatments. The target of this study was 27 grade III elementary school students consisting of 15 boys and 12 girls aged 9 years to 10 years. The research design scheme of one group pre-test – post-test can be seen in the table below:

Table 1. One Group Pretest-Posttest Research Design Scheme

Pre-Test	Treatment	Post-Test
T1	X	T2

T1 = Initial assessment (Pre-Test) was held in the experimental group before being given the experiment; X = Trial (Treatment), which was carried out in the experimental group in which this study used an experimental application of the self-direct learning based on local wisdom; T2 = Final assessment (Post Test) was carried out in the experimental group after being given the experiment. The population of this research was students when the research began in the even semester of the 2022/2023 academic year. The sample for this study was a class with 27 students, including 15 boys and 12 girls. The sample of this study was one class that was selected as the experimental class using a sampling technique called purposive random sampling, which had the understanding that specific considerations guide this sampling. The sample in this study was chosen because this class could represent the population of this study, namely all students. This study used data from pretest and post-test classes. The data pretest results from student learning before treatment, while the data post-test results from student learning after treatment.

The data obtained in this study was in the form of quantitative data. Data was collected by giving pretest and post-test to students using research instruments in the form of multiple-choice questions and essays. Pretest was given at the beginning of learning, namely when students had not received treatment by applying the self-directed learning model based on local wisdom. Implementation goal: This is to find out students' initial skills in the form of initial ability test scores owned by students and post-test given after applying the self-directed learning model with local wisdom to students. Giving a post-test helped monitor student achievement progress in meeting the target learning objectives and seeing how the self-directed learning model with local wisdom influences student learning outcomes. The data analysis step was carried out in three steps: descriptive statistical analysis, analysis assumption test, and hypothesis testing. The descriptive analysis provided a brief description of the data. The assumption test tested the analysis requirements; this study used the normality test assumption. Hypothesis testing was carried out to statistically prove whether or not there is an effect of self-directed learning based on local wisdom on academic achievement. The hypothesis testing used parametric statistical tests (Test-t) if the data met the assumption test and non-parametric statistical tests if the data did not meet the assumptions (Test Wilcoxon).

Student learning outcomes tests were prepared by implementing the following stages: (1) identifying competence standard (SK) and basic competence (KD), (2) identifying and describing student performance indicators, (3) compiling learning test outlines, (4) establishing evaluation criteria, (5) compiling items, (6) expert test, (7) instrument field test, (8) field test analysis, (9) revision of question items, and (10) instrument finalization. The influence on the experiment in the form of applying self-direct learning based on local wisdom on student learning outcomes can be seen based on the difference in the results of pre-test and post-test.

RESULT AND DISCUSSION

This study uses self-directed learning based on local wisdom, which is believed to increase student academic achievement. The results of the experimental class research can be seen in the descriptive value analysis pre-test and post-test, as shown in [Table 2](#).

Table 2. Data. Average pre-test post-test

Data	Min	Max	Average
Pre-test	55	100	80,93
Post-test	65	100	87,04

[Table 2](#) shows the average pre-test value of 80.93, with the lowest score at 55 and the highest at 100.

Meanwhile, in the post-test, the lowest is 65, the highest is 100, and the average is 87.04. The average post-test value has increased compared to the pre-test value. The assumption test is conducted through the normality test with the Kolmogorov-Smirnov test where $\alpha = 0.05$. The results are shown in Table 3. The significance value of the pre-test is $0.2 > \alpha$ indicating that the pre-test data is normally distributed, but the significance value of the post-test is $0.001 < \alpha$ so the post-test data is not normally distributed. The prerequisites for customarily distributed data cannot be met, so a non-parametric statistical method is conducted through Wilcoxon for hypothesis testing.

Table 3. Kolmogorov-Smirnov Test Results

	Statistic	df	Sig.
Pre-test	0,128	27	0,200
Post-test	0,226	27	0,001

The Wilcoxon test is used to test whether there are differences in student learning outcomes using conventional learning models and self-directed learning models based on local wisdom. H_0 : Learning outcomes using self-directed learning based on local wisdom and conventional models are not different. H_1 : Learning outcomes using self-directed learning based on local wisdom and conventional models differ.

Table 4. Wilcoxon Test Results

	Posttest-Pretest
Z	-3.898
Asymp.Sig (2-tailed)	0,00

Table 4 shows the results of the Wilcoxon test. The significance value is $0.00 < \alpha$, then it is rejected, which means that the learning outcomes of self-directed learning based on local wisdom and the learning outcomes of conventional models differ. The self-directed learning model has a local wisdom-based influence on student learning outcomes. Other information obtained from the Wilcoxon test is shown in Table 5. Table 5 explains that of the 27 students, no students experienced a decrease in post-test scores, 19 students experienced an increase in post-test scores, and 8 students had the same value between post-test and pre-test. Therefore, it can be concluded that the self-directed learning model based on local wisdom significantly influences the learning outcomes. This study's results align with the research of Khalil et al. (2020), which states that students using a self-directed learning model have better learning outcomes because students learn according to their desires without coercion. The learning process in schools uses learning media in the form of cartoon videos or animations originating from the internet according to the wishes of students. Learning achievement is significantly better for students who take part in learning using a self-directed learning model compared to students following the conventional learning model (Kauffman, 2015). Using self-directed learning can make students active, self-disciplined, and independent (Zhu & Liu, 2020). Therefore, the results of this study can be implemented onwards. A self-directed learning model with local wisdom can make learning more quality and meaningful because students experience it directly by exploring their knowledge and skills. Through this, independent learning can provide much more effective mastery of the material (Pratiwi et al., 2022).

Table 5. Wilcoxon Test Results

		N	Mean Ranks	Sum of Ranks
Posttest-Pretest	Negative Ranks	0 ^a	0,00	0,00
	Positive Ranks	19 ^b	10,00	190,00
	Ties	8 ^c		
	Total	27		

a. Posttest < Pretest

b. Posttest > Pretest

c. Posttest = Pretest

The self-directed learning model based on local wisdom in this study is proven to increase student learning outcomes. Students can develop their abilities more broadly. Students are given the freedom to explore their potential. Students will learn to be responsible for themselves. Even so, teachers will accompany students and instill local wisdom values. Local wisdom is the value of goodness contained in culture and helps maintain student identity. Local wisdom-based learning will instill values in students to act appropriately and according to the values prevailing in society (Riana & Putriani, 2021). Self-directed learning is a learning method entirely under the student's control. According to Kim and Lee (2018), Students must be able to develop and practice

their skills or abilities according to what they like. Student learning levels may also vary according to gender, age, ethnicity, and level of education (Xu & Jaggars, 2017).

Self-directed learning combined with local wisdom-based learning will improve student learning outcomes because using both is still rare. Teachers must know the needs of today's students, including learning models and materials (Koc, 2016). Using self-directed learning models will make students more interested in learning than conventional learning, focusing only on the teacher who continuously delivers learning material. Meanwhile, using local wisdom in learning activities will make it easier for students to understand learning material because what they learn is around them (Hanifah et al., 2022). The material taught by teachers based on local wisdom must follow the learning objectives that students must achieve under the learning objectives made by the Government. The success of the self-directed learning model is divided into three levels, namely low, medium, and high. Student's dependence on teachers and friends in the learning process indicates a low level of success. Students are less active in adding study references, have low learning motivation, and need more confidence. The moderate success stage is the stage where students are ready to develop concepts in learning, students can be goal-oriented, but students still have less motivation, so teacher involvement is needed. A high success rate is a success where students can be independent and set learning goals without assistance. Students have good time management, seek many study references and can be responsible for themselves (Moro et al., 2021).

The teacher, as a learning facilitator, must always accompany students. Teacher assistance can be in determining learning objectives, choosing study references, and resolving difficulties that students cannot solve independently (Desimone & Pak, 2017). The value of local wisdom must always be instilled in every lesson so that students have noble values. Teachers must not be tired of providing motivation and input to students so that learning can be maximally successful, providing more intensive assistance to students with low learning levels and conducting evaluations in each lesson (Broadbent & Poon, 2015). Friends are essential things for students in the learning process. In addition, the teachers also help the student discussion process; when there are difficulties, students often find it easier or more online to ask their friends than the teacher. Besides that, friends as a means of measuring one's abilities; through discussion activities, students can measure their abilities compared to their friends (Hirota et al., 2020). The learning process will be maximally successful when it gets support from various parties. Teachers who play an essential role in learning activities must pay attention to and understand the needs and desires of students; when students feel comfortable with their learning activities, these students will get optimal learning outcomes. The teacher's involvement as a facilitator, the availability of learning facilities and infrastructure, friends as a means of discussion, and parental support will significantly assist the learning process; this conducive environment can help students obtain maximum results.

CONCLUSION

Based on the results of data analysis and discussion as described above, it can be concluded that 1) There is a significant difference in the learning outcomes of students who initially studied using conventional learning models and after students studied with local wisdom-based self-directed learning models by a significant value of $0.00 < \alpha$ then it is rejected meaning that the learning outcomes of self-directed learning based on local wisdom and learning outcomes of conventional models are different from each other; 2) The average value of student learning outcomes (post_test) increases when compared to the average value of student learning outcomes (pre_test) after applying the self-directed learning model. Of 27 students, as many as 19 students experienced an increase, and no student learning outcomes decreased. This research has implications for elementary schools and the scope of education to add to scientific studies on local wisdom-based self-directed learning models.

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