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The Effect of Jobsheets on Students Learning Outcomes in Brick Installation Practicum

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Abstract : *Student learning outcomes remained low prior to the implementation of jobsheet in the bricklaying lab. This study aims to determine the effect of the use of jobsheets on student learning outcomes in the brick installation practicum and to find out the students' response to their use in the learning process. This study uses a quantitative approach with a pretest-posttest design of one group. The subject of this research is class XI courses with a total of 30 students of the Construction and Housing Engineering Expertise Program of SMKN 1 Sidoarjo. The data collection technique includes a learning outcome test of 20 questions (pretest and posttest) and a systematically compiled student response questionnaire. Data were analyzed using paired sample t-test and percentage analysis. The results showed a significant improvement in student learning outcomes, with the average score increasing from 45.50 in the pretest to 85.33 in the posttest. The results of the hypothesis test showed a significance value of < 0.05 which means that there was a significant difference before and after the use of the jobsheet. In addition, student responses reached 79% in the positive category using a percentage scale. This shows that jobsheets are effective in improving learning outcomes and helping students understand the steps of practicum work in a systematic, directed, and more independent manner.*

Keywords : *Jobsheet; Learning Outcomes; Student Responses; Prestest-Posttest.*

INTRODUCTION

Education According to Law No. 20 of 2003, education is a conscious and planned effort to create an environment and learning process in which students actively develop religious spiritual strength, self-control, personality, intelligence, noble morals, and skills necessary for themselves, the community, the nation, and the state. According to (Khoirudina & Andajani, 2024), education in Indonesia continues to grow along with technological advances and increasingly complex labor market needs.

Indonesian education continues to undergo various improvements and reforms to improve the quality and quantity of education. One way to improve the quality and quantity of education is through the participation of educators. Education literally means teaching from educators to learners. Educators are expected to provide examples, guide and improve the moral and ethical behavior of each individual as well as deepen knowledge (Nisaa'an et al., 2022).

Educators are professionals who are in charge of planning and implementing the learning process, assessing learning outcomes, conducting guidance and training, and conducting research and service to all walks of life. Not only that, as an educator, you must also quickly innovate that makes the learning process better and must utilize technology, especially in education at vocational schools (Wijaya, 2023).

According to Abdullah & Wardhono (2023), Vocational education or also known as Vocational High School aims to equip students with skills relevant to their chosen profession and prioritize their readiness to enter the world of work. Therefore, these skills are very important as a foundation for working in the industrial world. Vocational education is a forum for developing core competencies that focus on students' skills and talents. Teachers are obliged to provide supporting facilities, including creative and innovative educational media, that provide benefits that allow students to learn independently. According to Hidayati (2021), One of the media used in learning is a jobsheet which contains worksheets and contains subject matter and instructions for carrying out practice.

In the selection of learning media to be used, it must be adjusted to the purpose of the learning to be carried out, the teaching material, the competence of the teacher, and the characteristics of the students (Miftah & Rokhman, 2022). Jobsheets as one of the media that can be used in learning have cognitive functions and compensatory functions. These functions can help students in the process of implementing learning, by attaching pictures of the steps in the learning process that will be carried out (Purwanto & Susanto, 2021).

Jobsheets, which are freeprint learning media as a tool to make the teaching and learning process more effective and efficient in terms of time and how to explain a subject (Mangesa & Prasojo, 2023). Jobsheet is a form of instruction sheet. One of the most dominant aspects of the practical learning process is the jobsheet, because the jobsheet is used to guide or guide students in learning and mastering one of the competencies taught by educators (Prasetya & Setiyo, 2025).

The low learning outcomes of students occur because the practice process has not been supported by adequate learning media, especially jobsheets which should be clear and structured work guides, the absence and inmaximization of the use of jobsheets makes it difficult for students to follow work steps, lack understanding of concepts during practice, and do not have independent references when teachers cannot fully accompany, so that the use of Jobsheets are consistently an important solution so that learning is more directed, student understanding increases, and learning outcomes can reach standards of completeness. Therefore, it is important to apply jobsheet media as a learning medium.

Jobsheet is a printed learning medium that contains a series of guides and pictures to complete an assignment that must be completed by students. This research is focused on jobsheets because their use is widely used by teachers in vocational schools with technical profiles. Several studies show that the use of innovative and creative jobsheet media can improve the achievement of vocational school students in their field of competence (Tsaqib & Wiyono, 2021).

The use of jobsheets is expected to provide an experience that makes it easier for students to learn, both in mastery and understanding of core competencies that can contribute to learning outcomes in the real world. Jobsheet have the advantage of encouraging students to practice according to the instructions. The success of learning can be seen through the test scores given by the teacher which is the student's learning achievement. Therefore, matters related to student learning outcomes and activities must be studied in order to get their benefits, and it is also necessary to pay attention to weaknesses in their application (Azri, 2022).

There are several weaknesses in its application in the classroom, such as the difficulty of students understanding the functions of the device and its features which adversely affect their learning outcomes (Puspasari et al., 2025). The cause of this is that learning activities are less rigorous and not in line with the established academic calendar. However, in practice, not all teachers at SMKN 1 Sidoarjo use jobsheets as a learning medium. There are also some teachers who still use the lecture and direct demonstration learning method without jobsheets during learning activities.

There is still a variation in the level of achievement of grades between students and some students who get grades below KKM, namely 75, there are also some students who get grades above KKM, with a percentage of 60% of students still getting grades below KKM and 40% of students who have got grades above KKM.

Therefore, it is important to conduct research on the influence of jobsheets. This research is expected to provide an overview of the effectiveness of jobsheets as a medium of practical learning, as well as provide input for teachers in determining appropriate learning strategies.

This research is expected to be able to provide useful data for myself, teachers, and schools in designing effective learning strategies. Thus, the practical learning process at vocational schools, especially at SMKN 1 Sidoarjo, can run more optimally and produce graduates who are competent and ready to compete in the world of work.

METHOD

This study employed a one-group pretest-posttest pre-experimental design. The experimental group is a group that is given the treatment of using a jobsheet, which is an experimental research design that only involves one group. The group was given an initial test (pretest) to find out the students' initial abilities, then given treatment in the form of learning with jobsheet media in the learning process. After the learning is completed, the same group is given a final test (posttest) to determine the improvement in student learning outcomes after being given treatment.

Table 1. One Group Pretest-Posttest

Group	Pretest	Treatment	Posttest
Experiment	O_1	X_1	O_2

Description :

O_1 : Test to measure students' abilities before being given treatment

O_2 : Final test to measure students' abilities after being treated

X_1 : Use of jobsheet teaching materials

The population used in this study is all students of the Construction and Housing Engineering Expertise Program at SMKN 1 Sidoarjo from class X to class XII with a total of 110 students. Samples are some units taken from the population to be used as research materials (Febriyanti, 2023). The sampling technique used for this study is a non-probability sampling technique with a purposive sampling method so that class XI of Construction and Housing Engineering SMKN 1 Sidoarjo was selected with a total of 30 students. The instrument used in this study was a test of 20 multiple-choice questions in measuring student learning outcomes and given a student response questionnaire to find out the students' response after being given treatment using a jobsheet, student responses use three indicators, namely, cognitive response (opinion), affective response (feeling), conative response (behavior). The data analysis technique in this study goes through the descriptive analysis stage in describing the data that has been collected for hypothesis testing using a different test (t-test) and calculating student responses using percentage techniques.

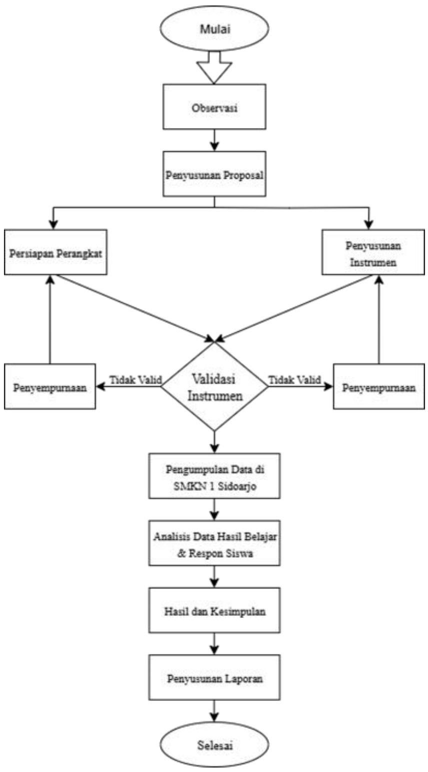

Figure 1. Research Flowchart

RESULT AND DISCUSSION

1. Result

Jobsheet is a learning tool in the form of a worksheet that contains directions for work steps, implementation procedures, and systematic guidance for students in the learning process, especially in practicum. The purpose of using jobsheets is to support students in understanding the material independently, increasing active participation, and making the learning process more planned and organized.

This descriptive analysis was carried out to obtain an overview of student learning outcomes in the learning process. This descriptive analysis uses several statistical measures, including mean value, minimum value, maximum value, and standard deviation. The results of this descriptive analysis are then used as a basis for assessing the effectiveness of the applied learning treatment.

Table 2. Descriptive Analysis Results

	N	Minimum	Maximum	Mean	Std. Deviation
Pretest	30	30	65	45.50	9.224
Posttest	30	70	100	85.33	8.899

Based on table 2, it shows that the number of students in the experimental class of 30 people with pretest scores has a range of 30–65, an average of 45.50, and a standard deviation of 9,224 which shows that the initial ability of students is still moderate with considerable variation in scores. After being given treatment, the posttest score increased with a range of 70–100, an average of 85.33, and a standard deviation of 8,899. The average increase from 45.50 to 85.33 indicates a significant increase in student learning outcomes. In addition, the decrease in standard deviation in the posttest shows that students' scores are becoming more even. Overall, this data shows that the treatment given in the experimental class has a positive effect on improving student learning outcomes.

Table 3. Distribution Normality Test

	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest	.122	30	.200*	.964	30	.381
Posttest	.118	30	.200*	.949	30	.156

*. This is a lower bound of the true significance
a. Lilliefors significance correction

Based on table 3, the distribution normality test is carried out to ensure that the data on student learning outcomes have normal distribution before hypothesis analysis is carried out. A data is said to be normal if the significant value in the normality test results exceeds 0.05 or 5%. In this study, the method used to test normality is the Shapiro-Wilk method.

Table 4. Uji Hipotesis Paired Sample T Test

Paired Sampeles Test					
		Mean	t	df	Sig. (2-tailed)
Pair 1	Pretest-Posttest	39.833	239.000	29	<.001

Based on table 4, the data from the analysis of sig. (2-tailed) above obtained <,001. Where the value is less than 0.05, so it can be concluded that there is a significant difference between student learning outcomes after the application of the jobsheet and before the application of the jobsheet.

Table 5. Percentage of Student Response Results

Students Respons		
Statement	Point	Percentage
1	110	85%
2	104	76%
3	113	83%
4	109	80%
5	106	78%
6	104	76%
7	103	76%
8	115	81%
9	107	79%
10	104	76%
Average		79%

Based on table 5, the percentage of student responses above, obtained results with an average score of 79%, then the results can be categorized as positive student responses.

Table 6. Percentage Results of Student Response Criteria

Percentage	**Category**
25% - 43%	Not Positive
44% - 62%	Less Positive
63% - 81%	Positive
82% - 100%	Very Positive

Source : (Saragih et al., 2021)

2. Discussion

The results of the study show that the application of jobsheet media has an influence on improving student learning outcomes in the implementation elements of housing construction work, especially in brick installation materials. The findings of this study are in line with research conducted by Puspasari et al., (2025), shows the results of the average score increase in the pretest and posttest. Thus, jobsheets have been proven to have a significant influence on improving student learning outcomes.

Based on the results of the pretest that had been given to the experimental class, it was known that the students' initial abilities were not much different. Most of the students in the class still received scores below the minimum completeness criteria set by the school, which is 75. This shows that students still have difficulty in understanding the brick installation material before being given learning treatment.

After being given treatment in the form of workthe application of jobsheet learning media in the experimental class, the posttest results showed an increase in student learning outcomes. This increase can be seen from the increase in the number of students who achieved scores above the KKM compared to the previous pretest results.

The increase in learning outcomes in the experimental class occurred because the jobsheet learning media provided opportunities for students to be actively involved in the learning process. Students not only receive learning from teachers, but are also given problems related to the installation of bricks to be analyzed and solved in groups.

Through group activities, students can understand the concept of learning in depth. In addition, students can also connect learning materials with their application in the field of building construction so that learning becomes more meaningful.

The students' responses in this study showed a positive tendency towards the application of jobsheet media on brick installation materials. An average percentage score of 79% indicates that most students responded with agree to strongly agree with the statements in the questionnaire. This shows that the learning applied is able to meet the learning needs of students, especially in terms of student activity, material relevance, and meaningful learning experiences. These results are relevant to research from Yuniarsih & Wiyono, (2024), The results of the study showed that students' responses to the effectiveness of jobsheets reached an average of 81%, including the positive category.

CONCLUSION

Based on the results of the study on the effect of the use of jobsheets on student learning outcomes in the brick installation practicum at SMKN 1 Sidoarjo, several conclusions can be drawn as follows:

1. Student learning outcomes have been proven to have increased significantly. This is shown by an increase in the average score from 45.50 in the pretest to 85.33 in the posttest after learning using a jobsheet. In addition, the results of the hypothesis test using a paired sample t-test showed a significance value of <0.05, which means that there was a significant difference between student learning outcomes before and after the application of the jobsheet in practicum activities.
2. Student responses can have a positive influence on the use of jobsheets. The results of the questionnaire analysis showed an average response percentage of 79% which was in the positive category. This shows that jobsheets help students understand the material, follow the work steps sequentially, and increase involvement in practicum activities. However, in the statement about knowledge acquisition through activities in the jobsheet , the lowest percentage of 76% was obtained in statement number 7, namely "I can gain knowledge by participating in a series of activities in the jobsheet", so that the aspect of understanding students' knowledge still needs to be improved.

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