

Teachers' Understanding in Implementing *Liveworksheets* in Learning (E-LKPD)

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Abstract: This community service aims to improve the digital competence of teachers at SMAN 1 Sukaraja in developing interactive student worksheets using the *Liveworksheets* platform. Electronic student worksheets (E-LKPD) are digital worksheets used for interactive discussions. Through E-LKPD, teachers will find it easier to check answers directly and reduce paper use. The method consists of training and the use of pretest-posttest instruments. A total of 19 teachers participated, with 15 Likert-scale indicators used to assess their understanding before and after the training. The results showed an increase in the average score from 4.48 in the pretest to 4.88 in the posttest. This indicates a significant improvement in teachers' understanding of *Liveworksheets* for E-LKPD development. It is recommended to conduct follow-up training integrating the platform into broader learning systems.

Keywords: digital learning; E-LKPD; *liveworksheets*; teacher training.

1. INTRODUCTION

The role of teachers in education is not only to transfer knowledge. Professional teachers must be able to follow developments in various fields, especially in the fields of science, knowledge, and technology. In addition, teachers must also be able to develop cognitive, affective, and psychomotor skills according to the developmental period of their students. Thus, students can obtain knowledge, technology, and contextual experience according to their development. Therefore, teachers must have a strong spirit and effort in improving their competence. With their various competencies, teachers must be able to face changes and developments in the world of education. Teachers must be able to select, adapt, and adopt all changes and developments that occur. The changes that occur are changes in learning devices.

One of the developments in the world of education is the development of technology in learning. The Independent Curriculum requires teachers to be able to master digital technology in learning activities, especially in finding and using various learning resources. With teachers knowing and utilizing digital-based

learning *platforms* , learning becomes broader in scope and learning becomes more effective, interactive, and contextual, allowing for in-depth material development according to student needs. Teaching materials are all forms of materials used by teachers in carrying out learning. Teaching materials can be in the form of modules, textbooks, student worksheets (LKPD), or videos related to teaching materials. One of the teaching materials that teachers can develop is the student worksheet (~~LKPD~~). The Student Worksheet is a printed teaching material containing instructions for implementing and steps for learning tasks carried out by students to find out the improvement in their learning outcomes. LKPD can be a tool that helps students understand concepts and learning becomes interactive (Payadnya et al., 2024) .

One of the functions of LKPD is to minimize the role of teachers and activate students more. However, in this digital era, printed LKPD should be able to change into digital form so that it can be accessed via any device such as a computer, mobile phone or smartphone. Thus, learning is expected to be more interactive. Therefore, there needs to be innovation in electronic LKPD to meet the needs of students and teachers. The electronic Participant Worksheet in question is E-LKPD. Electronic worksheets (E-LKPD) which will be compiled using *the Liveworksheets* browser. *Liveworksheets* is an application that makes it easier for teachers to change conventional worksheets into interactive and practical digital worksheets because they can be corrected automatically with simple specifications (Sugiarni et al., 2023). Liveworksheet can be accessed via Google.

The use of E-LKPD assisted by *Liveworksheets* is planned in line with the PkM partner program, namely SMAN 1 Sukaraja. The partner school, SMAN 1 Sukaraja, was stated that the school received the National Adiwiyata award, one of its programs is paperless (reducing paper use). This PkM will be implemented for teachers of all subjects representing(MGMPs), namely 19 teachers. The selection of the location for implementing PkM at SMAN 1 Sukaraja was based on the results of an interview with the Principal that SMAN 1 Sukaraja has a *paperless program* in his school's Adiwiyata Program. Through this PkM, it is hoped that teachers can be creative in compiling electronic LKPD to meet the needs of students according to their abilities. The objectives of this training are:

- a. Improving teachers' understanding of the function of *Liveworksheets* in learning.

- b. Equipping teachers with technical skills in compiling E-LKPD using *Liveworksheets* .
- c. Measuring the effectiveness of training by comparing pre-test and post-test scores.

The use of technology for teachers in the learning process is a challenge for teachers in the Independent Curriculum. Teachers are required to be able to master digital technology in learning activities. By teachers knowing or mastering digital-assisted learning platforms, learning will become interesting, interactive, and contextual. The use of learning platforms can be used in compiling student worksheets. Student worksheets can be a measuring tool for student understanding of the material presented. However, there are still teachers who do not always use LKPD (sometimes). Thus, it is difficult to measure student understanding of the material presented by the teacher. In addition, the student worksheets used by teachers still tend to be printed, so a lot of paper is used.

2. METHOD

The implementation of Community Service (PkM) activities was carried out at SMAN 1 Sukaraja, located on Jl. Tumas, Bogor Regency. This activity was carried out in February 2024. The PkM activity began with an observation at the school to determine the target conditions. After that, preparations were made by preparing training devices such as training e-modules, making activity posters that were distributed on social media. The next stage is the implementation of the training. The training material is E-LKPD assisted by *Liveworksheets*. The training was attended by the Principal of SMAN 1 Sukaraja and attended by 19 subject teachers. The training was carried out offline with a combined method (eclectic) including demonstrations, discussions, questions and answers, and exercises.

The instruments used were pre-test and post-test questionnaires. The questionnaire contained 15 indicators with a Likert scale of 1-5. The indicators used included understanding of features, interactivity, flexibility, and *Liveworksheets support* for formative assessment (especially E-LKPD). The data were analyzed quantitatively descriptively. Each pre-test and post-test score was averaged, then the difference and percentage increase were calculated using the N-Gain Test with the formula:

$$N - Gain = \frac{Pascates - Prates}{5 - Prates}$$

The results of the N-Gain calculation are interpreted into the interpretation table as follows:

N-Gain Results	Interpretation
≥ 0.70	Tall
$0.30 - 0.69$	Currently
< 0.30	Low

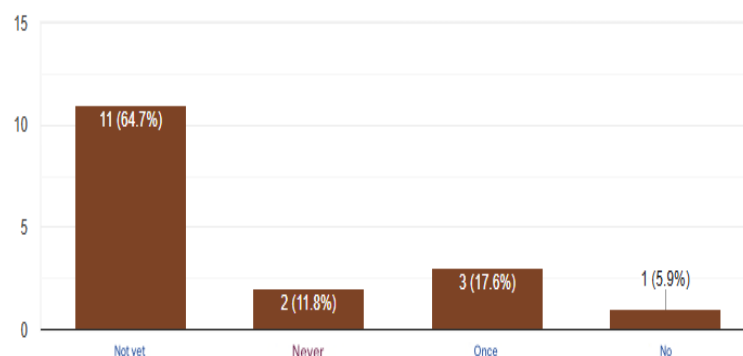
3. RESULTS AND DISCUSSION

Community Service was held on February 27, 2024 at SMAN 1 Sukaraja. The training material was the development of E-LKPD assisted by *Liveworksheets*. This training was attended by 19 subject teachers who were members of the school MGMP. One of the objectives of this training was to determine teachers' understanding of the use of *Liveworksheets* in developing E-LKPD. To determine this understanding, the team provided a pre-test and post-test. The pre-test was given before the training to determine the initial understanding before the training was carried out. The post-test was given after the training to determine the understanding after participating in the E-LKPD development training assisted by *Liveworksheets*.

Pretest and Posttest are given in the form of g-form to make it easier to get results. Before the training, we started by giving initial questions as initial data about LKPD and *Liveworksheets* knowledge. The initial data results showed that only **17.6%** of teachers **had** and **5.9%** of teachers **had never** used the *Liveworksheets* application for E-LKPD. Thus, it can be concluded that almost all teachers (76.5%) **have never** used the *Liveworksheets* application for LKPD.

Have you ever used the Liveworksheets platform to create LKPD?

17 responses



After the initial data was obtained, participants were given a pre-test before the training to determine their initial knowledge and understanding of *Liveworksheets*. The pre-test and post-test questions given amounted to 15 questions. The objectives of the questions include finding out teachers' understanding that *Liveworksheets* can support independent work and presentations, can adjust learning styles, understand media integration and learning platforms, can evaluate both peer assessments or formative assessments, understand automatic assessment features, and measure participants' understanding of the flexibility of question types, clarity of instructions, and language used. From the pre-test given, an average result of 4.48 was obtained.

The average pre-test on understanding *Liveworksheets* is still very low. Therefore, training was conducted to develop E-LKPD assisted by *Liveworksheets*. Initial data shows that the majority of participants have never used *Liveworksheets* in learning. Participants are very enthusiastic about receiving LKPD materials, assessments, and *Liveworksheets*. The presentation of the material is carried out in a combined (eclectic) form including demonstrations, discussions, questions and answers, and exercises. During the training, multidirectional communication occurs (participants-resource persons, resource persons-participants, or between participants).



Figure 1. Training Participant Activities

Participants were trained directly from creating an account to editing elements in *Liveworksheets*. After the trainer finished, participants were given a post-test to determine their understanding of *Liveworksheets* after participating in the training. The average post-test results showed an increase in understanding of *Liveworksheets* at 4.88. The post-test results increased from the pre-test results as seen from the average score. The increase can be seen from the following N-Gain formula.

$$N - Gain = \frac{4,88 - 4,48}{5 - 4,48}$$

$$N - Gain = \frac{0,4}{0,52}$$

$$N - Gain = 0,77$$

Based on the calculation, the N-Gain result of 0.77 according to the table shows a **high interpretation** because the N-Gain result ≥ 70 . The high interpretation proves that participants experienced a high increase in understanding *Liveworksheets*. The increase in understanding occurred in 5 questions out of 15 questions given. The following is a table of questions that experienced an increase in understanding about *Liveworksheets*.

Table 1. *Liveworksheets* comprehension improvement questions

GRAIN	STATEMENT	PRATES	POST-CATE	IMPROVEMENT
1	<i>Liveworksheets</i> for group or independent.	4.58	5	+0.42
2	<i>Liveworksheets</i> facilitate presentation in class.	4.58	4.95	+0.37
6	<i>Liveworksheets</i> digital platform.	4.53	4.95	+0.42
10	<i>Liveworksheets</i> accommodate assessment formative (pretest and posttest)	4.58	4.95	+0.37
12	<i>Liveworksheets</i> correcting answer in a way automatic	4.47	4.95	+0.47

Based on the table, it can be described in the following graph.

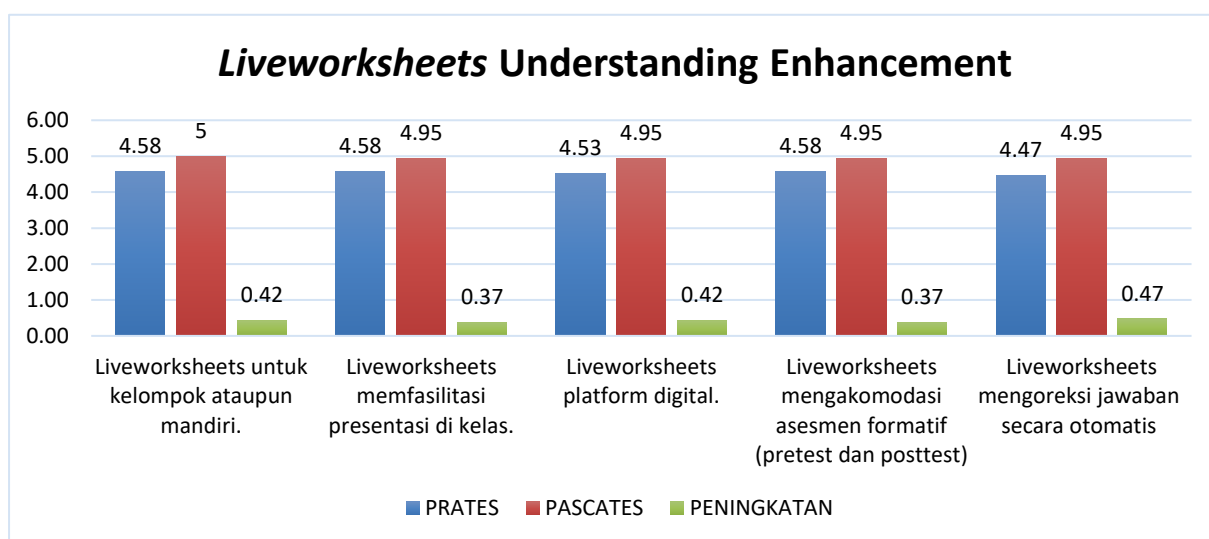


Chart 1. Improvement in *Liveworksheets* Understanding

The results of the pre-test and post-test analysis showed that there was an increase in teacher understanding in five key aspects related to the use of *Liveworksheets* in learning. The highest increase was seen in item 12, namely the ability of *Liveworksheets* to automatically correct answers with a score increase from 4.47 to 4.95 (a difference of 0.47). This shows that the previously poorly understood auto-correction feature is now better known and appreciated by teachers after the training. The superiority of this feature plays an important role in the efficiency of learning evaluation, so that training that emphasizes the practice of using this feature has proven effective.

In addition, points 1 and 6 also experienced a significant increase of 0.42 points. In point 1, teachers showed an increase in understanding that *Liveworksheets* can be used individually or in groups, while in point 6 teachers realized its function as a comprehensive digital learning platform. This indicates that the training succeeded in bridging teachers' understanding from simply seeing *Liveworksheets* as a tool for making mistakes to a learning platform that supports collaboration and flexibility. By strengthening this concept, teachers tend to be more ready to adopt a blended learning approach in teaching and learning activities.

As for items 2 and 10, each experienced an increase of 0.37 points. Item 2 highlights the role of *Liveworksheets* in facilitating classroom presentations, and item 10 relates to its use in formative assessments. Although the increase was not as large as the other items, the high average pre-test scores indicate that most teachers were previously familiar with the benefits. However, this increase was not only about knowing the features, but also understanding how to integrate them in the context of ongoing assessment and meaningful presentation activities. Thus, these results indicate that hands-on training is very effective in improving teachers' technical understanding and implementation of *Liveworksheets features*.

4. CONCLUSION

Community service activities through training on the use of *Liveworksheets* in compiling E-LKPD at SMAN 1 Sukaraja have shown positive results and are in accordance with the objectives of the program. The pre-test and post-test results showed an increase in teachers' understanding of key aspects of using *Liveworksheets*, including the use of automatic correction features, digital platform-based learning, and formative assessments.

All items increased with an average score of 0.77, with an N-Gain value in the high category. This shows that the target of the activity to improve teachers' digital literacy for innovative learning, especially E-LKPD, has been achieved well.

The method used in this training is the eclectic method (including demonstrations, discussions, questions and answers, and exercises) which has proven to be effective in answering problems and needs in the field. The majority of teachers previously did not know or had not used *Liveworksheets* as a medium for developing digital LKPD. The challenges of limited digital literacy and the use of learning technology can be overcome through intensive mentoring and providing contextual materials. The selection of this training method is very appropriate, because it is able to empower teachers not only in terms of knowledge, but also practical skills in creating digital learning products independently.

The impact of this training was felt directly by teachers, both in improving their competence and readiness to implement digital media in a more structured manner in the learning process. Training on the use of *Liveworksheets* in developing E-LKPD had a significant impact on improving teacher understanding at SMAN 1 Sukaraja. All participants experienced an increase in their post-test scores. This activity has an impact on improving teachers' abilities in compiling interactive digital teaching materials that support differentiated learning. Therefore, it is recommended that this training be further developed to the next stage, such as integrating *Liveworksheets* into the Learning Management System (LMS) via Moodle or Google Classroom and forming a digital learning community between teachers. Similar training activities also need to be expanded to other schools facing similar challenges so that the benefits of community service can reach a wider audience.

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CONFLICT OF INTERESTS

The author declares no conflict of interest in the implementation and writing of this article.

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