

Students' Response to E-LKPD Liveworksheets Learning Media at Suntisart Wittaya School-Thailand

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ABSTRAK

Meningkatnya penggunaan media pembelajaran digital dalam pendidikan dasar menyoroti pentingnya memahami respons siswa terhadap materi pembelajaran berbasis teknologi. Studi ini bertujuan untuk meneliti respons siswa terhadap penggunaan lembar kerja elektronik siswa (e-LKPD) berbasis Liveworksheets di sebuah sekolah dasar di Thailand. Penelitian ini menggunakan Pendekatan penelitian deskriptif digunakan, melibatkan 26 siswa kelas empat di Sekolah Suntisart Wittaya, Yala, Thailand. Data dihimpun menggunakan kuesioner respons siswa 10 item dan dianalisis menggunakan analisis kuantitatif deskriptif melalui perhitungan persentase. Hasil menunjukkan bahwa respons siswa dikategorikan baik, dengan skor 74,25% untuk indikator format, 74,50% untuk relevansi, 73% untuk kepercayaan diri, dan 74,50% untuk minat, menghasilkan respons rata-rata keseluruhan sebesar 74%. Temuan ini menunjukkan bahwa e-LKPD berbasis Liveworksheets dapat dimanfaatkan secara efektif sebagai media pembelajaran digital alternatif untuk mendukung keterlibatan siswa dan pembelajaran interaktif di kelas matematika sekolah dasar.

Kata Kunci: media pembelajaran; e-lkpd liveworksheet; respon siswa.

ABSTRACT

The increasing use of digital learning media in elementary education highlights the importance of understanding student responses to technology-based learning materials. This study aims to examine student responses to the use of Liveworksheets-based electronic student worksheets (e-LKPD) in an elementary school in Thailand. This study used a descriptive research approach, involving 26 fourth-grade students at Suntisart Wittaya School, Yala, Thailand. Data were collected using a 10-item student response questionnaire and analyzed using descriptive quantitative analysis through percentage calculations. The results showed that student responses were categorized as good, with scores of 74.25% for the format indicator, 74.50% for relevance, 73% for confidence, and 74.50% for interest, resulting in an overall average response of 74%. These findings indicate that Liveworksheets-based e-LKPD can be effectively utilized as an alternative digital learning medium to support student engagement and interactive learning in elementary school mathematics classes.

Keywords: learning media; e-lkpd liveworksheet; students' response.

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1. INTRODUCTION

As a developing country in Southeast Asia with diverse geographical conditions, Thailand faces challenges in equal access to education, so the use of digital education is an important strategy to improve the quality and affordability of learning in various regions (Aroonsrimarakot et al., 2023). Suntisart Wittaya School is an Islamic elementary school located in Yala Province, southern Thailand, which served as the research site. The school provides primary education by integrating religious instruction with the national curriculum. In recent years, Suntisart Wittaya School has begun adopting educational technology, including digital learning media and online worksheets, to support classroom instruction and increase student engagement. However, the implementation of technology-based learning still faces several challenges, such as limited digital literacy among students, limited access to learning tools, and the need for teacher support in designing interactive digital materials (Qolbi & Afriansyah, 2024; Utari et al., 2025). These contextual conditions make the school a relevant setting for investigating student responses to digital learning media in primary education.

Situated amid a tranquil rubber plantation, the school offers a peaceful and natural learning environment, which greatly supports holistic, student-centered education. The institutional culture is deeply rooted in family values, making it a welcoming and adaptable place for both students and educators. The school day runs from 7:30 a.m. to 4:00 p.m., incorporating both academic and extracurricular activities designed to foster discipline, responsibility, and creativity. Beyond classroom learning, students participate in religious and social activities that strengthen their sense of community and brotherhood. With its spirit of empowerment and comprehensive education, Suntisart Wittaya School has become a beacon of Islamic education in southern Thailand and a living example of how an independent, contextually relevant educational institution can meaningfully serve and uplift the local Muslim community.

In the digital era, technology integration is expected to improve learning effectiveness (Mulyadi & Afriansyah, 2022; Rahayu, Aima, & Juwita, 2023). One such innovation is the use of electronic learning worksheets (e-LKPD) based on digital platforms such as Liveworksheets. This interactive medium allows students to engage with mathematical content through features such as drag-and-drop, short answer, and multiple-choice questions, supported by audio and visual elements (Basir, Agustyani, & Maharani, 2024). The use of Liveworksheets-based e-LKPD in mathematics learning encourages active participation and supports students' conceptual understanding by providing interactive and immediate feedback and help them understand the material better (UNESCO, 2022) also stated that digital innovation has the potential to transform education and accelerate the achievement of Sustainable Development Goal 4 (SDG 4). According to (Munaji et al., 2025), a teaching model that focuses on the practical application of mathematical knowledge gained in both study and practice utilizes information and

communication technologies (ICT) to equip students with effective tools for problem-solving. In the current digital era, we need to increase our knowledge about information and communication technology, because technology is developing rapidly every day (Purwanto et al., 2024).

However, the reality in the field shows that the implementation of e-LKPD based on Liveworksheets still faces various challenges. Some studies reveal that the effectiveness of this media is highly dependent on the readiness of teachers and students in using it, as well as the availability of adequate supporting infrastructure (Farman, Hali, & Rawal, 2021). In addition, according to (Ningrum, 2024), adaptation to new technology requires sufficient time and training for educators and students so that they can optimize the use of technology in the teaching-learning process. Marpaung, Muchtar, and Nurfajriani (2023) added that the development of e-LKPD based on Liveworksheets needs to be adjusted to the applicable curriculum to be more effective in supporting the learning process in the classroom. World Bank (2023) also emphasized that technology will only be effective if it is used to increase the capacity of teachers in ensuring that every student can learn well.

Studies on the use of e-LKPD based on Liveworksheets have been conducted in various countries, but research that specifically examines student responses to the use of e-LKPD Liveworksheets in the context of education in Thailand, especially at Suntisart Wittaya School, is still very limited. According to Nurhaliza and Titikusumawati (2023), most of the previous studies focused more on the development and effectiveness of e-LKPD in improving learning outcomes without deeply exploring students' perceptions and experiences in using the media. In addition, research Rimayanti, Karmila, and Anjaswuri (2023) found that Liveworksheets-based e-LKPDs can help students understand more complex concepts in certain lessons, but its effectiveness depends on teacher interaction in learning. Ghaisani and Setyasto (2023) also showed that the use of Liveworksheets-based e-LKPD can improve student learning outcomes in science subjects, but it requires an attractive design to remain effective.

Based on this, this study aims to analyze students' responses to the use of e-LKPD Liveworksheets at Suntisart Wittaya School, Thailand. The urgency of this research lies in the need for a deeper understanding of students' perceptions of technology-based learning media, which can be the basis for developing learning strategies that are more effective and in accordance with the needs of students in the digital era. (Ningsih, Hala, and Usman, 2023) emphasized that the use of interactive e-LKPD based on Liveworksheets can improve learning outcomes and student creativity, so understanding its application in various school contexts is very important.

2. METHOD

The type of research used is Descriptive Research, with the objective to describe and analyze student responses after using the E-LKPD Liveworksheets. The samples in the research were 4th grade students with 26 students at Suntisart Wittaya School, Yala, Thailand. Sampling technique is purposive sampling area, the research sampling with certain considerations. The consideration in sampling the research was the e-LKPD Liveworksheets has been applied to 4th grade students at Suntisart Wittaya School, Yala, Thailand, so the response data needs to be described is from 4th grade students (see Figure 1).



Figure 1. Suntisart Wittaya School Students are Working on e-LKPD

The data collection instrument used a student response questionnaire. The questionnaire was given to students after the student used E-LKPD Liveworksheets. questionnaires were given by paper sheets that were distributed after learning, this was done to collect data results. The Assessment score used in the questionnaire distributed is (1) Very Disagree, (2) Disagree, (3) Agree, (4) Very Agree. The data collected from the student response questionnaire was the analyzed by calculating the percentage of the student response value (P) as below.

$$P = \Sigma R / N \times 100\%$$

ΣR is the total score of respondents' answers to each question and N is the highest score of respondents' answers to each question. The calculated results of the student response questionnaire result were categorized based on the percentage that had been modified from Arikunto (2010). Based on Table 1. If the student response result received a minimum percentage of 62% the E-LKPD was considered to have a positive to be used in learning

Table 1. Assessment of Student Response Questionnaire Result

Score	Description
$81\% < P < 100\%$	Very Good
$61\% < P \leq 81\%$	Good
$41\% < P \leq 61\%$	Enough
$21\% < P \leq 41\%$	Poor
$0\% < P \leq 21\%$	Very Poor

3. RESULT AND DISCUSSION

When interacting with an object, a person would show behavior or certain actions as a response (Widoyoko, 2018) In education, students' response to learning media can affect the effectiveness of the teaching-learning process. After learning in the class using E-LKPD Liveworksheets, students were given a response questionnaire with 10 questions to be filled in by students with a statement of very agree with a score of four, agree with a score of three, disagree with a score of two, very disagree with a score of one. Then the results of the student response questionnaire data were collected with scores in Table 2.

Table 2. Student Response Result

Minimum	Maximum	Average	Varians
25	33	28,58	4,47

Based on the results of student responses in table 2, it could be seen that the highest student response score was 33 and the lowest was 25. The results of the response questionnaire were analyzed using a percentage formula and criteria were taken basen on the student response assessment guidelines and were modified by Arikunto (2010). Student responses based on indicators could be seen in Figure 1.

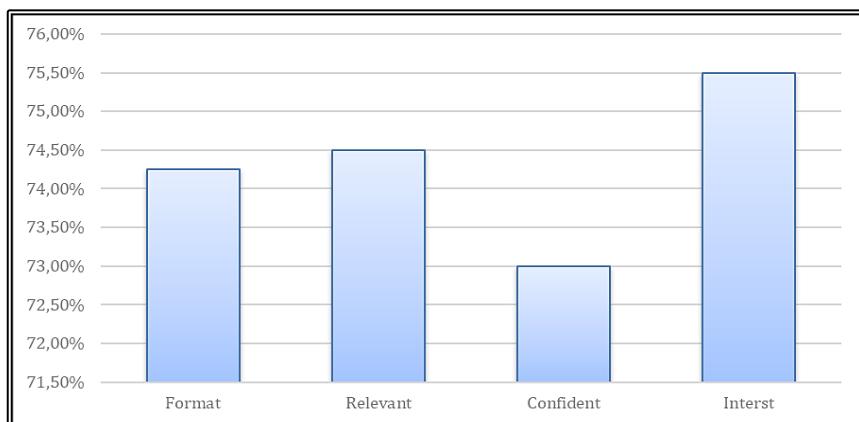


Figure 2. Student Response Result

Based on figure 1 This study focuses on understanding students' perceptions of the use of Liveworksheet-based e-LKPD, particularly in terms of content clarity, ease of use, material relevance, and student engagement. These perceptions were examined to evaluate how students experience digital learning media in the learning process. Furthermore, the findings are used as a basis for determining future learning strategies, particularly in improving the design and implementation of digital, interactive, and student-centered learning media that align with 21st-century learning. It could be seen that in the format indicator, the percentage of student response is 74,25%, which is included in the good category. In the relevance indicator, the percentage of student response is 74,50% and is included in the good category. In the Confidence

indicator, the percentage of student response is 73% and is included in the good category. In the Interest indicator, the percentage of student response is 75,50% and is included in the good category. The result of a more detailed analysis of student response questionnaires on each question item can be seen Table 3.

Table 3. Student Response Analysis Results

Aspect	Indicator	Statements	Average	Score (%)	Category
Response	Format	The language used in the LiveWorksheets LKPD is easy to understand.	2,88	72,12%	Good
		The instructions in the LiveWorksheets LKPD are easy to follow.	2,88	72,12%	Good
		The choice of font type and size in the LiveWorksheets LKPD is appropriate, making it easy for me to read.	2,85	71,15%	Good
		The color scheme of the LiveWorksheets LKPD is visually appealing to me.	2,81	70,19%	Good
	Relevance	The images in the LiveWorksheets LKPD are relevant to the lesson content, making it easier to understand.	2,85	71,15%	Good
Reaction	Confidence	The LiveWorksheets LKPD motivates me to complete the exercises.	2,88	72,12%	Good
		After using the LiveWorksheets LKPD, I feel more motivated to learn mathematics.	2,85	71,15%	Good
		The LiveWorksheets LKPD increases my enthusiasm for solving problems.	2,77	69,23%	Good
	Interest	The LiveWorksheets LKPD is visually appealing.	2,92	73,08%	Good
		I would like to use the LiveWorksheets LKPD again in future lessons.	2,88	72,12%	Good

The result showed that the use of E-LKPD Liveworksheets has a positive relationship with student responses, this is indicated by the results of student responses which are quite good or positive. Therefore, E-LKPD Liveworksheets can support students in the learning process and achieving improved learning outcomes (Rusdan dan Mulya, 2023).

The findings of this study indicate that the use of E-LKPD based on Liveworksheets has a positive relationship with student responses. This is reflected in student responses, which were generally positive, as indicated by the highest scores on the indicators of content clarity, ease of use, and material relevance, indicating that digital worksheets support active student engagement by enabling them to understand the material easily, interact with tasks independently, and stay focused throughout the learning process. These results are consistent with the research by Pratama and Nugroho (2022), which found that interactive E-LKPDs enhance students' learning motivation and help them grasp concepts more deeply. The strength of Liveworksheets lies in its interactive features, which allow students to practice independently while receiving immediate feedback, thereby creating more meaningful learning experiences (Sari & Wahyuni, 2021). Moreover, E-LKPDs support 21st-century learning principles by integrating adaptive and contextual digital technology into classroom practices. Therefore, the use of E-LKPD through platforms like Liveworksheets not only generates positive student responses but also contributes to improved learning outcomes by promoting active and structured engagement. This suggests that integrating E-LKPD into instruction is a relevant and effective strategy to enhance technology-based learning innovation. These positive responses relate to the interactive and user-friendly features of the digital worksheets, which support active student engagement. Student responses are crucial for future learning development, as they provide information for designing more effective, student-centered learning strategies. The findings imply that interactive digital worksheets support student engagement and can inform teachers' decisions in designing student-centered learning. Future research may examine their effectiveness in improving learning outcomes across different contexts.

4. CONCLUSION

Based on the results of the research and analysis, it could be concluded that student responses to E-LKPD Liveworksheets showed an average of 74% which is included in the good category. The students' responses show their interest in the E-LKPD Liveworksheets. Therefore, the researcher suggested that E-LKPD Liveworksheets could be used as an alternative teaching material to support the learning process. This study was limited to a small sample and focused on student perceptions. Future research should involve a larger sample and investigate the effects of digital worksheets on learning outcomes using a different research design.

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BIBLIOGRAPHY

Aroonsrimarakot, S., Laiphakpam, M., Chathiphot, P., Saengsai, P., & Prasri, S. (2023). Online learning challenges in Thailand and strategies to overcome the challenges from the students' perspectives. *Education and information technologies*, 28(7), 8153-8170.

Annisa, F., & Putri, N. E. (2023). Students' Perception Toward the Use of E-LKPD Liveworksheets.com in Learning English at SMA N 7 Padang. *Journal of English Language Teaching*, 12(3). <https://doi.org/10.24036/jelt.v12i3.124983>

Arikunto, S. (2010). *Evaluasi Program Pendidikan: Pedoman Teoritis Praktis bagi Praktisi Pendidikan*. Jakarta: Bumi Aksara.

Basir, M. A., Agustiani, M., & Maharani, H. R. (2024). Innovative trigonometry learning: The role of liveworksheets-assisted interactive worksheets in improving numerical literacy. *Mosharafa: Jurnal Pendidikan Matematika*, 13(3), 605-620. <https://doi.org/10.31980/mosharafa.v13i3.2366>

Farman, F., Hali, F., & Rawal, M. (2021). Development of E-LKPD Using Live Worksheets for Online Mathematics Learning during Covid-19. *Journal of Mathematics Education*, 6(1). <https://doi.org/10.31327/jme.v6i1.1626>

Ghaisani, N. R. T., & Setyasto, N. (2023). The Development of Liveworksheets-Based Electronic Student Worksheets (E-LKPD) to Improve Science Learning Outcomes. *Jurnal Penelitian Pendidikan IPA*, 9(8). <https://doi.org/10.29303/jppipa.v9i8.4571>

Marpaung, A. R., Muchtar, Z., & Nurfajriani. (2023). Development of e-LKPD Assisted by Liveworksheets Based on HOTS in Chemistry Materials of Grade X Senior High School Even Semester of Merdeka Curriculum. *Proceedings of the 8th Annual International Seminar on Transformative Education and Educational Leadership*. <https://doi.org/10.4108/eai.19-2023.2340420>

Mulyadi, R., & Afriansyah, E. A. (2022). Pengaruh literasi digital terhadap kemandirian belajar matematika siswa. *Math Didactic: Jurnal Pendidikan Matematika*, 8(2), 183-191.

Munaji, Rohaeti, T., Mutadi, Sumliyah, & Kodirun. (2025). A literature review of flexibility in interactive mathematics classrooms: the role of teachers and students. *Journal of Education and Learning*, 19(2), 597 – 605. <https://doi.org/10.11591/edulearn.v19i2.21501>

Ningrum, D. I. W. (2024). The Students' Perception on the Use E-LKPD Liveworksheets.com in Learning English to Informatic Engineering Students of Politeknik Sawunggalih Aji. *Jurnal Ekonomi dan Teknik Informatika*, 12(1). <https://doi.org/10.37601/jneti.v12i1.251>

Ningsih, S., Hala, Y., & Usman. (2023). Menerapkan E-LKPD Interaktif Berbasis Liveworksheet untuk Meningkatkan Hasil Belajar dan Keatifan Peserta Didik Kelas VII SMP Negeri 3 Sinjai. *Jurnal Pemikiran dan Pengembangan Pembelajaran*, 5(2). <https://doi.org/10.31970/pendidikan.v5i2.580>

Nurhaliza, E., & Titikusumawati, E. (2023). Effectiveness of Electronic Student Work Sheet (e-LKPD) Using Liveworksheets Based on Discovery Learning Organizational System Concepts of Life on Learning Outcomes of Class VII Students. *Annual International Conference on Islamic Education for Students*, 2(1). <https://doi.org/10.18326/aicoies.v2i1.610>

Pratama, R. Y., & Nugroho, S. E. (2022). *Pengaruh Penggunaan E-LKPD Interaktif terhadap Motivasi dan Hasil Belajar Siswa pada Mata Pelajaran Matematika*. *Jurnal Inovasi Pendidikan*, 9(1), 45-53.

Purwanto, D., Yousof, I. Bin, Ulwy, K., Sumliyah, Trisolvena, N., Rohaeti, T., Jannah, W. N., Charisma, D., Haryanto, L. I., & Mutmainah. (2024). Introducing Mathematics Learning Media to Students of an-Nikmah Al-Islamiyah Institute At Phnom Penh Foundation. *International Journal of Community Services*, 2(1), 5 – 10.

Qolbi, A. N., & Afriansyah, E. A. (2024). Capacity for mathematical literacy reviewing the learning style. *Journal of Authentic Research on Mathematics Education (JARME)*, 6(1), 94-113. <http://dx.doi.org/10.37058/jarme.v6i1.9385>

Rahayu, M., Aima, Z., & Juwita, R. (2023). Validitas E-Modul Berbasis Android Menggunakan Sigil Software pada Materi Peluang. *Plusminus: Jurnal Pendidikan Matematika*, 3(2), 265-276. <https://doi.org/10.31980/plusminus.v3i2.1342>

Rimayanti, P. C., Karmila, N., & Anjaswuri, F. (2023). Pengembangan Lembar Kerja Peserta Didik Elektronik (E-LKPD) Berbasis Liveworksheet pada Tema 8 Daerah Tempat Tinggalku Subtema 2 Keunikan Daerah Tempat Tinggalku. *Didaktik: Jurnal Ilmiah PGSD STKIP Subang*, 9(3). <https://doi.org/10.36989/didaktik.v9i3.1381>

Rusdan, M., & Mulya, D. B. (2023). The Effect of Using Live Worksheet-Based Electronic Worksheets to Measure Cognitive Learning Outcomes. *Edunesia : Jurnal Ilmiah Pendidikan*, 4(3), 983 – 998. <https://doi.org/10.51276/edu.v4i3.481>

Sari, N. P., & Wahyuni, S. (2021). *Pengembangan E-LKPD Berbasis Liveworksheets untuk Meningkatkan Keaktifan dan Kemandirian Belajar Siswa*. *Jurnal Teknologi Pendidikan*, 23(2), 134-142.

UNESCO. (2022). *Digital learning and transformation of education*. Retrieved from <https://www.unesco.org/en/digital-education>

Utari, R. S., Putri, R. I. I., Zulkardi, Z., & Hapizah, H. (2025). Bridging Theory and Practice: A Literature Review on Learning Trajectories in Statistical Literacy Instruction. *Plusminus: Jurnal Pendidikan Matematika*, 5(1), 1-16. <https://doi.org/10.31980/plusminus.v5i1.2521>

Widoyoko, S. E. P. (2018). *Penilaian Hasil Pembelajaran di Sekolah*. Yogyakarta: Pustaka Belajar.

World Bank. (2023). *Using Education Technology to Improve K-12 Student Learning in Developing Countries*. Retrieved from <https://documents1.worldbank.org/curated/en/099101823165518031/pdf/P17621705cd9a20790934b07f81be977f8c.pdf>

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