Liveworksheet to Improve the Reading Comprehension of Islamic Senior High School Students

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Abstract. *Reading comprehension is a crucial skill in learning English, particularly at the Islamic high school level. Students at this stage are often exposed to lengthy texts, yet they still encounter difficulties in fully understanding the content. This challenge may stem from limited use of interactive learning media and the predominant reliance on traditional media, such as monotonous paper-based worksheets that are less engaging. Therefore, this study aims to evaluate the effectiveness of paper worksheets versus Liveworksheet in enhancing reading comprehension among Islamic senior high school students. The research employed a quasi-experimental design with two classes: an experimental group and a control group. Data collection involved pre-tests and post-tests using Islamic-themed reading materials. Data analysis was performed using SPSS software version 25 for Windows, employing paired sample t-tests and effect size calculations to assess the impact of the treatments. Results indicated that the mean post-test score for the experimental group (92.47) exceeded that of the control group (73.63), with the difference being statistically significant ($p < 0.05$). This suggests that Liveworksheet is more effective than traditional paper worksheets in improving reading comprehension. The effect size, measured using Eta Squared ($\eta^2 = 0.869$), showed a substantial medium effect of using Liveworksheet on students' reading skills. These findings demonstrate that Liveworksheet can effectively enhance reading comprehension and serve as a valuable alternative media for reading instruction.*

Keywords: Liveworksheet, Reading Comprehension, Senior High School.

Abstrak. *Pemahaman membaca merupakan salah satu keterampilan esensial dalam pembelajaran Bahasa Inggris, khususnya di tingkat Sekolah Menengah Atas (SMA) berbasis Islam. Peserta didik pada jenjang ini umumnya dihadapkan pada teks bacaan yang cukup panjang, namun mereka masih menunjukkan kesulitan dalam memahami isi bacaan secara menyeluruh. Kesulitan tersebut dapat disebabkan oleh kurangnya pemanfaatan media pembelajaran yang interaktif serta masih dominannya penggunaan media konvensional, seperti lembar kerja berbasis kertas yang bersifat monoton dan kurang menarik. Oleh karena itu, penelitian ini bertujuan untuk mengukur efektivitas lembar kerja kertas dan Liveworksheet dalam meningkatkan pemahaman membaca di kalangan siswa SMA berbasis Islam. Penelitian ini menggunakan metode kuasi-eksperimen dengan melibatkan dua kelas, yaitu kelas eksperimen dan kelas kontrol. Instrumen yang digunakan berupa pretest dan posttest dengan materi teks bacaan bertema Islam. Analisis data dilakukan menggunakan bantuan perangkat lunak SPSS versi 25 for Windows, dengan teknik analisis berupa paired sample t-test dan effect size untuk mengukur tingkat efektivitas perlakuan yang diberikan. Hasil penelitian menunjukkan bahwa rata-rata skor posttest pada kelas eksperimen (92,47) lebih tinggi dibandingkan kelas kontrol (73,63) dan perbedaan tersebut signifikan secara statistik ($p < 0,05$). Hal ini menunjukkan bahwa penggunaan Liveworksheet lebih efektif dibandingkan lembar kerja kertas dalam meningkatkan pemahaman membaca. Analisis effect size menggunakan Eta Squared ($\eta^2 = 0,869$) mengindikasikan pengaruh sedang yang signifikan dari penggunaan Liveworksheet terhadap peningkatan kemampuan membaca siswa. Temuan ini menunjukkan bahwa penggunaan Liveworksheet efektif dalam meningkatkan pemahaman membaca siswa dan dapat dijadikan media alternatif dalam pembelajaran membaca.*

Kata Kunci: Liveworksheet, Pemahaman Membaca, Sekolah Menengah Atas.

1. INTRODUCTION

English is a vital international language, particularly for Generation Z students. For today's Gen Z students, learning English is not just an option; it is a necessity (Pikhart & Klímová, 2020). The rapid advancement of technology drives this need and is evident in the prevalence of English as the primary language in numerous applications, devices, and

digital platforms. A significant challenge for Indonesian students is developing their reading ability in English, which still lags behind their proficiency in the Indonesian language. Therefore, upper secondary students should improve their English literacy to become more comfortable and confident with the language (Ayu, 2020). Reading goes beyond recognizing words; it is an active process of understanding and extracting information from texts. This process involves comprehending, acquiring, and retaining information from what the reader has read (Ramadani & Azis, 2021).

This study's objective is to assess the effectiveness of paper and Liveworksheets in enhancing reading comprehension among Islamic high school students. Liveworksheet includes features such as automatic grading, instant feedback, and communication between students and teachers, all on the same platform (Felitasari & Rusmini, 2022). According to Net et al. (2022), Liveworksheet is a platform that converts traditional worksheets into interactive ones, benefiting both the environment and students. The results will assist Islamic institutions in incorporating educational technology while maintaining their spiritual principles and addressing any challenges perceived in digital learning. Future studies will utilize reading materials with Islamic themes to better align with the culture and values of Islamic high schools. By making learning more relevant and relatable, and by reinforcing their religious knowledge while improving their English reading comprehension, the use of literature featuring Islamic themes can boost student engagement.

Building on the study's background, the following research questions summarize the key issues this study aims to address.

a. Is there a significant difference in students' reading comprehension scores between those taught using Liveworksheet and those taught using paper worksheets?

b. To what extent does the use of Liveworksheet improve students' reading comprehension from pre-test to post-test?

2. THEORETICAL STUDIES

Prior studies conducted by Primaningtyas et al. (2024) in junior high schools indicated a noteworthy positive association between student perceptions of Liveworksheet and student reading achievement. Fahri et al. (2023) noted that the worksheets created with the EXIT digital platform can effectively integrate intensive and extensive reading methodologies. They also emphasized that EXIT's features assist students in adapting to their learning styles. This study uses Liveworksheet to improve reading comprehension

based on three theories. Constructivist Learning Theory emphasizes that students build knowledge actively through interaction and support within their Zone of Proximal Development (ZPD) (Piaget, 1952; Vygotsky, 2004). Liveworksheet aligns with this theory by providing interactive features and instant feedback that serve as virtual scaffolding, enhancing students' engagement and understanding. Feedback Theory highlights the importance of timely and specific responses to guide learning, helping students identify strengths, correct errors, and plan next steps (Shute, 2008; Hattie & Timperley, 2007). Liveworksheet supports this by providing instant, automated feedback and hints, promoting reflection, formative assessment, and self-regulated learning. Self-Determination Theory (Ryan & Deci, 2000) emphasizes that intrinsic motivation increases when learners experience autonomy, competence, and relatedness. Liveworksheet supports these needs through self-paced, interactive features and instant feedback, fostering greater student engagement and motivation compared to traditional paper worksheets. The hypotheses in this study are formulated to determine whether the use of Liveworksheet has a significant effect on students' reading comprehension. The null hypothesis (H_0) states that there is no significant difference in students' reading comprehension between those taught using Liveworksheet and those taught using paper worksheets. In contrast, the alternative hypothesis (H_1) posits that students taught using Liveworksheet demonstrate significantly higher reading comprehension compared to those taught using paper worksheets.

3. METHODS

In this study, the researcher used a non-equivalent group design with a pre-test and post-test quasi-experiment. The sample in this study consisted of two classes, namely classes 11-A and 11-B at the Islamic Senior High School State 1 Kediri Center, each consisting of 30 students. These two classes were chosen directly by the English teacher because they had the same number of students and similar English proficiency. As a result, classes 11- classes 11-B served as the experimental and control groups, resepctively. In order to gather data for this study, researcher employed a written test. The test form consisted of 20 questions, consisting of 8 multiple-choice questions, 4 complex multiple-choice question, 4 short fill-in the blank question, 2 true or false question, and 2 matching question. The questions were designed based on the expository text chapter of the grade 11 material in semester two. The test's reading texts used Islamic themes, which were more relevant to students' lives and values.

This study's data collection method used a quasi-experimental method. This research involved experimental and control groups. The experimental group received treatment by using Liveworksheet as a learning tool to enhance their comprehension of the material they read. The control group was the group that given learning using paper worksheets. Following the administration of pre-tests and post-tests, the researchers computed the test scores for both the experimental and control groups in order to analyze the data utilizing SPSS version 25 for Windows. The data analysis of this study was conducted through the following steps: normality test, homogeneity test, paired sample t-test, and effect size.

4. FINDINGS AND DISCUSSION

a. The Results of Pre-Test and Post-Test Scores

Table 1. Pre-test and post-test of experimental class

	N	Minimum	Maximum	Mean	Std.Dev
Pre-test Experimental Class	30	54.00	93.00	73.6333	11.21724
Post-test Experimental Class	30	85.00	100.00	92.4667	4.81186

Table 2. Pre-test and post-test of control class

	N	Minimum	Maximum	Mean	Std.Dev
Pre-test Control Class	30	28.00	89.00	53.3333	16.33767
Post-test Control Class	30	40.00	96.00	70.2333	14.80839

The experimental group had an average gain of 18.84, compared to 16.90 for the control group. While both groups improved, the experimental group showed greater progress, indicating a positive effect of the treatment (Liveworksheet) on reading comprehension. Nonetheless, the initial score disparity remains a limitation of the study and should be considered when evaluating the findings.

b. The Results of Reliability Test

Table 3. The Results of Reliability Test

Cronbachs' Alpha	N of Items
.719	20

Based on data analysis of the pre-test scores for the control class, the Cronbach's Alpha value was 0.719. According to George and Mallery's (2003) interpretation, this value falls within the acceptable reliability category.

c. The Results of Normality Test

Table 4. The Results of Normality Test

	Class	Kolmogorov-Smirnov		
		Statistic	df	Sig.
Student's Result	PreTest Experimental Class	.126	30	.200*
	PostTest Experimental Class	.120	30	.200*
	PreTest Control Class	.135	30	.170
	PostTest Control Class	.079	30	.200*

Based on the results of the Kolmogorov-Smirnov normality test, the significance value of the pre-test and post-test in the experimental class was 0.200. Similarly, in the control class, the significance value of the pre-test is 0.170 and the post-test is 0.200. Since all significance values are greater than 0.05, it can be concluded that the data are normally distributed.

d. Paired Sample T-Tes

Table 5. Paired samples tests of control class

Pair 1	Pre & Post Control Class	Mean	Std. Dev	Std. Error Mean	Lower	Upper	t	df	Sig. (2 tailed)
		-16.9000	11.79524	2.15351	-21.30441	-12.49559	-7.848	29	.000

Table 6. Paired samples tests of experimental class

Pair 1	Pre & Post Experimental Class	Mean	Std. Dev	Std. Error Mean	Lower	Upper	t	df	Sig. (2 tailed)
		-18.83333	7.43284	1.35704	-21.60880	-16.05786	-13.878	29	.000

The results reveal significant improvements in students' reading comprehension in both groups, as indicated by t-values of -7.848 and -13.878 with p-values of 0.000 (<0.05). However, the control group using paper worksheets showed a high post-test standard deviation (14.80), indicating uneven learning outcomes among students. In

contrast, the experimental group using Liveworksheet had a much lower post-test standard deviation (4.81), suggesting more consistent performance. These findings imply that while both methods support improvement, interactive media like Liveworksheet provide more balanced and effective learning experiences across students.

e. Homogeneity Test

		F	Sig.	t	df	Sig. (2-tailed)
Student's Result	Equal variances assumed	18.119	.000	7.821	58	.000
	Equal variances not assumed			7.821	35.057	000

The Levene test results showed a significance value of 0.000, meaning that the data was not homogeneous (the variances of the two groups were different). Therefore, the analysis was continued with an independent two-sample t-test without assuming equal variances (Welch's t-test). This approach remains valid and statistically sound even though the variances are different.

f. Effect Size

$$\eta^2 = \frac{13.878^2}{13.878^2 + 29}$$
$$\eta^2 = \frac{192.68}{221.68}$$
$$\eta^2 = 0.869$$

The η² value of 0.869 shows that learning through Liveworksheet significantly impacts students' reading improvement in the experimental class. This means about 87% of the variation in score improvement is explained by the treatment. Cohen (1988) classified values as having a medium effect, meaning that treatments greatly improved pupils' reading abilities.

This study investigated the impact of Liveworksheet on students' reading comprehension by comparing it to traditional paper worksheets. The findings revealed that the experimental group, taught using Liveworksheet, achieved a higher post-test average (92.47) than the control group (73.63), with the difference being statistically significant (p < 0.05). Furthermore, effect size analysis using Eta Squared (η² = 0.869)

indicated that 87% of the reading improvement in the experimental group was attributable to the treatment, demonstrating a substantial and meaningful effect.

In conclusion, this research demonstrates that Liveworksheet is an effective digital learning tool for enhancing students' reading comprehension skills. Its interactive features, immediate feedback, and user-friendly design lead to better learning results. Therefore, teachers are encouraged to adopt similar digital media as alternative methods in language education, especially for reading skills.

5. CONCLUSION

The pre-test and post-test results showed that students in the experimental class, taught with Liveworksheet, experienced a significant boost in reading comprehension. While the control class also improved with paper worksheets, their progress was less notable. Overall, the data suggest that Liveworksheet is more effective in consistently improving students' reading skills. This is further confirmed by the effect size analysis, which indicates a stronger influence of the treatment in the experimental group compared to the control. However, both methods positively contributed to students' reading development.

Furthermore, the researcher would like to give some suggestions for teachers and students. First, teachers can include digital resources like Liveworksheet in their lesson plans. The instant feedback system and interactive features of Liveworksheet can enhance motivation and make it easier for teachers to make time-saving corrections automatically. Second, for students are encouraged to use digital learning materials such as Liveworksheets as a self-study approach. The third, for future researchers are advised to conduct a similar study with a larger sample size and different levels of education.

REFERENCES

Albus, P., Vogt, A., & Seufert, T. (2021). Signaling in virtual reality influences learning outcome and cognitive load. *Computers & Education*, *166*, 104154. https://doi.org/10.1016/j.compedu.2021.104154

Ayu, M. (2020). Partnership with school librarians in improving English literacy of junior high school students. *KnE Social Sciences*, *4*, 210–217.

Cheng, Y. (2017). Factors influence the digital media teaching of primary school teachers in a flipped class: A Taiwan case study. *South African Journal of Education*, *37*(1), 1–12. https://doi.org/10.15700/saje.v37n1a1293

Creswell, J. W. (2015). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (5th ed.). Pearson Education.

Ferlita, R., & Rusmini, A. (2022). Development of e-worksheet assisted by Liveworksheets to improve science process skills and collaboration on chemical equilibrium materials. *International Journal of Multicultural and Multireligious Understanding*, *11*(1), 10–23.

George, D. (2003). *SPSS for Windows step by step: A simple guide and reference (11.0 update)*. Allyn & Bacon.

Net, W. W. W. P., Özdal, H., Özden, C., Atasoy, R., & Güneylİ, A. (2022). Effectiveness of self-regulated learning skills on web-based instruction attitudes in online environments. *Pegem Eğitim ve Öğretim Dergisi*, *12*(1). https://doi.org/10.47750/pegegog.12.01.18

Özbek, A. B., & Ergül, C. (2022). Effectiveness of comprehension strategies mobile app (COSMA) on reading comprehension performances of students with learning disabilities. *Intervention in School and Clinic*, *37*(2), 297–309. https://doi.org/10.1177/01626434211013540

Piaget, J. (1952). *The origins of intelligence in children*. International Universities Press.

Pikhart, M. (2020). *Generation Z language learners: Applied linguistics of second language acquisition in younger adults*. Palacký University Olomouc.

Primaningtyas, L. N., Astutik, Y., Wulandari, F. E., & Meiramova, S. (2024). Live worksheets impact: Unveiling junior high students' perception and reading achievement nexus (Issue ICNSSE 2023). *Advances in Social Science, Education and Humanities Research*. https://doi.org/10.2991/978-2-38476-242-2

Ramadani, S., & Azis, A. (2021). The correlation between student's vocabulary mastery and reading comprehension. *Journal of Language Testing and Assessment*, *1*(2), 197–208.

Serth, S., Teusner, R., Renz, J., & Uflacker, M. (2021). Evaluating digital worksheets with interactive programming exercises for K-12 education. *Proceedings of the 26th Western Canadian Conference on Computing Education (WCCCE '21)*. https://doi.org/10.1145/3458431.3458442

Shatri, Z. G. (2020). Advantages and disadvantages of using information technology in learning process of students. *Journal of Turkish Science Education*, *17*(3), 420–428. https://doi.org/10.36681/tused.2020.36

Vygotsky, L. (2004). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Yusuf, F., & Ali, A. (2022). Exploring students' perception on using Liveworksheet as self-directed learning of listening skills in online education. *Jurnal Basicedu*, *4*(3), 255–266.