THE EFFECT OF DIGITAL MULTILINGUAL THEMATIC DICTIONARY TOWARD THE FIFTH GRADE STUDENTS' LITERACY SKILL

Mella Resita Widhiastari[1]
Universitas Pendidikan Ganesha

Ni Made Ratminingsih[2]
Universitas Pendidikan Ganesha

I Gede Budasi[2]
Universitas Pendidikan Ganesha

mella@undiksha.ac.id[1]

ABSTRACT

This research aimed to discover whether using a digital multilingual thematic dictionary significantly affects fifth-graders literacy skills. The author applied pre- and post-test control groups alone for its quasi-experimental design. The researcher used a multi-stage sampling technique to select the research sample. The stage consists of three steps, namely: (1) determining the population; (2) placement of the sampling area using the statistical matching technique proposed by Fraenkel, J.R., Wallen, N.E., and Hyun, H.H. (2012); and (3) selection of the control and experimental groups via lottery. Students in the 5A grade from SD N 1 Seririt served as the control group, and fifth-graders from SD N 1 Kubutambahan served as the experimental group for the sample. The research instruments featured teaching scenarios for the control and experimental groups, as well as literacy competency exams with pre-and post-test questions. The pre-test was administered before treatment, and the post-test was done afterward. Three treatment sessions were provided to each group using three different treatment lesson materials, namely: daily activities, my school, and clothes. The acquired data were quantitatively examined using N-Gain score test analysis, inferential statistics, and descriptive statistics. Based on the findings of the N-Gain Score test computation and the descriptive analysis, the experimental group's mean N-Gain score was 70.5453%, whereas the control group's mean N-Gain score was 67.9676%. The use of multilingual thematic printed dictionaries in the control group and multilingual thematic digital dictionaries in the experimental group shared the same effect, particularly regarding that they were "moderately effective " in enhancing the literacy skills of class students, according to the results of the N-Gain score test, which showed that the experimental group's average score was 70.5% and the control group's average was 68%. Hence, it is proven that multilingual thematic dictionaries, both printed and digital, have a significant impact on fifth-graders literacy skills.

Keywords: Digital multilingual thematic dictionary, Literacy skills, Young learner

INTRODUCTION

Marthiningsih (2019:224) argued that students' interest in reading has declined in the modern world during technological advancement and information. The knowledge acquired by students is inextricably linked to their intellectual ability. You can learn this information by reading and listening to numerous texts. Reading gives one a chance to access oral knowledge. Children's reading activities may aid in developing their abilities to think critically. However, reading interest is still comparatively low in Indonesia. When compared to the PISA research findings from 2015, the 2018 PISA survey showed a lower ranking for Indonesia. Indonesia is placed 74th out of 79 countries, or sixth from the bottom, in reading literacy. Given the poor reading levels and culture, the Ministry of Education is pushing the School Literacy Movement to raise students' literacy levels. The goal of Gerakan Literasi Sekolah (GLS), which was established by the Minister of Education and Culture Regulation No. 23 of 2015 (Kemendikbud: 2017), is for students to have effective practices for implementing literacy in schools depending on their function or position. The school assignment is equivalent to reading for 15 minutes before regular class activities. In contrast, lack of variety in reading activities 15 minutes prior to learning causes students' habit of reading activities to decline. The absence of reading enthusiasm and motivation among students is caused by a number of issues, including oral habits and screen time, a lack of suitable classroom and reading resources, and the incompatibility of reading content with students' interests, according to Nurhadi (2016:67).

Students must employ the proper educational materials if they are to boost their literacy abilities. Specifically, it has been proven in earlier studies that using printed and digital dictionaries as learning resources enhances students' reading comprehension and vocabulary acquisition in English. A quasi-experimental study by Yanti (2016) revealed that students acquired new vocabulary and phrases extremely effective when they utilized an electronic dictionary. In keeping with the research done by Yanti (2016), (Hakim et al., 2018) also carried out a quasi-experimental study with the goal of determining if students learn vocabulary more effectively with electronic dictionaries than with printed dictionaries. The result was the electronic dictionary improved students' capacity to learn new words, as evidenced by the difference between the means of the experimental group and the control group. Furthermore, students who hone their reading abilities with the help of multilingual, printed, and digital dictionaries deemed the experience to be very helpful, according to a survey that Ratminingsih et al. looked into in 2021. The researcher used a multilingual thematic dictionary as a vocabulary (English et al.). The vibrant images adorning each page of this dictionary are meant to pique the interest of younger students. Researchers make dictionary resources, both printed and digital, available to teachers and students. They are free to make use of these resources, whichever best serves their needs.

Dictionary use can assist children in increasing their vocabulary and reading comprehension, which affects their literacy skills, as has been shown in prior studies. Therefore, this study will look into how digital dictionaries affect students'

literacy abilities. This new study is a follow-up to earlier research that examined the conception and construction of digital multilingual thematic dictionaries. The purpose of this study is to determine whether using digital multilingual thematic dictionaries has a significant impact on students' literacy skills as primary school students in fifth grade. In order to verify the effect of digital multilingual thematic dictionaries on young learners' literacy skills, this experimental study will give readers, instructors, and other education professionals the clarity and knowledge they need.

LITERATUR REVIEW

Digital Dictionary

Digital dictionaries help language learners. Dash (2020) defines a digital dictionary as a computer-controlled and automated language reference source for online language learning. A digital dictionary is an electronic version of a paper dictionary. Thus, language processing techniques use it as a Machine Readable Dictionary (MRD) for spelling and grammar checking. Language learners need digital dictionaries. Digital dictionaries can teach meaning, pronunciation, word types, word order, and structure. Digital dictionaries help people to learn languages and have several benefits. The portability of digital dictionaries is one of their many advantages (Desnaranti et al., 2022). Websites and apps offer digital dictionaries in addition to printed dictionaries (Mahendra et al., 2020). During the COVID-19 pandemic, these quick dictionaries can help students learn English. Therefore, teachers should make learning entertaining and use various instructional tools to engage current students (Linh & Khuyen, 2022). Digital dictionaries will help students to understand topics and provide new ways for teachers to teach languages.

Multilingualism

Multilingual people may speak and use more than two languages, according to Rifa (2021). Thus, multilingualism may mean anything related to many languages. Multilingual education employs many languages to instruct (Weber, 2012, p. 108). Weber suggests using multilingualism as a teaching language early in multilingual education, but each language must be incorporated in the curriculum at least. Last, multilingualism is considered one of its natural states (Flynn, 2016). Language learning resources emphasize multilingualism. Educational material like multilingual dictionaries promotes multilingualism. Islam and Purkayastha (2015) name a multilingual dictionary a "multilingual dictionary." Readers may check at least two dictionaries. The English-Indonesian-Balinese multilingual dictionary translates English words into Indonesian and Balinese. Multilingual dictionaries also contain word definitions and equivalents in more than two languages, according to Setyawan (2016). Setyawan (2016) suggests using multilingual dictionaries' wealth of information for translation. Thus, linguistic education emphasizes multilingualism. Multilingual pupils learn more words and comprehend them better. Multilingual dictionaries accelerate language learning. More languages and phrases make the dictionary more helpful.

Thematic learning

Indonesian elementary schools should use thematic learning. Integrated learning includes thematic learning. This theme-learning approach uses a range of courses to help students understand scientific concepts in a comprehensive, meaningful, and authentic manner (Majid, 2014). Integrated thematic learning focuses on student learning and thinking and learning processes. A learning model that analyses cognitive processes improves critical thinking. The educator should make the subject relevant and meaningful during training (Setiawan et al., 2020). Setiawan et al. (2020) report that primary schools using the curriculum for 2013 using an integrated thematic model (ITM) for teaching and learning. This paradigm requires student-teacher collaboration. Thus, pupils will have a more varied experience and learn to make links across subjects. Thematic learning employs themes to improve students' cognitive, emotional, and psychomotor skills (Handini et al., 2022). Thematic education benefits pupils' development. Ramadan et al. (2020) claim that integrated theme learning engages students and lets them learn from real-world and personal experiences. Nurlaela et al. (2018) claim this teaching style might also make students more cooperative when working with others and more conscious of their individual and group duties. Thus, elementary school students benefit from theme learning. Themes engage pupils and prepare them to participate meaningfully. It also helps children mature and integrate into society.

Literacy skills

Reading and writing are essential for competence and quality in the 21st century. The ability to read and write is illiteracy (Rintaningrum, 2019). Literacy includes reading, writing, listening, and speaking. Along with the development of globalization and the digital era, people's ability to find, acquire, and exchange knowledge through technology is increasingly reflected in their reading ability (Pilgrim & Martinez, 2013). According to Quinn and Wagner (2018), literacy is a dynamic and ever-changing phenomenon that develops over time. Adnyani et al. (2021) explain, "Literacy is the ability to read and write, but there is more to it than that." Literacy skills greatly affect a person's ability to transfer information effectively and correctly, both orally and in writing (Wulandari et al., 2021). Cultural literacy, digital/electronic/intellectual literacy, and others (Panneton, 2015, as cited in Wulandari et al., 2021).

Literacy is very important and must be taught from an early age. According to Ghasemi and Hashemi (2011), it is easier for children to improve their reading skills when they are young. In addition, the first few years of a child's existence are dubbed the "golden age period" (Cahyati et al., 2019). During this period, children are more capable of learning new things compared to other times (Cahyati et al., 2019). Because preschool and kindergarten-aged children have strong memory, teaching literacy is very important (Aprilia, 2018). Because it has so many good impacts on the brain and emotions, literacy teaching should start as early as possible. If children can appreciate the relevance of literacy for their progress, they will make reading and writing part of their culture and consider it an important necessity. Students should start learning to read and write as soon as possible as it can improve their abilities and quality of life in the future.

Teaching English to Young Learners

Early childhood education promotes physical, intellectual, social, emotional, and linguistic development to help children attain their full potential (Nurhadi, 2012). As a young child's instructor, you must recognize that age does not indicate maturity. Culture and environment might impact children's maturity. They dwell in (a city or hamlet), gender, parents' expectations, etc. (Cameron & Lynne, 2002). Slattery and Willies' 2001 study defined "young learners" as 7–12-year-olds. They are full of curiosity and ready to explore throughout this period. Kids think the world is magical. The tall person is intrigued. Children's curiosity depends on their interests. Many adults think children are liars and boasters because of their creativity. However, they adore envisioning irrational things. Children have their own universe. They love creativity. Children are great at pretending. English teaching methods include 1) Action-packed video games and musical performances, followed by physical activity. 2) Reaction to all exercises. They can then do physical exercises. 3) Coloring, cutting, and pasting. Cutting, pasting, and coloring are included. Language learning might help boost academic motivation. Early language acquisition improves children's cognitive, emotional, psychomotor, and personal capacities. Thus, children should begin language acquisition early.

RESEARCH METHOD

This study aimed to determine whether digital multilingual thematic dictionaries significantly affect fifth-grade students' literacy skills. Hence, the researcher chose to do a quasi-experimental study after considering the research aims. This study employs a Pre-Test and Post-Test Only Control Group Design. There were two groups: the experimental group, which received treatment using a digital multilingual thematic dictionary, and the control group, which received standard care using a print thematic picture dictionary. Both groups were given a pre-test before receiving treatment in order to ascertain each group's status. The groups were then given a post-test to see how they were doing following the treatment in order to compare their conditions.

A multiple-stage sampling technique is the one that the researcher employed in this study. The multi-stage sampling technique is a straightforward, systematic sampling method that collects cluster samples from the population rather than directly on the sampling unit in order to produce a homogeneous cluster sample, as theorized (Etikan & Bala, 2017). The first step was deciding on the sampling area. From each subdistrict in the Buleleng Regency, one elementary school was selected to represent the West, East, North, and South regions. SD Negeri 3 Banjar Jawa, SD Negeri 1 Seririt, SD Negeri 1 Banjar, SD Negeri 1 Kubutambahan, SD Negeri 1 Celukan Bawang, SD Negeri 2 Pacung, SD Negeri 1 Sukasada, and SD Negeri 1 Busungbiu are the designated schools. The statistical matching score was administered to determine the two interact groups will be decided which institution will serve as the foundation for this study. Afterward, SPSS version 26 was used to statistically compare student performance on their fifth-grade final semester exam across all eight schools.

Participants in this study were drawn from previous research. The population for the previous research consisted of students from eight elementary schools spread throughout eight distinct Buleleng Regency areas, and they serve as a sample site or groupings that focus on the selected subject based on an examination of the equivalence of skills. Afterward, two elementary schools, SD Negeri 1 Seririt and SD Negeri 1 Kubutambahan, were found to have matching scores overall based on the results of the compatibility score. These two primary schools have thus been selected as the population for this study, even though only one class from each of them will be included in the study sample.

In this study, the researcher will employ a number of statistical analyses. The Independent Sample T-Test will be performed as the first analysis to examine the data related to the pre-test and post-test results in the experimental and control groups. The N-Gain Score test (Normalized Gain) will be utilized as the second analysis to ascertain whether the product is effective in increasing the literacy skills of pupils in grade 5 elementary school students. The product being tested in this instance is a digital multilingual thematic dictionary.

FINDING

This study seeks to see whether digital multilingual thematic dictionaries have an impact on fifth-grade students' literacy skills. The researcher conducted the N-Gain Score test after receiving the outcomes of the descriptive statistical analysis and the inferential scores from the pre-test and post-test.

The result of the N-Gain score test can be observed in Table 1. The test results are determined by subtracting the post-test score from the pre-test score, and the findings are then divided by the difference between the ideal score minus the pre-test score.

Table 1. N-Gain Score Test Calculation Result

No	Experimental N-Gain Score (%)	No	Control N-Gain Score (%)
1	78.57	1	80.00
2	61.54	2	27.27
3	70.00	3	47.37
4	60.00	4	61.54
5	95.45	5	28.57
6	61.11	6	95.00
7	72.73	7	47.22
8	75.00	8	65.71
9	33.33	9	37.50
10	92.86	10	22.22
11	66.67	11	48.28
12	68.75	12	77.78
13	62.50	13	27.27
14	58.33	14	55.56
15	90.00	15	64.29

16	57.14		16	37.50
17	66.67		17	46.67
18	77.78		18	96.00
19	78.57		19	50.00
20	77.78		20	15.38
21	84.62		21	25.71
22	62.50		22	25.00
23	78.57		23	50.00
24	80.00		24	70.00
25	44.44		25	66.67
26	92.86		26	44.00
27	65.00		27	47.37
28	62.50			

Source: Researcher

Table 2. Descriptive Analysis Table of the N-Gain Score Test

	Group			Statistic	Std. Error
NGain_percent	Experimental	Mean		70.5453	2.70680
		95% Confidence	64.9914	69.0431	
		Interval for Mean	76.0992	77.7087	
		5% Trimmed Mean		71.0936	
		Median		69.3750	
		Variance		205.150	
		Std. Deviation		14.32305	
		Minimum		33.33	
		Maximum		95.45	
		Range		62.12	
		Interquartile Range		16.79	
		Skewness		-.367	.441
		Kurtosis		.556	.858
	Control	Mean		67.9676	2.83894
		95% Confidence	62.1321	42.1867	
		Interval for Mean	73.8032	53.8631	
		5% Trimmed Mean		68.0089	
		Median		69.2308	
		Variance		217.609	
		Std. Deviation		14.75156	
		Minimum		40.00	

Maximum	95.45	
Range	55.45	
Interquartile Range	23.02	
Skewness	-.078	.448
Kurtosis	-.831	.872

Source: Statistics IBM 25

Based on the results of the N-Gain Score test calculation in Table 1 and Table 2 displaying the descriptive analysis, it was determined that the experimental group's mean N-Gain score was 70.5453%, or 70.5%, with a maximum score of 95.45% and a minimum score of 33.33%. The N-Gain for the control group, on the other hand, had a mean score of 67.9676%, or 68%, with a maximum score of 95.45% and a minimum score of 40.00%. The usage of a digital multilingual dictionary was the treatment, and the author employed Hake's (1999) interpretation of the N-Gain Score test to determine whether there was an effect after treatment.

Table 3. N-Gain Score-Category in Percent

Percentage	Interpretation
<40	Ineffective
40-55	Less effective
56-75	Moderately Effective
>76	Effective

Source: Hake's 1999

Due to the fact that the experimental group's average score was 70.5% and the control group's average was 68%, it was determined that the inclusion of multilingual thematic digital dictionaries in the experimental group and the use of multilingual thematic printed dictionaries in the control group had the same effect, namely "moderately effective" in improving the literacy skills of class students. Therefore, it can be stated that multilingual thematic dictionaries, both printed and digital, have a significant impact on fifth-graders literacy abilities.

DISCUSSION

In order to see whether there is a significant impact on fifth-grade students' literacy skills, this research sought to answer that question. To establish the impact of the intervention on the fifth-grade kids' literacy abilities, the pre-test and post-test results were statistically examined. The students in the control and experimental groups' beginning abilities are revealed by the pre-test results, but their final abilities are revealed by the post-test findings. The effectiveness of employing digital multilingual thematic dictionaries on the literacy skills of fifth-grade students was examined using N-Gain analysis using the pre-test and post-test scores of the students in both groups.

Each group in this study received a total of three treatments, each consisting of three materials that were focused on: everyday activities, my school, and clothes. In class, one treatment lasted 45 minutes. Students in the experimental group used a digital multilingual thematic dictionary to support their learning activities,

whereas students in the control group used a paper-illustrated thematic dictionary. The author found that both the experimental and control groups were equally engaged during the course of the treatment. In both groups, the same number of students raised their hands. In both the experimental and control groups, over half of the students raised their hands in response to the questions.

This result can be used to demonstrate that students in the experimental and control groups appeared equally enthused about the learning process made possible by both paper and digital multilingual thematic dictionaries.

The digital multilingual thematic dictionary not only inspired students' interest but also succeeded in terms of time efficiency. In order for the experimental group of students to accomplish their tasks at each meeting more swiftly. Students in the control group completed their tasks using the printed version of the dictionary, but their performance wasn't as strong as that of the experimental group's users of the digital dictionary. The amount of time saved by turning the pages of a printed dictionary is far less. Additionally, students in the experimental group pronounced words more accurately than those in the control group. Students were able to remedy their pronunciation faults due to the digital dictionary's pronunciation feature.

The N-Gain test was conducted to determine the effectiveness of using digital multilingual thematic dictionaries on the literacy skills of fifth-grade students. The results showed that the experimental group had an average score of 70.5453% or 70.5%, with a maximum score of 95.45% and a minimum score of 33.33%. Meanwhile, the control group had a score of 67.9676% or 68.00%. This study's alternative hypothesis (Ha) was accepted, and it can be said that multilingual digital dictionaries greatly affect five-grade students' literacy skills.

This study corresponds to past research that revealed students' vocabulary growth and literacy abilities may be significantly impacted by their use of digital dictionaries. The numerous features offered by digital dictionaries assist students in expanding their word knowledge and mastering proper word pronunciation. Amirian and Heshmatifar (2013) and Yanti (2016) both claim that the use of a digital dictionary helps students become more excellent in vocabulary learning. The visual impact of the digital dictionary also attracted users. The digital dictionary surpassed the lecture technique for teaching vocabulary (Hakim et al., 2018; Santoso & Andriyadi, 2019). It also demonstrates how simple it is for all language learners to use digital dictionaries once they get familiar with phonology and vocabulary (Ambarwati & Mandasari, 2020).

The findings of the present study are consistent with related theories as well. The innovative aspect of this study is determining how fifth-grade elementary school children's literacy skills are affected by digital multilingual thematic dictionaries. It is obvious that this study is important to the theory of Teaching English to Young Learners (TEYL) and thematic learning, given that the study's participants are primary school students in the fifth grade. Students in the fifth grade are considered to be young learners. Children between the ages of three and twelve are considered early learners, according to Bakhsh (2016), Ratminingsih, and Budasi (2018). Furthermore, a thematic learning strategy should be adopted while

teaching English to young students. Thematic learning is defined as a learning model created based on specific topics acquired from merging a topic into multiple materials with the intention of giving students experience (Handini et al.,2022)

CONCLUSION

As a result of their positive effects on fifth-graders literacy and writing abilities, digital and printed multilingual thematic dictionaries are effective tools for language learning. Because the experimental group's average score was 70.5% and the control group's average was 68%, the data demonstrate that the use of multilingual thematic digital dictionaries in the experimental group and the use of multilingual thematic printed dictionaries in the control group had the same effect, namely "moderately effective" in improving the literacy skills of class students. Thus, the use of multilingual thematic dictionaries, both digital and printed, has a significant effect on fifth-graders literacy skills. The use of the digital multilingual thematic dictionary has been evidenced to be effective; however, in order to maximize its effectiveness, particular consideration should be given to a number of different factors, including the dependability of the students' internet connections and their understanding of how to use the dictionary. In addition, on how the digital multilingual thematic dictionary can be used with different English skills or subjects for a broader audience and at a greater level, it is also recommended that more researchers conduct studies similar to this one. As a result, the findings and outcomes of additional studies may offer more compelling scientific support for the use of media in teaching English to young students.

REFERENCES

Adnyani, N. K. P., Ratminingsih, N. M., & Budasi, I. G. (2021). A Multilingual Thematic Picture Dictionary for Assisting Sixth Grade Elementary School Students' Literacy. *Jurnal Pendidikan Bahasa Inggris Undiksha*, *9*(1), 1–8. https://doi.org/10.23887/JPBI.V8I2.27507

Akramah, A., Alifva, A. B., Yani, D., Mastura, M., & Idami, Z. (2020). Online Dictionary and Manual Dictionary: Which One Is Used More? *English Language Study and Teaching*, *1*(1), 9-17.

Alamri, H., & Hakami, H. M. (2022). Exploring perspectives of EFL students on using electronic dictionaries to improve vocabulary learning: A comparative study: Perspectives of EFL students on using electronic dictionaries. *International Journal of Curriculum and Instruction*, *14*(2), 1578-1599.

Ratminingsih, N. M., Agustini, K., Budasi, I. G., Adi, I. K. T., & Ana, I. A. R. D. (2021). Printed and Digital Dictionary for Multilingual Literacy Development: A Needs Analysis.

Ratminingsih, N. M., Mahadewi, L. P. P., & Divayana, D. G. H. (2018). ICT-Based Interactive Game in TEYL: Teachers' Perception, Students' Motivation, and Achievement. *International Journal of Emerging Technologies in Learning*, *13*(9).

Wulandari, N. L. P. T., Ratminingsih, N. M., & Ramendra, D. P. (2020). Strategies Implemented in Teaching English for Young Learners in Primary School. *Journal of Education Research and Evaluation*, *4*(3), 227-233.

Wulandari, P. R., Ratminingsih, N. M., & Budasi, I. G. (2021). Multilingual Thematic Picture Dictionary: Assisting Young Learners' Literacy. *International Journal of Language and Literature*, 5(1), 20-30.

Yani, I., Puspitasari, D., Thamrin, I., Zulkarnain, Z., & Resti, Y. (2021, December). Pengaruh Eksperimen dan Permainan Edukatif untuk Penguatan Literasi Sains Anak-anak Usia Sekolah di Panti Asuhan Al-Fatih Palembang. In *Prosiding Seminar Nasional Unimus* (Vol. 4).

Yanti, S. (2017). Improving Students' Vocabulary Mastery Through Electronic Dictionary. *Indonesian EFL Journal*, *2*(2), 88. https://doi.org/10.25134/ieflj.v2i2.641