THE IMPLEMENTATION OF COMPUTER ASSISTED LANGUAGE LEARNING (CALL) TO TEACH READING COMPREHENSION

Ali Wira Rahman[1], Ni'ma Syawal Amaliah[2], Amir Patintingan[3]
[1]*Universitas Muhammadiyah Parepare, Jalan Jend. Ahmad Yani Km 6, Parepare*
[2]*Universitas Muhammadiyah Parepare, Jalan Jend. Ahmad Yani Km 6, Parepare*
[3]*Universitas Muhammadiyah Parepare, Jalan Jend. Ahmad Yani Km 6, Parepare*

Korespondesi Penulis. E-mail: amaliahnima1@gmail.com, Tlp:+6287819002561

Abstract

This research is based on the results of pre-observations of students' reading comprehension in class IX at SMPN 1 Parepare. Students have difficulty in understanding the content, meaning of English texts and in responding using English questions. After conducting interviews with related teachers and student representatives, the researcher concluded that students are lack in reading comprehension. The researcher argues that by using technology, students can more easily understand the meaning in reading text. Therefore, this research aims to find out whether students' reading comprehension is enhanced by using Computer-Assisted Language Learning (CALL).

The researcher applied a quasi-experimental method with a two-group design. The population of this research included all nine grades students at SMPN 1 Parepare. with a total sample of 64 students from two classes. Class IX.8 as the experimental class and class IX.7 as the control class. The sample was selected using purposive sampling. In collecting the data with pre-test and post-test, the form is a reading test which consists of 10 questions and treatment in four meetings. In data analysis, the researcher used SPSS 29.

The results of data analysis showed there is an enhancement in students' reading comprehension. It is proved by the mean score of pre - test is 57.50 and the mean score of post - test is 74.38. After analyzing the data with SPSS 29, the significance value is 0.001 which is smaller than the significant value of $< \alpha = 0.05$ ($0.001 < 0.05$). This indicates that H0 is rejected and H1 is accepted. The t-test value of 7.60 is greater than the t-table with a degree of freedom ($df = n - 1$) 32 for a significance level of 0.05. It can be concluded that teaching reading comprehension using Computer-Assisted Language Learning (CALL) can enhance reading comprehension of nine grade students of SMPN 1 Parepare.

Keywords: *Computer-Assisted Language Learning (CALL), reading comprehension, quasi-experimental design*

Abstrak

Penelitian ini didasarkan pada hasil observasi awal terhadap pemahaman bacaan siswa kelas sembilah di SMPN 1 Parepare. Siswa mengalami kesulitan dalam memahami isi teks bahasa Inggris dan kesulitan dalam merespon ketika ditanya menggunakan bahasa Inggris. Setelah melakukan wawancara dengan guru terkait dan perwakilan siswa, peneliti menyimpulkan bahwa siswa kurang dalam pemahaman bacaan. Peneliti berpendapat bahwa dengan menggunakan teknologi, siswa dapat lebih mudah memahami teks bacaan. Oleh karena itu, penelitian ini bertujuan untuk mengetahui apakah pemahaman bacaan meningkat dengan menggunakan komputer sebagai alat bantu belajar bahasa.

Peneliti menerapkan metode quasi-experimental dengan desain dua kelompok. Populasi penelitian ini yaitu seluruh siswa kelas sembilan di SMPN 1 Parepare, dengan jumlah sampel sebanyak 64 siswa yang berasal dari dua kelas. Kelas IX.8 sebagai kelas percobaan dan kelas IX.7 sebagai kelas control. Sample dipilih menggunakan tekhnik purposive sampling. Pengumpulan data dengan test awal dan test akhir, bentuk test yaitu test bacaan yang berjumlah 10 soal. pemberian perlakuan sebanyak 4 kali pertemuan. Dalam analisis data, peneliti menggunakan SPSS 29.

Hasil analisis data menunjukkan adanya peningkatan penguasaan kosa-kata siswa. Hal ini dibuktikan dengan nilai rata-rata pada test awal siswa yaitu 53.44 dan rata-rata test akhir siswa yaitu 74.69. Setelah menganalisis data dengan SPSS 29, nilai signifikansi sebesar 0,001 yang lebih kecil dari nilai signifikan < α = 0,05 (0,001 < 0,05). Hal ini berarti bahwa H0 ditolak dan H1 diterima. Nilai t-test 7.60 lebih besar dari t-tabel dengan derajat kebebasan (df = n – 1) 32 untuk taraf signifikansi 0.05. Dapat disimpulkan bahwa pengajaran pemahaman bacaan komputer sebagai alat bantu belajar bahasa dapat meningkatkan penguasaan kosa-kata Bahasa inggris siswa kelas sembilan SMPN 1 Parepare.
***Kata kunci**: komputer sebagai alat bantu belajar bahasa pemahaman bacaan, desain kuasi-ekperimental*

1. Introduction

In Indonesia, language competence is a focal point of instruction in both the Curriculum 13 (K13) and its successor, the Independent Learning Curriculum (KMB). This includes not only the Indonesian language but also English. With K13, students are expected to be able to use English in oral and written communication in interpersonal, transactional, and functional domains. Similarly, KMB aims to develop communicative competence in English using multimodal texts, including oral, written, visual, and audiovisual forms. With such goals and objectives, the use of information and communication technology (ICT) becomes essential.

Similarly, in the educational context, the reading proficiency of students in Indonesia is not significantly different. According to the OECD, around 27% of Indonesian students have a competency level of 1b in reading, which means they can only solve the easiest comprehension problems in texts. Additionally, PISA 2018 revealed that junior high school students in rural areas tend to score lower in reading proficiency compared to students from other characteristic groups. This indicates the need to improve students' reading comprehension abilities. Therefore, the Indonesian government strives to address these issues through the curriculum implemented in schools.

The use of ICT-based technology and media in learning is believed to provide numerous benefits and positive effects on students' learning motivation. It enables students to experience direct contact with English-speaking cultures and countries, grants access to learning resources from around the world, facilitates learning for students with various learning styles and strategies, enhances student autonomy, sharpens students' critical thinking skills, and serves as a solution to various learning problems (Khanom, 2018).

One approach that can be utilized is Computer-Assisted Language Learning (CALL). CALL integrates computer technology into the learning process to enhance interactivity, accessibility, and effectiveness. However, not all schools in Indonesia have ICT facilities to assist students and teachers in the teaching-learning process. One such case is State Junior High School 1 (SMPN 1) in Mallusetasi Village, Ujung District, Parepare City, South Sulawesi Province.

Language proficiency, especially in English, at SMPN 1 Parepare can still be considered low. In an interview with two teachers from the school, it was revealed that most students are not interested in learning English because they find it difficult. Furthermore, in one of the ninth-grade classes, specifically class 9.7, 65% of the 32 students were unable to understand English texts well. All of these issues can be attributed to the limited use of ICT to support the teaching-learning process.

Previous research has shown the benefits of using technology in language learning, including reading comprehension. However, there is still a need to further explore the implementation and effectiveness of CALL, specifically in the context of reading comprehension of report texts.

Thus, this study is expected to contribute to the development of innovative and effective teaching methods to improve the reading comprehension of ninth-grade students at SMPN 1 Parepare. The findings of this study can provide valuable information for teachers, curriculum developers, and other stakeholders in optimizing the use of computer technology in the process of learning English reading texts.

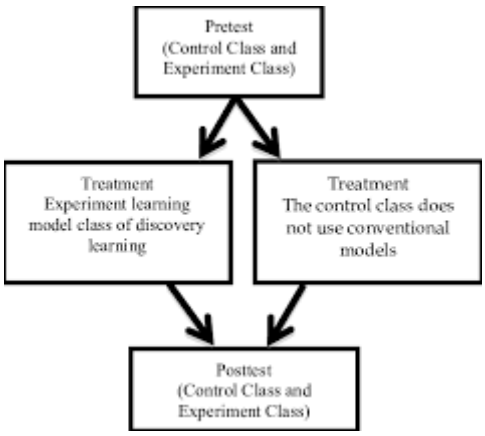
2. Method

The writer employed a quantitative methodology for this study. The research design utilized in this study follows a quasi-experimental design as proposed by Jack R. Fraenkel and Norman E. Wallen (2012). Two classes were selected, with one class serving as the experimental group and the other class serving as the control group. The experimental group received the treatment of using CALL in their instructional approach, while the second class is the control class whose learning receives treatment using MALL. Both classes will be given pre-test and post-test. This is done to examine the differences between each class at the beginning of the study before the treatment is administered.

This research will be conducted at SMP Negeri 1 Parepare and will be conducted on September 2023. The research population was chosen by consists of ninth-grade students from UPTD SMPN 1 Parepare in the academic year 2023/2024, totaling 320 students across 10 ninth-grade classes. The experimental group, denoted as Class IX.7, comprises 32 students, while the control group is represented by Class IX.6, also consisting of 32 students. The researcher will be use purposive sampling as the sampling method for this study.

The data collection in this study involves the administration of pre-test and post-test measures. As the focus of this study is reading comprehension, both the pre-test and post-test take the form of reading test comprising specific sets of 10 questions. The content of the questions are same between the pre-test and post-test assessments

In analyzing the data, the detailed description of the research design presented in the subsequent chapter. The following section outlines the conceptual framework employed in this study



3. Result and Discussion

3.1. Findings

The findings obtained through the reading test in nine grade students of SMPN 1 Parepare. The researcher applied all of procedures that has been shown in the last chapter. In addition, the researcher gave the students both of pre-test and post-test. After that, it was continuing by analyzing their score between pre-post and post-test both of the classes, experimental class and control class. It aims to find out the significant different of the student form of the classes, the researcher collected data from the test which has been giving to the students. After analyzing the data, the researcher found the students" score and it was tabulate in the table.

1. Description of the treatment for experimental and control class

a. Experimental class

Students in the experimental class were using CALL. The website www.readtheory.org were using to stimulated the students with various and pictorial questions. The researcher met the students in four meetings and explained about reading text in the website.

b. Control class

The students in control class were taught by using MALL and received learning stimulation with The News in Levels App . The researcher treated the students in four meetings and explained about reading text in the app.

2. Scoring Classification on Pre-Test

a. Experimental Class

No.	Classification	score	Pre-Test	
			F	%
1	Excellent	86-100	0	0%
2	good	71-85	2	6%
3	fair	56-70	14	44%
4	poor	41-55	7	22%
5	very poor	<40	9	28%
	Total		32	100%

Table 4. 1 Scoring Classification of the Experimental Class on Pre-test

Table 4.1 shows the scoring classification of the experimental class on pre-test above shows that many students was under classification of minimum enhancement criteria and was proved that students was low in reading comprehension. It was clearly proved mostly students got very poor classification of experimental class on the pre-test. Table 4. 1 reveals that the student enhancement from SMPN 1 Parepare in the experimental class before treatment was raged as excellent. good. fair. poor, and very poor. Two student received a good (6%), fourteen received fair (44%), seven received poor (22%) and nine received very poor (28%). This indicates that the students pre-test performance was still far below average.

b. Control Class

No.	Classification	score	Pre-Test	
			F	%
1	Excellent	86-100	0	0
2	Good	71-85	7	22%
3	Fair	56-70	14	44%
4	Poor	41-55	3	9%
5	very poor	<40	8	25%
	Total		32	100%

Table 4. 2 Scoring Classification of the Control Class on Pre-test

Table 4.2 reveals that seven students received good scores (22%), fourteen students received fair scores (44%), three students received poor scores (9%). and eight students received very poor scores (25%). This indicates that the students pre-test performance was still far below average.

3. Scoring Classification on Post-Test

a. Exprimental Class

No.	Classification	score	Post-Test	
			F	%
1	Excellent	86-100	2	6%
2	Good	71-85	15	47%
3	Fair	56-70	12	38%
4	Poor	41-55	3	9%
5	very poor	<40	0	0
	Total		32	100%

Table 4. 3 Scoring Classification of the Experimental Class on Post-test

It is clear from Table 4.3 above's scoring classification of the post- test results that many students' reading comprehension improved as a result of receiving treatment in the experimental class using CALL. In contrast, 2 students in the experimental class received excellent scores (6%), 15 students received good scores (47%), 12 students received fair scores (38%), and 3 students received poor scores (9%).

b. Control Class

No.	Classification	score	Post-Test	
			F	%
1	Excellent	86-100	2	6%
2	Good	71-85	15	47%
3	Fair	56-70	15	47%
4	Poor	41-55	0	0%
5	very poor	<40	0	0%
	Total		32	100%

Table 4. 4 Scoring Classification of the Control Class on Post-test

Table 4.4 displays the post-test performance of the SMPN 1 Parepare students. Which in the control class 2 students got excellent scores (6%), 15 students got good scores (47%) and 15 students got fair scores (47%). It means that the enhancement of the students reading comprehension in post-test had improved after being taught by MALL.

4. The Mean Score and Standard Deviation of Pre-test and Post-test

The result was displayed in the following table: after determining the mean score and standard deviation, the results of the pre- and post-test for students were displayed.

a. Experimental class

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	53.44	32	18.247	3.226
	Posttest	74.69	32	8.026	1.419

Table 4. 5 The Mean Score and Standard Deviation of Pre-test and Post-test

Table 4.5 showed that the students reading comprehension enhancement of mean score for pre-test are 53.44 and post-test was 74.69. The mean score of the students in post-test was higher than the mean score in pre-test. It means that the score of students was improving after used CALL and the standard deviation of pre-test are 18.247 which the standard deviation of post-test was 8.026. It shows that most of the students in post- test got high score.

b. Control Class

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pretest	57.50	32	20.635	3.648
	posttest	74.38	32	8.400	1.485

Table 4.6 above shows in control class, the mean score of students in pre-test was 57.50 and post-test was 74.38. The mean score of the students in post-test was higher than the mean score in pre-test. It means after used MALL, the score of students was improving and the standard deviation of pre-test was 20.635 which in post-test was 8.400.

5. **Hypothesis Testing**

In hypothesis testing, the researcher used SPSS. While the following determines whether hypothesis is accepted or rejected:

HI accepted if Sig. < a = 0.05

HO accepted if Sig. > a = 0.05

Paired Samples Test

		Paired Differences							Significance	
					95% Confidence Interval of the Difference					
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	One-Sided p	Two-Sided p
Pair 1	pretest - posttest	-21.250	15.811	2.795	-26.951	-15.549	-7.603	31	<.001	<.001

Based on the mentioned table 4.7, it was determined that the significant value of 0.000 is less than the significance value of < a = 0.05. Besides in the t-test value (7.697). The null hypothesis (HO) was rejected. while the alternative hypothesis (H1) was accepted. It implies that the CALL can considerably improve students reading comprehension.

3.2. Discussion

In this section, the researcher discusses the results of this study. The students in the experimental and control classes received treatment from the researcher for four sessions to check students' knowledge, particularly their reading comprehension. The researcher conducted a pre-test for the experimental and control classes before beginning the treatment. The findings indicated that students in both classes lacked reading comprehension. When treating the experimental class, the researcher explained the CALL used in the www.readtheory.org website and how it related to the report text (theme). In addition to employing the MALL in the control class, the researcher explained reading comprehension using the News in Levels App . Every meeting treatment regimens were the same, but the material was different.

After giving treatment, the researcher gave post-test to the students in both of class. There were improvements of the students score from pre-test to post-test. The mean score of experimental class in pre-test was 53.44 and post-test was 74.69. The mean score of the students in post-test was higher than the mean score in pre-test, it means that the score of students was improved after using CALL. While in control class the mean score in pre-test was 57.50 and post-test was 74.38. It means the mean score on control class in post-test was higher than in pre-test after using MALL. Based on the result, it showed the mean score in experimental class higher than in control class.

The researcher compares this research's findings to those of other studies conducted by Yuliantini et al (2020) and Nurlaili and Hasibuan (2021) who has used CALL to improved students speaking skills. Two researchers above discussed the use of CALL in students speaking skills, but even though they have the same research design these two studies have differences in the focus of their objectives, which are the two previous studies focused on students speaking. While in this research, the researcher focused on students reading comprehension profeciency. This was in lined with the results of research that has been carried out by researcher, where the post-test result after giving treatment showed an improved compared to the pre-test result. Additionally, this research conducts the CALL in the experimental class and MALL in the control class.

4. Conclusion

This research was conducted to get the evidence about the use of CALL to improve students reading comprehension at nine grade of SMPN 1 Parepare. After conducting an experiment in which reading comprehension was taught using the CALL in the experimental class and without it in the control class, the researcher analyzed the results of the experiment and proceeded on to consider the findings.

The research was analyzed, and it was determined that using CALL teach reading comprehension in the classroom was appropriate. CALL improved students' reading comprehension in a better enhancement at the nine grade of SMPN 1 Parepare. It was proved by the mean score based on pre- test and post-test in both experimental class and control class.

Acknowledegements

Many thanks to the supervisors and research participants during the research journey.

References

Affini, Laily N., *et al*. 2019. "A Syllabus Design to Enhance Vocabulary and Reading Skills in Computer Assisted Language Learning." Paper presented at the *1st International Conference on Education and Technology ICETECH 2019, Graha Cendekia, Universitas PGRI, Madiun, August 8, 2019*.

Angelini, Claudia. 2019. "Hypothesis Testing." In *Encyclopedia of Bioinformatics and Computational Biology: ABC of Bioinformatics*, edited by Shoba Ranganathan *et al*. Vol. 1. Amsterdam: Elsevier Science.

Bax, Stephen. 2003. "CALL—past, present and future." *System* 31 (1): 13-28.

Beatty, Ken. 2012. Teaching and Researching: Computer-Assisted Language Learning. 2nd ed. Edited by Christopher N Candlin and David R. Hall. Aplied Linguistics in Action. London: Pearson Education Limited.

Budiana, Kartika Marta. 2021. "Students' Perception of the Use of Computer Assisted Language Learning." Journal of Applied Studies in Language 5 (1): 174-186.

Burke, Jim. 2000. *Reading Reminders: Tools, Tips, and Techniques*. 1st ed. Portsmouth: Heinemann.

Fageeh, Abdul Aziz I. 2013. "Effects of MALL Applications on Vocabulary Acquisition and Motivation." *Arab World English Journal* 4 (4): 420-447.

Fauzia, Nur and Yuri Lolita. 2018. "The Use of Drill, Vocabulous (Vocabulary Various), and Computer Assisted Language Learning (CALL) in Learning Vocabulary." *Journal of English Teaching Adi Buana* 3 (1): 11-27.

Fraenkel, Jack R. and Norman E. Wallen. 2012. *How to Design and Evaluate Research in Education*. 8th ed. New York: McGraw-Hill, Inc.

Futuhi, Muhammad Wildan Al. 2020. "The Implementation of Computer-Assisted Language Learning to Teach Listening of Report Text to the Tenth Graders." *RETAIN* 8 (1): 56-61.

Gay, L. R., Geoffrey E. Milss, and Peter Airasian. 2012. *Educational Research: Competencies for Analysis and Applications*. 10th ed. Boston: Pearson Education, Inc.

Huang, C. and P. Sun. 2010. "Using Mobile Technologies to Support Mobile Multimedia English Listening Exercises in Daily Life." *The International Conference on Computer and Network Technologies in Education (CNTE 2010)*.

Khanom, Sonya. 2018. "Aplication of ITC in English Classroms: A Study of the Secondary Schools in Dhaka." P.hD. diss. BRAC Institute of Languages (BIL).

Kukulska-Hulme, A. 2016. "Mobile Assistance in Language Learning: A Critical Apprasial." In *The International Handbook of Mobile-Assisted Language Learning*, edited by A. Palalas and M. Ally, 138-160. Beijing: China Central Radio & TV University Press.

Leipzig, Diane Henry. 2001. "What is Reading?" *WETA*. https://www.readingrockets.org/article/what-reading, retrieved in June 2023.

Lolita, Yuri, Endry Boeriswati, and Ninuk Lustyantie. 2020. "The Impact of Computer Assisted Language Learning (CALL) on English Vocabulary Enhancement." *Linguistics, English Education and Art (LEEA) Journal* 4 (2): 206-221)

Mashudi. 2018. "The Effect of Computer Assisted Language Learning and Students' Learning Motivation on the Grammar Mastery of First-Year Students at Amik Selatpanjang in Kabupaten Kepulauan Meranti." *Inovish Journal* 3 (2): 137-154.

Mayer, Richard E., and Roxana Moreno. 2003. "Nine Ways to Reduce Cognitive Load in Multimedia." *Educational Psychologist* 38 (1): 43-52.

McCarthy, Joshua. 2009. "Utilising Facebook: Immersing Generation-Y students into first year university." *Ergo* 1 (2), 39-49.

Mokhtari, Kouider and Ravi Sheorey. 2002. "Measuring ESL Students' Awareness of Reading Strategies." *Journal of Developmental Education* 25 (3): 2-10.

Nurlaili and Annim Hasibuan. 2021. "Penerapan Computer Assisted Language Learning (CALL) dengan Bantuan Menggunakan Media Video dalam Meningkatkan Speaking Ability." *Jurnal Penelitian Pendidikan Bahasa Dan Sastra* 6 (2): 70-77.

Park, Nim Chan and Jeong-Bae Son. 2009. "Implementing Computer-Assisted Language Learning in the EFL Classroom: Teachers' Perceptions and Perspectives." *International Journal of Pedagogies and Learning* 5 (2): 80-101.

Rizkiani, Firliah, *et al*. 2023. "The Use of Computer Assisted Language Learning (CALL) To Improve the Students' Speaking Skill of Grade X C SMA N 4 Kota Bima in Academic Year 2022/2023." *Jurnal Pendidikan Mandala* 8 (1): 198-210.

Rochmahwati, Pryla and Zakaria Bintang Pamungkas. 2015. "The Effect of Computer Assisted Language Learning (CALL) Towards Speaking Ability in STAIN Ponorogo." *Cendekia* 13 (2): 341-362.

Sudijono, Anas. 2018. *Pengantar Statistik Pendidikan*. Depok: Rajawali Press.

Wahyuni, Imelda. 2022. Pendekatan Komunikatif dalam Pembelajaran Bahasa Asing. Kendari: SulQa Press.

Yuliantini, Ni Nyoman, *et al*. 2020. "The Implementation of Computer Assisted Language Learning (CALL) to Improve Speaking Ability of Students in Bali State Polytechnic." *Okara: Jurnal Bahasa dan Sastra* 14 (2): 272-278.