ISSN 2541-2922 (Online)
ISSN 2527-8436 (Print)

CORRELATION BETWEEN CLASSROOM APPLICATION USAGE AND THE EFFECTIVENESS OF ENGLISH LANGUAGE LEARNING IN STUDENTS

Annisa Meilyani[1], Amanda Salsabila[2], Marisa Shermia Nanda[3], Abdul Syahid[4]
[1,2,3]Mahasiswa Tadris Bahasa Inggris IAIN Palangka Raya
[4]Dosen Tadris Bahasa Inggris IAIN Palangka Raya
Email: amandasalsabila.spt@gmail.com

Abstract

This research investigates how often students use Google Classroom with the effectiveness of learning English. The quantitative, correlational design includes data from a questionnaire regarding frequency of use and learning outcomes. The result shows a negative correlation coefficient of -0.497 with a very high p-value of 0.987, which indicates no significance to test the positive association between the frequency of usage and the effectiveness of learning. This supports what other studies have indicated: high-quality engagement and intrinsic motivation are more highly associated with successful language learning outcomes, rather than increased use in general. The research underlines meaningful engagement and motivational factors that are essential for optimizing technology-assisted learning of languages. Limitations include small samples and that only Google Classroom was sampled; it is not generalized for use across multiple types of learning platforms. This would, in turn, allow future studies to further investigate more applications and qualitative aspects of engagement so that technology's role in language acquisition is understood appropriately.

Keywords: *Application use, Google Classroom, Effectiveness, Technology*

INTRODUCTION

In recent decades, technological advancements have significantly transformed various aspects of human life, including education (Akour & Alenezi, 2022). The integration of technology into language learning, particularly English, has become an increasingly important topic of exploration (Ahmadi, 2018). Technology offers greater access to learning resources, both formal and informal, through a wide range of digital platforms and applications (Lai et al., 2013). Several studies have highlighted the potential of technology, including learning apps, to enhance motivation, engagement, and learning outcomes (Dunn & Kennedy, 2019). This makes the use of learning applications a relevant strategy to promote more effective English language acquisition, particularly in the current digital era (Klimova & Zamborova, 2020).

English language learning apps such as Duolingo, Babbel, and Memrise provide interactive and enjoyable environments, enabling users to learn independently at any time and place (Alm and Daniel, 2019). However, despite these reported benefits, there is still ongoing debate about how effective technology, especially learning applications, truly is in enhancing English language learning outcomes (Blake, 2013). Factors such as

ISSN 2541-2922 (Online)
ISSN 2527-8436 (Print)

frequency of use, the level of user engagement, and how learners utilize these tools could significantly influence learning success (Jung & Lee, 2018).

This quantitative study aims to investigate the correlation between technology use, specifically learning applications, and the effectiveness of English language learning (An et al., 2021). The research is expected to provide valuable insights into the role of technology in language acquisition and to offer practical recommendations for educators designing more effective, technology-enhanced learning strategies (Zhou and Wei, 2018). The study will focus on users of English learning applications at various proficiency levels to assess how these technologies contribute to the improvement of their language skills (Ahmadi, 2018). As the integration of technology in education becomes increasingly prevalent, it raises important questions about its actual impact on learning outcomes, particularly in language acquisition. Despite the growing popularity of English learning applications, there is still a lack of clarity regarding the extent to which these tools contribute to improving learners' language skills. Several key issues emerge: How effective are learning applications in enhancing different language competencies such as listening, speaking, reading, and writing? To what degree does the frequency of technology use correlate with improved learning outcomes? Additionally, how does user engagement with these applications influence their overall effectiveness in English language learning? This study seeks to address these questions by exploring the correlation between the use of learning applications and the effectiveness of English language acquisition, with a focus on identifying specific factors that contribute to successful learning through technology.

1. Problem Formulation

Is there a significant correlation between frequency in the use of Google Classroom and effectiveness in the learning of English?

2. Research Objectives

The primary objective of this research is to examine the correlation between the use of learning applications and the effectiveness of English language acquisition. Specifically, this study aims to assess how different aspects of technology use, such as the frequency and intensity of engagement with learning apps, influence learners' progress in English proficiency. Additionally, the research intends to explore the role of user motivation and interaction with the technology in determining the success of their

ISSN 2541-2922 (Online)
ISSN 2527-8436 (Print)

learning outcomes. Through these objectives, the research aims to provide valuable insights that can inform educators and app developers on how to enhance the effectiveness of technology-based language learning tools.

3. Literature Review

Recently, the integration of technology into language learning has been widely adopted among both educators and researchers. (Ahmadi, 2018) studied the incorporation of technology when learning English; he established that indeed, with the incorporation of digital tools, accessibility increases, especially because there are more means or methods involved in language acquisition. In contrast, (Blake, 2013) discusses the future of technology in the field of language education. It can be noted here that ongoing debates were obvious concerning the actual effect that the digital tool would have on general proficiency in language.

Indeed, research on language learning applications underlines the contribution of these tools in making students more eager to learn a language, which may be crucial in effective language acquisition. According to an article by (Klimova & Zamborova, 2020) which reviewed the use of mobile apps in the improvement of reading comprehension, through this, they established that these tools were also useful in promoting independent reading practice. Similarly, (Jung & Lee, 2018) examined engagement in MOOCs and realized that it is only the sustained engagement which leads to learning outcomes, a fact applicable to language learning apps, too.

Another point of focus of current research is the language learning apps that have been effective in improving speaking and listening skills. (Loewen et al., 2019) examined Duolingo, measuring its impact on speaking and listening skills; they found that frequent users were significantly impacted. (Reinders & Benson, 2017) further supported this, highlighting that in technology-based learning environments, ample opportunities have been provided for speaking and listening practices which always present a challenge in conventional classrooms.

The same good results are received with independent learning enabled by these apps. (An et al., 2021) investigated the effect of technology-mediated self-regulated learning

ISSN 2541-2922 (Online)
ISSN 2527-8436 (Print)

on proficiency in English and reported that the more self-regulated learners attained a higher level of proficiency. (Godwin-Jones, R., 2011). also pointed to the fact that the trend in mobile language learning apps is to let a learner study at their own speed, thus being independent in language learning.

Frequency of use is generally assumed to be one of the factors that provide a bias in the effectiveness of language learning outcomes. Indeed, (Stockwell, G., 2010) reported that those students who used their mobile phones for vocabulary activities on a regular basis retained more vocabulary over a longer period of time, thus suggesting that frequency positively affects learning. Such a finding was later supported by (Lai et al., 2013), who asserted that frequency and consistency are elements necessary in reaping the maximum benefits from technology-enhanced learning.

There has also been some research about classroom application tools, like Google Classroom, to assist language learning. (Huang et al., 2020) conducted a study on perceptions relating to the use of Google Classroom within language instruction, offering proof that such increases collaboration and information feedback.

On the other hand, there are some challenges while integrating technology into language education. Once, (Zhao & Frank, 2003) comprehensively reviewed the effect of technology on language education and acknowledged several barriers, including technical constraints and students' and teachers' diverse digital literacy. And (Dunn & Kennedy, 2019) discussed such difficulties: most educators have not been fully prepared in using technology in teaching because of limited training or resources.

Apart from that, motivational aspects are another key determinant of successful experiences in language learning apps. (Dörnyei & Ushioda, 2021) examined the motivational variables of technology-based language learning and pointed out that "students who were intrinsically motivated showed significant development in their language proficiency". Self-determination theory, as part of language learning, has noted that "learners who are motivated by personal interest are more likely to engage effectively with language learning apps " according to (Ryan & Deci, 2000)

ISSN 2541-2922 (Online)
ISSN 2527-8436 (Print)

Quantitative methods have been greatly used while determining how technology affects learning outcomes. (An et al., 2021) carried out a quantitative study aimed at assessing how the use of technology affects English learning, thereby giving empirical proof of its efficiency. (Jamieson & Chapelle, 2010) gave frameworks for computer-assisted language learning tool evaluation, insisting on a strong focus on quantitative data in the understanding of what happens to language learning as influenced by digital tools.

Given the form of these findings, several scholars have suggested what instructors and developers can do to optimize language learning technologies most effectively. For instance, (Hafner, et al., 2015) discussed issues relating to digital literacies in language teaching. Their discussion led them to conclude that the app platform must be engaging and user-friendly in terms of encouraging active learning from the app developer's perspective. (Pegrum, 2014) echoed this, calling for a mindful use of technology in language teaching and underlining that educators themselves should be suitably prepared to help students make effective use of those tools.

RESEARCH METHODS

This study uses a correlational research design with a quantitative approach to bring out the relationship between the use of learning applications, such as Google Classroom, and how that impacts the effectiveness of learning English among students. In this work, a correlational design is chosen because it will allow the researcher to establish whether there is a statistically significant relationship between two main variables, namely frequency and level of involvement in using Google Classroom (independent variables) and improvement in English skills (dependent variable).

Data were collected through a closed questionnaire and questions about the effectiveness of using Google Classroom according to respondents. This questionnaire is designed to be able to capture information on the frequency of application use, the type of activity conducted during the use of an application, and the level of involvement and motivation of students.

RESULT AND DISCUSSION

ISSN 2541-2922 (Online)
ISSN 2527-8436 (Print)

Results

Descriptives

Descriptives

	Gender	Age	1.How often do you use Google Classroom in learning English?
Mean	Female	17	NaN
		18	3.00
		19	2.38
		20	3.25
		21	3.00
		22	NaN
	Male	17	2.00
		18	NaN
		19	3.50
		20	NaN
		21	NaN
		22	2.00
Median	Female	17	NaN
		18	3.00
		19	2.50
		20	3.00
		21	3.00
		22	NaN
	Male	17	2.00
		18	NaN
		19	3.50
		20	NaN
		21	NaN
		22	2.00
Sum	Female	17	NaN
		18	6.00
		19	19.0
		20	13.0
		21	6.00
		22	NaN
	Male	17	2.00
		18	NaN

ISSN 2541-2922 (Online)
ISSN 2527-8436 (Print)

Descriptives

	Gender	Age	1.How often do you use Google Classroom in learning English?
Standard deviation	Female	19	7.00
		20	NaN
		21	NaN
		22	2.00
		17	NaN
		18	0.00
		19	0.744
		20	0.500
		21	0.00
		22	NaN
	Male	17	NaN
		18	NaN
		19	0.707
		20	NaN
		21	NaN
		22	NaN

In the descriptive analysis, it was possible to outline several trends of usage of Google Classroom among students. The mean values and dispersions point out the differences among age groups, generally with younger students using it more frequently. The average rate of usage frequency, for instance, was 2.38 for females and 3.5 for males for 19-year-old students, reflecting moderate but variable engagement. It is also in line with the studies that prove age-related differences in the usage of technology. Younger students may be more comfortable with educational applications thus their levels of engagement might be influenced (Ahmadi, 2018; Akour & Alenezi, 2022).

ISSN 2541-2922 (Online)
ISSN 2527-8436 (Print)

Correlation Matrix

Correlation Matrix

			1.How often do you use Google Classroom in learning English?	Average
1.How often do you use Google Classroom in learning English?	Pearson's r		—	
	df		—	
	p-value		—	
	95% CI Upper		—	
	95% CI Lower		—	
	N		—	
Average	Pearson's r		-0.497	—
	df		18	—
	p-value		0.987	—
	95% CI Upper		1.000	—
	95% CI Lower		-0.737	—
	N		20	—

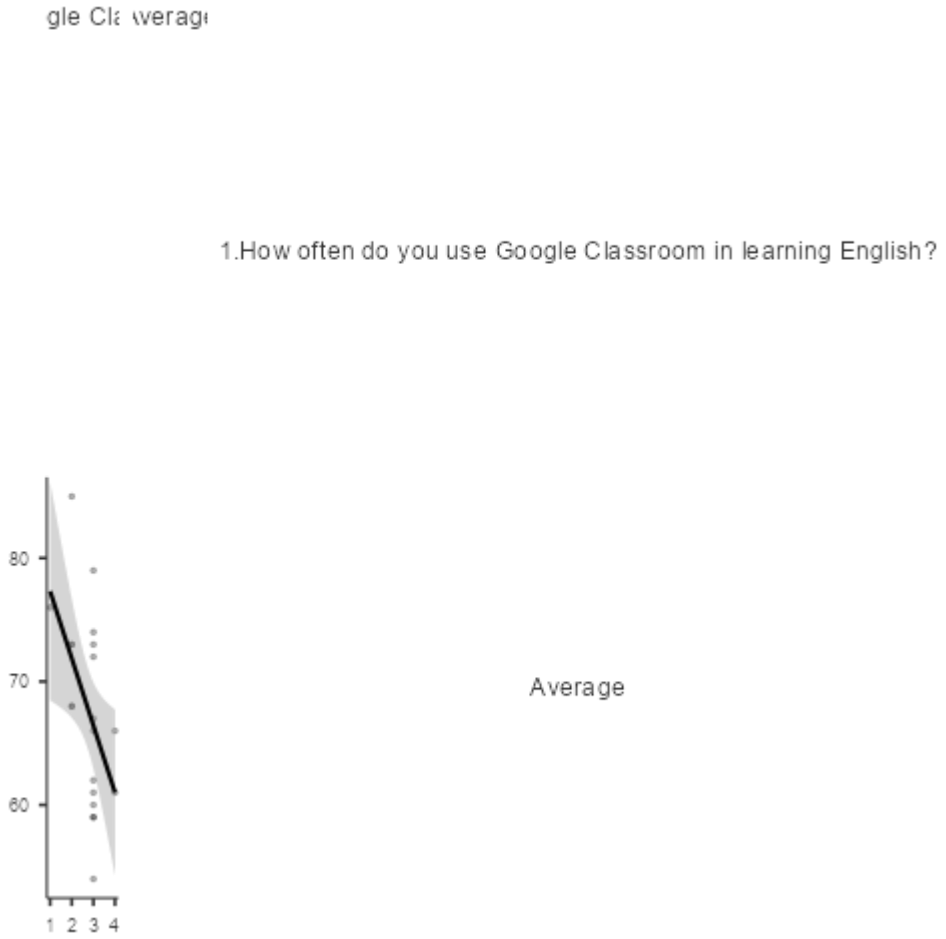
Note. H_a is positive correlation

Note. * p < .05, ** p < .01, *** p < .001, one-tailed

This study, therefore, used Pearson's correlation matrix to show the relationship between the frequency of Google Classroom usage and effectiveness in learning English. The correlation coefficient has been found to be negative (-0.497) with a high p-value of 0.987, meaning that there is no significant positive correlation between the frequency of use of Google Classroom and learning outcomes in this study. This is in agreement with (Jung & Lee, 2018), who emphasized that meaningful engagement over a sustainable period and not just the frequency would beget better learning outcomes.

ISSN 2541-2922 (Online)
ISSN 2527-8436 (Print)

Plot



DISCUSSION

These findings show that higher frequency in using Google Classroom does not necessarily affect the greater effectiveness in learning English. The observation here was also reflected by (Blake, 2013), who stated that digital tools only create access, and what are really needed are quality engagement and interaction for effective outcomes. Research has documented that learning applications lead to more significant gains when the level of engagement with the content is high rather than frequent use alone. Indeed, quality of engagement is a far more crucial determinant of success in technology-based learning and affects language proficiency directly. For example, (Loewen et al., 2019) reported significant improvements in speaking and listening skills via gamification language applications, such as Duolingo, underpinning the fact that meaningful use of the Google Classroom features may enhance educational outcomes. A very crucial determinant for language learning with technology as well is motivation. According to

ISSN 2541-2922 (Online)
ISSN 2527-8436 (Print)

(Ryan & Deci, 2000), the intrinsically motivated student-those who have a personal interest in language learning-tend to create for themselves an app-based ecology of greater success. Since motivation initially provided the basis for students' engagement with the learning tool, our findings indicate that cultivating motivation may prove more effective than merely increasing the frequency of use. Thirdly, there were age and gender differences in technology usage. (Akour & Alenezi, 2022), present the results of their study, which influenced demographic differences in learning applications. They present data showing that young students usually feel more comfortable with technology and therefore show better quality engagement. Nevertheless, this study had some limitations: the relatively small sample size and reliance on self-reported data may introduce biases. Also, with the focus only on Google Classroom, this has limited generalization to other language learning applications, which can be more interactive in nature, as (Huang et al., 2020) asserted. Therefore, future research should take into consideration various applications and qualitative aspects of engaging students toward a meaningful understanding of technology's place in language learning.

CONCLUSION

It indicates that, in general, the suggestion of platforms like Google Classroom does help to make learning more accessible, but the real contribution of each to English language acquisition might be primarily in the quality of their engagements and motivation rather than mere frequency of use. Therefore, educators and developers of educational applications are encouraged to direct their efforts toward creating content with more appealing, meaningful learning-related applications rather than just generally promoting the frequency of use. The relationship between the frequency of using Google Classroom and perceived effectiveness in English learning was not significantly positive. In fact, the correlation obtained was negative, with a value of the Pearson correlation coefficient amounting to -0.497 and a p-value of 0.987, which is very far from the level of statistical significance. In other words, within the framework of the current study, an increase in the use frequency of Google Classroom does not correspond with increases in effectiveness regarding the learning of English.

BIBLIOGRAPHY

Ahmadi, Dr. M. R. (2018). The Use of Technology in English Language Learning: A Literature Review. *Ijree*, *3*(2), 115–125. https://doi.org/10.29252/ijree.3.2.115

ISSN 2541-2922 (Online)
ISSN 2527-8436 (Print)

Akour, M., & Alenezi, M. (2022). Higher Education Future in the Era of Digital Transformation. *Education Sciences*, *12*(11), 784. https://doi.org/10.3390/educsci12110784

An, Z., Wang, C., Li, S., Gan, Z., & Li, H. (2021). Technology-Assisted Self-Regulated English Language Learning: Associations With English Language Self-Efficacy, English Enjoyment, and Learning Outcomes. *Frontiers in Psychology*, *11*, 558466. https://doi.org/10.3389/fpsyg.2020.558466

Blake, R. J. (2013). *Brave New Digital Classroom: Technology and Foreign Language Learning*. Georgetown University Press.

Dörnyei, Z., & Ushioda, E. (2021). *Teaching and Researching Motivation* (3rd ed.). Routledge. https://doi.org/10.4324/9781351006743

Dunn, T. J., & Kennedy, M. (2019). Technology Enhanced Learning in higher education; motivations, engagement and academic achievement. *Computers & Education*, *137*, 104–113. https://doi.org/10.1016/j.compedu.2019.04.004

Godwin-Jones, R. (2011). Mobile apps for language learning.

Hafner, C. A., Chik, A., & Jones, R. (2015). Digital literacies and language learning.

Huang, P.-S., Chiu, P.-S., Huang, Y.-M., Zhong, H.-X., & Lai, C.-F. (2020). Cooperative Mobile Learning for the Investigation of Natural Science Courses in Elementary Schools. *Sustainability*, *12*(16), 6606. https://doi.org/10.3390/su12166606

Jamieson, J., & Chapelle, C. A. (2010). Evaluating CALL use across multiple contexts. *System*, *38*(3), 357–369. https://doi.org/10.1016/j.system.2010.06.014

Jung, Y., & Lee, J. (2018). Learning Engagement and Persistence in Massive Open Online Courses (MOOCS). *Computers & Education*, *122*, 9–22. https://doi.org/10.1016/j.compedu.2018.02.013

Klimova, B., & Zamborova, K. (2020). Use of Mobile Applications in Developing Reading Comprehension in Second Language Acquisition—A Review Study. *Education Sciences*, *10*(12), 391. https://doi.org/10.3390/educsci10120391

Lai, K. -W., Khaddage, F., & Knezek, G. (2013). Blending student technology experiences in formal and informal learning. *Journal of Computer Assisted Learning*, *29*(5), 414–425. https://doi.org/10.1111/jcal.12030

Loewen, S., Crowther, D., Isbell, D. R., Kim, K. M., Maloney, J., Miller, Z. F., & Rawal, H. (2019). Mobile-assisted language learning: A Duolingo case study. *ReCALL*, *31*(3), 293–311. https://doi.org/10.1017/S0958344019000065

ISSN 2541-2922 (Online)
ISSN 2527-8436 (Print)

Pegrum, M. (2014). What Language to Teach with Mobile Devices. In M. Pegrum, *Mobile Learning* (pp. 127–156). Palgrave Macmillan UK. https://doi.org/10.1057/9781137309815_5

Reinders, H., & Benson, P. (2017). Research agenda: Language learning beyond the classroom. *Language Teaching*, *50*(4), 561–578. https://doi.org/10.1017/S0261444817000192

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions. *Contemporary Educational Psychology*, *25*(1), 54–67. https://doi.org/10.1006/ceps.1999.1020

Stockwell, G. (2010). Using mobile phones for vocabulary activities: Examining the effect of platform.

Zhao, Y., & Frank, K. A. (2003). Factors Affecting Technology Uses in Schools: An Ecological Perspective. *American Educational Research Journal*, *40*(4), 807–840. https://doi.org/10.3102/00028312040004807

The jamovi project (2022). *jamovi*. (Version 2.3) [Computer Software]. Retrieved from https://www.jamovi.org.

R Core Team (2021). *R: A Language and environment for statistical computing*. (Version 4.1) [Computer software]. Retrieved from https://cran.r-project.org. (R packages retrieved from MRAN snapshot 2022-01-01).