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An Experimental Study on Memrise Application in Students' Vocabulary Mastery

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Abstract. *Technology has become pivotal in education, emphasizing the importance of English proficiency and a robust vocabulary. This study assesses how vocabulary acquisition, particularly in a sample of 15 students, is impacted by the use of the Memrise application. Employing a quantitative approach and a pre-experimental design with one-group pre-tests and post-tests, the researchers utilized SPSS software for data analysis. The significance test yielded a 2-tailed Sig. value of 0.890, above the significance limit of 0.05. With the t-test value (1.829) below the t-table value (2.145), it indicates no discernible effect post-app use. The null hypothesis (H0) is accepted, rejecting the alternative hypothesis (Ha), suggesting the Memrise app alone may not enhance vocabulary acquisition. This underscores the necessity for careful evaluation and comprehensive assessment of educational technologies to optimize their efficacy in bolstering students' vocabulary development.*

Keywords - *Technolgy, Media, Memrise Application, Vocabulary Mastery, Teaching Vocabulary.*

Abstrak. *Teknologi telah menjadi hal yang sangat penting dalam dunia pendidikan, dengan menekankan pentingnya kemampuan bahasa Inggris dan kosakata yang kuat. Penelitian ini menilai bagaimana penguasaan kosakata, khususnya pada sampel 15 siswa, dipengaruhi oleh penggunaan aplikasi Memrise. Dengan menggunakan pendekatan kuantitatif dan desain pra-eksperimental dengan pre-test dan post-test satu kelompok, para peneliti menggunakan perangkat lunak SPSS untuk analisis data. Uji signifikansi menghasilkan nilai 2-tailed Sig. sebesar 0,890, di atas batas signifikansi 0,05. Dengan nilai t-test (1,829) di bawah nilai t-tabel (2,145), hal ini mengindikasikan tidak ada efek yang terlihat setelah penggunaan aplikasi. Hipotesis nol (H0) diterima, menolak hipotesis alternatif (Ha), yang menunjukkan bahwa aplikasi Memrise saja tidak dapat meningkatkan penguasaan kosakata. Hal ini menggarisbawahi perlunya evaluasi yang cermat dan penilaian yang komprehensif terhadap teknologi pendidikan untuk mengoptimalkan keampuhannya dalam meningkatkan pengembangan kosakata siswa.*

Kata Kunci - *Teknologi, Media, Aplikasi Memrise, Penguasaan Kosakata, Mengajar Kosakata.*

I. INTRODUCTION

Technology has become a crucial component of our everyday life in the present times. The internet, which provides us with swift access to information and communication, has become necessary. In the current era of globalization, it is essential to learn English if we desire to keep pace with scientific and technological advancements happening worldwide. Thus, it is essential to introduce English as early as feasible. From elementary school through graduate school, students in Indonesia are required to take English as one of their disciplines. Technology is used in education as digital media in learning because the learning process would be different from usual when digital media is applied in the classroom.

Ajayi suggests that technology can serve as a media to facilitate students' better understanding of study material. Various digital teaching tools, such as Google Classroom, Schoology, Kahoot, Canva, Padlet, and others, are available. Consequently, it is essential for the teacher in such a scenario to play a vital role in teaching Generation Z and millennial students who are well-versed with technology [1]. Technology can help teachers create engaging lessons from various applications. It is critical to remember that learning a new idea of language understanding requires much practice. Their long-term memory will be influenced by the meaningful information they receive [2]. Acquiring a strong vocabulary is a crucial subskill for students who are learning English as a second language. Students may struggle to express themselves effectively in written and spoken English without adequate vocabulary [3].

Furthermore, Fadhilawati said that there are some important reasons why students are required to learn English vocabulary, such as: 1) If the mastery of English vocabulary students is less or limited, they will have difficulty understanding what the teacher explains in English, their class, 2) Limited mastery of English vocabulary will make students tend to passive in the classroom, for example when asked by the teacher in using English they cannot

answer or be ashamed of answering and tend to choose silence. So mastery of vocabulary is the primary key for foreign language learners (foreign language), to be able to follow teachers' learning in English classes sufficiently [4].

More than that, mastery of English vocabulary determines the mastery of the student's English skills, whereby having a sufficient vocabulary of the context learned, students will be able to master four skills or special skills in English, namely speaking skills, writing, reading, and listening [4]; [5]. Penny emphasized the importance of vocabulary for learning foreign languages, as it can be challenging to communicate effectively without using diverse phrases [6]. Vocabulary is one of the subskills that, as mentioned, aid students in mastering language abilities and English, but many students still struggle with its study and mastery. As noted by Hyso and Tabaku, numerous students studying foreign languages may require assistance in understanding written texts in those languages. Achieving a suitable vocabulary and understanding the most effective strategies or approaches for studying new words is key. Consequently, it is crucial to use appropriate methods and resources to make vocabulary instruction in a foreign language as clear and accessible as possible [7].

Some English language teachers are still hesitant to integrate technology, such as mobile phones, in the classroom. They believe that it may have a negative impact on students, as they consider mobile phones to be a tool for playing games and browsing irrelevant content. However, research has been conducted to explore the potential of using mobile phones to enhance students' vocabulary mastery. According to the study conducted by Astutik et al. Senior high school English teachers in Sidoarjo encountered comparable obstacles when it came to implementing the new curriculum. The obstacles encountered comprised creating effective lesson plans that integrate advanced learning resources, inadequate experience generating pertinent and captivating teaching materials, and a deficiency in originality while utilizing technology-based English learning resources designed for high school students [8].

As earlier stated, the researchers is cognizant of the obstacles that students and teachers encounter when learning English. Teachers relied on media to communicate the content of their lessons to students, making it an essential aspect of the educational process in schools. Media became integral for professional educators to master, as emphasized by Gagne in Ruis, Waluyo, and Muhyidin. It encompassed various elements in a learner's environment that facilitated learning [9]. Therefore, referred to tools or materials utilized to enhance teaching and learning by delivering instructional content. Among these media, Memrise stood out as an online learning platform accessible via mobile applications on both Android and iOS devices, as well as through the website www.memrise.com and app stores. Zhang referred to Memrise as a vocabulary-focused language-learning platform employing an algorithmic review system resembling flashcards [10]. Memrise gained recognition as a leading flashcard and spaced repetition system, aligning with the growing popularity of mobile language applications featuring such functionalities. Flashcards have a long-standing history in language education, renowned for their simplicity and perceived effectiveness in vocabulary acquisition.

Memrise utilizes flashcards as a foundation for learning languages and other subjects, combined with mnemonic techniques. Users can create their own courses through crowdsourcing and access vocabulary training features offering various exercises like listening, matching, multiple-choice, and typing. The app employs spaced repetition for accelerated language acquisition, with "plant" and "water" sessions structured over a 180-day program. Memrise metaphorically represents users' memory as a garden, where vocabulary "seeds" are planted and moved from short-term "greenhouse" to long-term "garden" memory. It offers numerous courses in multiple languages, allowing for personalized learning. Incorporating technology like narration, animation, and hot spots enhances the learning experience. Therefore, Memrise serves as an effective tool for enriching vocabulary, personalizing education, and reinforcing language understanding [11].

To utilize the Memrise app, start by downloading it from your app store and creating an account. Explore the diverse range of courses available or create your own using the crowd-sourcing feature. Once you've selected a course, engage with flashcards containing various types of content such as definitions, verb forms, and translations. Utilize mnemonic techniques and spaced repetition to aid memorization. Monitor your progress through points and levels, and enjoy the interactive elements such as planting seeds and watching them grow into flowers as you advance. Additionally, take advantage of features like listening exercises, matching games, and quizzes to reinforce learning. Whether you're studying a new language or mastering a specific subject, Memrise offers a user-friendly and effective platform for educational purposes.

The researchers utilized the Memrise application, which is a no-cost platform that comprises a website and learning apps for iOS and Android. This versatile tool can be employed both in and out of the classroom. Alan recommends the use of the Memrise app, as it has the potential to augment a student's vocabulary markedly [12]. As per Quyyen's research, the Memrise app is an excellent tool for enhancing memory retention of words and a valuable aid for teaching and learning. The app boasts a diverse range of courses on numerous vocabulary topics, all designed to be user-friendly and easy to navigate [13]. Conducted by Walker, the use of Memrise has been shown to impact language learning among students positively. The study found that students who used Memrise enjoyed the experience and found it a comfortable way to learn. Given these findings, Latin teachers may find incorporating

Memrise into their vocabulary instruction helpful. Overall, the research indicates that Memrise is an effective and enjoyable tool for improving online vocabulary achievement among learners [14].

As noted by Hamer in his journal, students who excel in vocabulary mastery are likely to experience greater ease in advancing their English-learning abilities. As a result, utilizing the Memrise app can serve as an effective means to strengthen one's communication and critical thinking abilities, making it an ideal online or mobile teaching and learning resource [15]. According to Juniharma, Memrise offers levels ranging from beginner to advanced, with vocabulary ranging from simple to complex. Students can enhance their English skills by regularly using the application or setting a goal to study for at least 15 minutes daily. Additionally, the application includes a testing feature to evaluate a user's proficiency after learning [16].

Many researchers have been researching Memrise application and vocabulary mastery. They were first based on the research that Ayu conducted [17]. Rahmah conducted the second research [18], Azizah conducted the third [19], Triana conducted the fourth [20], and Zuniati et al. conducted the last [21]. The similarity of previous research was that all five used the Memrise applications. Meanwhile, the difference between previous research and this research was shown by the objectives or focus of each research. This research focused on the effectiveness of using the Memrise application in enriching students' vocabulary mastery. Otherwise, the first research focused on students' listening skills, the second focused on understanding students' views on using the app for vocabulary learning, the third focused on evaluating students' pronunciation abilities, and the fourth focused on the students' phrasal verb mastery.

The difference between the last part of the research and this research, which used the population class 8, with a sample of 30 students, pre-and post-tests containing the grade 8 English material theme, was unclear. In contrast, this research used the population class 9, with a sample of 15 students with pre-and post-tests containing the grade 9 English material theme, narrative text. Referring to the explanation above, this study aims to determine any significant differences between the students' competency levels before and after using the Memrise application.

II. METHODELOGY

This research used a quantitative approach, as Creswell outlined, which involves objectively testing theories by analyzing variable relationships [22]. The study used a pre-experimental design with a pre-and post-test for a single group and no control group for comparison. This design aims to compare performance levels before and after using the Memrise Application to assess how well it enriches vocabulary. This study was conducted over four days, from January 9th to January 17th for 2 weeks. The focus of this investigation was on ninth-grade students, as defined by Urdan as a population, which denotes a specific group of individuals or society that represents all members of a particular interest group [23]. The study focused on one particular class, which consisted of 15 participating students from all Grade 9 classes at the school. The researchers selected class nine as the sample group and employed simple random sampling to obtain the research sample. As Gay defines it, every person in the defined population is guaranteed an independent and equitable opportunity to be chosen under this approach. [24].

Memrise employed the audiolingual method, which involves learning a language through several exposures through different forms of educational assessments. If a test response is incorrect, the user receives negative feedback. Using audio files that show how to pronounce the words and phrases taught, Memrise also enabled the instructor or other contributor to enhance the course material. The course author may record these if they choose not to contribute their voice or if the author is not a native English speaker. Teaching materials were taught before treatment from the Ministry of Education's English book curriculum 2013 grade 9, chapter eight of Sangkuriang, about the narrative text. The vocabulary contained in the narrative text from the book is a reading vocabulary that refers to the words that make us able to read and understand a reading.

The pre-test contains two narrative story texts, including word meanings, synonyms, antonyms, reference words, and underlined words used as reference questions. While the post-test is almost the same as the pre-test, the comparison is that only one narrative story text from the 9th-grade English book is used as a reference. The researchers used twenty multiple-choice questions in the test to measure students' vocabulary acquisition. The questions were given to the students after the material was taught and the Memrise app was introduced before the pre-test. After giving the pre-test, researchers conducted treatment for three meetings. Researchers provided directions for using the Memrise application on students' cell phones and materials at each treatment meeting. Prior to administering the test, the researchers assessed the instrument's reliability and validity using SPSS software. Pre-and post-tests were conducted on a single group. The analysis of the data indicated that the test was both valid and reliable. The collected data was analyzed using the SPSS 26 programs to compare the differences between pre and post-teaching with the Memrise Application. To perform this analysis, the researchers conducted a t-test

III. RESULT AND DISCUSSION

A. The Evaluation

In this study, we investigated the effectiveness of the Memrise app in enriching students' vocabulary mastery. Through a carefully designed experimental study, we sought to elucidate the impact of Memrise on students' vocabulary acquisition. However, contrary to our initial expectations, the results revealed that the utilization of the Memrise app itself may not significantly affect students' vocabulary acquisition. This unexpected finding prompts a critical examination of the efficacy of digital language learning tools and underscores the importance of evidence-based practices in educational technology integration.

Three phases of the research were carried out to evaluate the students' vocabulary proficiency before utilizing the Memrise application-based teaching method: pre-test, treatment, and post-test. At the start of the study, students took a pre-test consisting of 20 multiple-choice questions. The students then received instruction via the Memrise app three times. Finally, the researchers conducted a post-test to evaluate their vocabulary proficiency. Once the study was complete, the researchers collected and analyzed the data using SPSS 26. Data was gathered by comparing student pre-test and post-test results. To evaluate the students' English vocabulary mastery, the researchers conducted a pre-test before using the Memrise app to start the instruction. Following the pre-test, the researchers calculated a total score of 1050, with a minimum score of 30 and an average score of 70. These results indicate that the students had sufficient and satisfactory English vocabulary mastery.

The students underwent a post-test to determine their mastery of English vocabulary after using the Memrise app for learning. The post-test contained twenty questions and had a thirty-minute time limit for the students to complete. A total of 960 was obtained, with 90 being the best score and 35 being the lowest. The students received an average score of 64.00 on their tests. These results suggest that the students' vocabulary mastery was still enough despite a decrease in their vocabulary scores. The Memrise application was used to enhance students vocabulary comprehension, and the researchers examined the variation in their pre-test and post-test scores.

Table 1. Descriptive Statistics

Descriptive Statistics	Pre-test	Post-test
Highest score	90	90
Lowest score	30	35
Mean	70.00	64.00
SD (Standard Deviation)	18.61	17.54

B. The Statistical data analysis

Using a t-test, the researchers analyzed the scores to determine whether they had a notable difference. The t-test was computed, and the results were evaluated using SPSS 26 after the analyzed pre-test and post-test data.

Table 2. Paired Sample

Significance Level (α)	Sig. (2-tailed)	T-value	T-table value	Conclusion
0.05	0.089	17.54	2.145	Reject (Ha), Accept (H0), No Improvement in Vocabulary

C. The Interpretation

Based on our calculations, the significance (2-tailed) is 0.089, which is higher than the significance limit of 0.05. This indicates a significant difference between the pre-test and post-test scores. It should be noted that the t-test value, which is 1.829, exceeds the t-table value of 2.145. Therefore, in this scenario, we will reject the alternative hypothesis (Ha) and accept the null hypothesis (H0). Our research has shown that there has been no notable

improvement in students' vocabulary proficiency after using the Memrise app. Using SPSS 26, we have proven that the Memrise app alone is not effective in learning and teaching English vocabulary. Our findings show that the Memrise app remains a valuable educational resource that can substantially improve students' academic performance. However, there is an academic reason why this app fails to improve students' vocabulary proficiency: the teaching continuity of the Memrise app is in the form of vocabulary translation assessment only, while the pre- and post-tests do not cover that, only synonyms, antonyms, word meanings, reference words, and underlined words.

The findings from this study are not comparable to previous studies that had a positive impact. First, according to Santri's study found that second-grade pupils at MA DDI Kanang significantly improved their vocabulary understanding when they used the Memrise app. The findings suggest that the average pre-test score of 57.5 (bad) on the post-test significantly climbed to 86.3 (very good). With a t-table of 1.671 and a degree of freedom (df) of 57, the t-test result was 14.494. These results demonstrate that the Memrise app successfully encouraged the students to learn new terms and improved their understanding of vocabulary [25]. Second, According to research by Nuralisah and Kareviati, using the Memrise application for vocabulary learning has effectively enhanced students' language skills. The student's average score on the pre-test was 68.3, but it rose to 85.1 on the post-test, demonstrating the Memrise application's efficacy. Students' interest in learning English vocabulary can be piqued using the Memrise app as a teaching tool. This can help prevent students from becoming bored during classes and ultimately assist them in learning the language more quickly [26].

Third, based on Cholifatur's research, the resylt study revealed that the post-test average scores of students who used the Memrise app were significantly better than those who did not use it. The experimental class had a Z Score of -4.475, significantly lower than the control class's score of -1.706. This result confirms that the Memrise application effectively improves students' mastery of irregular verbs [27]. Fourth, according to Fadhilawati's research indicates that using Memrise as a tool for learning and reviewing vocabulary significantly improves students' vocabulary achievement. The average score increased from 60.45 (before the test) to 86.27 (after the test). In addition, the students' positive feedback on using Memrise was reflected in the questionnaire results, further confirming the effectiveness of this method [4]. Fifth, according to Zuniati et al.'s research reveals a noteworthy disparity between the pre-test and post-test scores, with a two-tailed value of 0.000, less than 0.05. The t-test and t-table analysis results show a substantial difference in the scores, with the t-test score of 11.128 being significantly higher than the t-table value of 1.699. Consequently, the alternative hypothesis (Ha) is confirmed, and the null hypothesis (Ho) is disproved. This shows that teaching vocabulary to students using the Memrise app can improve their vocabulary skills [21].

VII. CONCLUSION

In short, the Memrise app alone cannot improve students' vocabulary skills, and there is also an academic reason why there is no effect, as the teaching continuity of the Memrise app is only in the form of vocabulary translation assessment. At the same time, the pre-and post-tests do not cover that, only synonyms, antonyms, word meanings, reference words, and underlined words. The researchers hope that this study encourages the use of the Memrise app as another medium for research and provide additional resources for similar studies examining different learning media for teaching and learning English vocabulary.

REFERENSI

[1]   I. Ajayi and H. Ekundayo, "The application of information and communication technology in Nigerian secondary schools," *Int. NGO J.*, vol. 4, no. 5, pp. 281–286, 2009, [Online]. Available: http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:The+application+of+information+and+communication+technology+in+Nigerian+secondary+schools#0

[2]   F. Megawati and S. Sultoni, "Android based Educational Game in Indonesian TEYL," *Android based Educ. Game Indones. TEYL*, pp. 662–668, 2017, [Online]. Available: http://eprints.umsida.ac.id/175/

[3]   R. Tovar Viera, S. Rodríguez Av, E. Ejido Town, and S. Felipe Sector Latacunga, "Vocabulary knowledge in the production of written texts: a case study on EFL language learners," *Rev. Tecnológica ESPOL-RTE*, vol. 30, no. 3, pp. 89–105, 2017.

[4]   D. Fadhilawati, "Learning and Reviewing Vocabulary Through Memrise To Improve Students' Vocabulary Achievement," *J. Acad. Res. Sci.*, vol. 1, no. 2, p. 4, 2016, doi: 10.30957/jares.v1i2.419.

[5]   A. Indriyani and Sugirin, "The Impact of Vocabulary Learning Strategies on Vocabulary Acquisition to Adult Learners," vol. 326, no. Iccie 2018, pp. 113–117, 2019, doi: 10.2991/iccie-18.2019.20.

[6]   P. Ur, *A Course in Language Teaching Trainee Book*. 1999. doi: 10.1017/cbo9780511732928.

[7]   K. Hyso and E. Tabaku, "Importance of Vocabulary Teaching To Advanced Foreign Language Students in Improving Reading," *Probl. Educ. 21st century*, vol. 29, pp. 55–62, 2011, [Online]. Available: www.scientiasocialis.lt

[8]   Y. Astutik, S. Agustina, F. Megawati, and R. Anggraini, "Increasing English teachers' innovation through training on teaching modules development with digital technology integration," *J. Community Serv. Empower.*, vol. 4, no. 3, pp. 459–466, 2023, doi: 10.22219/jcse.v4i3.27579.

[9]   T. M. Ruis, Nuhung. Waluyo, *Instructional Media*. Ministry of National Education, 2009.

[10]   X. Zhang, "Memrise," vol. 36, p. 37857, 2019.
[11]   D. E. Hobbs, "Flashcards and the Memrise App for English Vocabulary Acquisition," 2017.
[12]   A. Brennan, "Improve your Vocabulary with the Learning App Memrise! - English Language School Dublin," *Atlas Language School*, Feb. 23, 2022. https://atlaslanguageschool.com/improve-your-vocabulary-with-the-learning-app-memrise/ (accessed Nov. 16, 2022).
[13]   Tran Ngoc Quyen Quyen, "Improve Students' English Vocabulary With the Memrise Mobile Application," *Int. J. E-Learning Pract.*, vol. 5, pp. 12–22, 2022, doi: 10.51200/ijelp.v5i.4095.
[14]   L. Walker, " The impact of using Memrise on student perceptions of learning Latin vocabulary and on long-term memory of words ," *J. Class. Teach.*, vol. 16, no. 32, pp. 14–20, 2015, doi: 10.1017/s2058631015000148.
[15]   W. Hamer, "Utilizing Memrise application as instructional media-based technology to enrich the students' vocabulary mastery," *PThe roceedings UNNES-TEFLIN Natl. Semin.*, vol. 4, no. 1, p. 11, 2021, [Online]. Available: http://utns.proceedings.id/index.php/utns/article/view/129/115
[16]   Juni harma Dewi Dalimunthe, "The Effect of using Memrise Application on Students Vocabulary Mastery," *English Educ. Dep. State Islam. Univ. North Sumatera.*, pp. 1–11, 2021.
[17]   D. R. Ayu, "The Effectiveness of Memrise Towards Students' Listening Skill (An Experimental Research at The Second Grade of SMK YAPIDI Jayanti Kab. Tangerang)," *Diploma or S1 Thesis*, pp. 1–112, 2018.
[18]   L. Rahmah, "Journal of English Education," *J. ENGLISH Educ.*, vol. 5, no. No. 1, pp. 10–16, 2022.
[19]   N. Azizah, "the Effectiveness of Using Memrise Application in Teaching Pronunciation At the Eighth Grade Faculty of Tarbiyah and Teacher Training," *Thesis, English Educ. Dep. Fac. Tarb. Teach. Training. State Inst. Islam. Stud. Ponorogo.*, pp. 1–133, 2023.
[20]   D. Triani, *The Effectiveness of Using Memrise Application towards the Students' Phrasal Verbs Mastery of the First Grade at SMAN 1 Gondang Tulungagung*. 2020. [Online]. Available: http://repo.uinsatu.ac.id/16779/
[21]   R. D. Zuniati, T. S. Suwarti, and A. Setyorini, "The Use Of Memrise Application To Improve Students ' Vocabulary Mastery At The Eighth Grade Of Junior High School .," vol. 3, no. 4, 2023.
[22]   J. W. Creswell, *Research Design: Qualitative, Quantitative and Mixed Methods Approaches (4th ed.)*. Thousand Oaks, CA: Sage, 2014. [Online]. Available: https://www.ptonline.com/articles/how-to-get-better-mfi-results
[23]   T. C. Urdan, *Statistics in Plain English*. 2017. doi: 10.4324/9781410612816.
[24]   T. Theodoridis and J. Kraemer, *Educational Research: Competencies for Analysis and Applications.*, 10th ed. Pearson Prentince Hall: Toronto, 2012.
[25]   F. Santri, "THE EFFECTIVENESS OF MEMRISE APPLICATION TO UPGRADE STUDENTS' VOCABULARY MASTERY AT THE SECOND GRADE OF MA DDI KANANG," 2020.
[26]   A. S. Nuralisah and E. Kareviati, "the Effectiveness of Using Memrise Application in Teaching Vocabulary," *Proj. (Professional J. English Educ.*, vol. 3, no. 4, p. 494, 2020, doi: 10.22460/project.v3i4.p494-500.
[27]   E. C. ROSYDAH, "Improving Student's Mastery of Irregular Verb by Using Memrise Application at The Tenth Grade of Man Sidoarjo," vol. 120, no. 1, pp. 0–22, 2018, [Online]. Available: http://www.uib.no/sites/w3.uib.no/files/attachments/1._ahmed-affective_economies_0.pdf%0Ahttp://www.laviedesidees.fr/Vers-une-anthropologie-ritique.html%0Ahttp://www.cairn.info.lama.univ-amu.fr/resume.php?ID_ARTICLE=CEA_202_0563%5Cnhttp://www.cairn.info.lama

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