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The Effect Of Wordscapes Application Toward Students Vocabulary Mastery (A Quasi Experimental at the Seventh Grade Students MTs at Al-Um Islamic Boarding School of North Bengkulu Regency Academic Year 2024-2025)

Nur Hidayah[1)], Ferri Susanto[2)], Dedi Efrizal[3)]

[1,2,3)]Universitas Islam Negeri Fatmawati Sukarno Bengkulu

Email: nurhidayahh1702@gmail.com
ferrisusanto@mail.uinfasbengkulu.ac.id
dedi.efrizal@mail.uinfasbengkulu.ac.id

Abstrak

Penguasaan kosakata merupakan aspek penting dalam pembelajaran bahasa Inggris, namun masih menjadi tantangan bagi siswa Madrasah Tsanawiyah, terutama karena metode pembelajaran yang monoton dan kurang interaktif. Penelitian ini bertujuan untuk mengetahui pengaruh penggunaan aplikasi Wordscapes terhadap penguasaan kosakata siswa kelas VII di MTs Al-Um Islamic Boarding School, Kabupaten Bengkulu Utara, tahun ajaran 2024/2025. Penelitian ini menggunakan metode kuantitatif dengan desain quasi eksperimen, yang melibatkan dua kelas: kelas eksperimen yang diajarkan menggunakan aplikasi Wordscapes dan kelas kontrol dengan metode konvensional. Instrumen penelitian adalah tes kosakata (pre-test dan post-test) sebanyak 26 soal pilihan ganda yang telah diuji validitas dan reliabilitasnya. Perlakuan diberikan selama empat kali pertemuan dengan durasi masing-masing 45 menit. Hasil analisis data menunjukkan adanya peningkatan rata-rata skor post-test pada kelas eksperimen dibandingkan dengan kelas kontrol. Uji-t menunjukkan bahwa terdapat perbedaan yang signifikan antara hasil post-test kedua kelompok, dimana nilai signifikansinya lebih kecil dari 0,05. Dengan demikian, dapat disimpulkan bahwa penggunaan aplikasi wordscapes berpengaruh signifikan terhadap peningkatan penguasaan kosakata siswa.

***Kata kunci**: Wordscapes, penguasaan kosakata, siswa MTs.*

Abstract

Vocabulary mastery is a crucial aspect in learning English, but it is still a challenge for Madrasah Tsanawiyah students, especially due to monotonous and less interactive learning methods. This study aims to determine the effect of using Wordscapes application on vocabulary mastery of seventh grade students at MTs Al-Um Islamic Boarding School, Northh Bengkulu Regency, academic year 2024/2025. This study used quantitative method with quasi experimental design, involving two classes: experimental class taught using wordscapes application and control class with conventional method. The research instrument was a vocabulary test (pre-test and post-test) of 26 multiple choice questions that had been tested for validity and reliability. The treatment was given for four meetings with a duration of 45 minutes each. The results of data analysis showed an increase in the average post-test score in the experimental class compared to the control class. The t-test showed that there was a significant difference between the post-test results of the two groups, where the significance value was smaller than 0.05. Thus, it can be concluded that the use of wordscapes application has a significant effect on improving students' vocabulary mastery.

***Keywords**: Wordscapes, vocabulary mastery, MTs students.*

INTRODUCTION

In the process of mastering English as a foreign language, vocabulary plays a fundamental role as the core component of communication and language comprehension. Without sufficient vocabulary, students struggle to understand spoken or written texts, express ideas, or even construct simple sentences. Vocabulary is not only a collection of words, but also encompasses their meanings, usage in context, grammatical forms, and nuances. As Wilkins (1972) once stated, “without grammar very little can be conveyed, without vocabulary nothing can be conveyed.” Thus, the mastery of vocabulary becomes essential for students, particularly those at the junior high school level, such as students of

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Madrasah Tsanawiyah (MTs), who are in the early stages of formal English learning. However, in many schools—especially Islamic boarding schools like Al-Um in North Bengkulu—the vocabulary acquisition of students remains limited due to monotonous, conventional learning methods that fail to fully engage students in active and meaningful language use.

Observations conducted by the researcher at Al-Um Islamic Boarding School revealed several concerning realities. Despite having facilities such as projectors and computers, English teachers seldom use engaging media or technology-based applications in their teaching process. Most classroom practices are still dominated by textbook reading, memorization, and passive assignments. Consequently, students often show low enthusiasm, rarely use English actively, and frequently avoid speaking during obligatory English-speaking sessions held every Friday. Even when students are expected to alternate between English, Arabic, and Bahasa Indonesia weekly, many of them opt to remain silent or revert to Indonesian, showing a lack of confidence and insufficient vocabulary. The stagnation of vocabulary development among these students has prompted the need for an innovative solution that can motivate learners and facilitate language acquisition in a more enjoyable and effective way.

In response to these challenges, the integration of digital games into language learning has gained prominence, particularly after the COVID-19 pandemic, which accelerated the adoption of educational technology. One such game is Wordscapes, a mobile application that combines crossword puzzles and word formation games. Developed by PeopleFun, Wordscapes has garnered millions of downloads and favorable reviews globally due to its engaging, interactive design that promotes word recognition and vocabulary recall. Several studies, such as those conducted by Umbola et al. (2022) and Vu et al. (2022), have shown that word games like Wordscapes can significantly improve students' motivation and vocabulary retention. In Indonesia, Wordscapes remains underutilized in formal education, despite its potential to serve as a powerful tool for vocabulary enhancement. This presents a valuable opportunity for educational practitioners, especially in Islamic boarding schools, to introduce digital gamification as a method of enriching students' language skills.

In educational contexts where students are accustomed to rigid pedagogical routines, the application of word games can transform the classroom into a more vibrant, collaborative, and student-centered environment. Wordscapes, for instance, provides levels of difficulty that gradually increase, allowing students to challenge themselves and monitor their own progress. The app encourages spelling, critical thinking, and contextual word understanding—skills that are highly relevant for English learners. Furthermore, it offers flexibility in terms of when and where students can practice, fostering autonomous learning habits outside the classroom. According to Saleh (2019), the use of such games not only supports vocabulary growth but also promotes emotional engagement and deeper cognitive involvement.

In the context of Al-Um Islamic Boarding School, students face multiple barriers to vocabulary mastery, ranging from lack of exposure to English in daily conversation to insufficient use of diverse teaching materials. Additionally, many teachers do not integrate modern lesson planning tools or utilize engaging instructional media due to limited training or awareness. As a result, students develop negative perceptions toward English and feel disengaged from learning tasks. This condition raises an urgent need for an intervention that not only improves vocabulary outcomes but also reshapes students' learning experiences through meaningful engagement.

This research is therefore designed to investigate the effectiveness of Wordscapes application in improving the vocabulary mastery of seventh-grade students at MTs Al-Um

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Islamic Boarding School. Using a quasi-experimental design with pre-test and post-test assessments, the study compares two groups: one taught using the Wordscapes application and the other using traditional methods. The objective is to determine whether the integration of Wordscapes significantly enhances vocabulary acquisition among students who are often underexposed to interactive digital learning.

Through this study, the researcher also aims to contribute to the development of game-based learning practices in Indonesian Islamic education contexts. The expected outcomes include improved vocabulary scores, increased student motivation, and more frequent English usage in and outside the classroom. Furthermore, this research may serve as a foundation for future educational innovations that combine faith-based learning environments with 21st-century technological tools. In conclusion, the low vocabulary mastery of MTs students, the lack of engaging teaching methods, and the underutilization of available digital resources underscore the need for alternative strategies in English instruction. The Wordscapes application, with its interactive and adaptive features, offers a promising solution to address these issues. This study thus explores its impact on student learning and provides insights into how gamification can be effectively implemented in traditional school settings, particularly within Islamic boarding schools where educational transformation is still evolving.

METHODOLOGY

This research employed a quantitative approach with a quasi-experimental design aimed at examining the effect of using the Wordscapes application on students' vocabulary mastery. Quantitative research is designed to test hypotheses and measure variables using numerical data, which are then analyzed using statistical techniques (Creswell & Creswell, 2023). In this study, the quasi-experimental design was chosen because it allowed the researcher to compare two groups—experimental and control classes—while acknowledging that random assignment was not fully feasible due to school constraints. The specific type of design used was the pre-test and post-test nonequivalent control group design, where both classes took a pre-test before treatment and a post-test afterward. The experimental group received instruction using the Wordscapes application, while the control group was taught using conventional teaching methods.

The location of the study was at Madrasah Tsanawiyah Al-Um Islamic Boarding School in Bukit Harapan Village, Pinang Raya District, North Bengkulu Regency. The research was conducted over a period of four weeks, starting from March 6 to April 6, 2025. This school was selected due to its unique educational environment, which combines formal and Islamic boarding school systems. Although facilities such as projectors and computers were available, they were underutilized, and this condition provided an opportunity for the researcher to introduce technology-based learning tools such as Wordscapes.

The population in this study consisted of 66 seventh-grade students, divided into three classes (VII A, VII B, and VII C). From this population, two classes were selected using purposive sampling—a non-random technique where participants are selected based on specific characteristics deemed relevant to the research objective (Sugiyono, 2017). Class VII A, with 22 students, was assigned as the experimental group, and class VII B, with 21 students, served as the control group. These classes were chosen based on their similar English proficiency and demographic characteristics, ensuring a fair comparison of learning outcomes.

The variables in this research were divided into two: the independent variable (X), which is the use of the Wordscapes application as a vocabulary learning tool, and the dependent variable (Y), which is the students' vocabulary mastery. Vocabulary mastery

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refers to the students' ability to recognize, understand, and use words appropriately in context (Hariati, 2020). The operational definition of the Wordscapes application is a mobile-based game where users form words from a set of given letters, which can aid in reinforcing vocabulary acquisition through repeated exposure and engagement (Instr. Angham T. Saleh J., 2019).

To collect data, the researcher used tests, specifically a pre-test and post-test. The pre-test was administered before the treatment to both groups to assess students' initial vocabulary knowledge, while the post-test was conducted after the treatment to evaluate any improvement. Each test consisted of 26 multiple-choice questions covering indicators such as vocabulary meaning, usage, and spelling. The test questions were first validated and tested for reliability to ensure accuracy and consistency. The scoring system awarded one point for each correct answer and zero for incorrect ones.

The treatment was delivered over four sessions, each lasting 45 minutes, for the experimental class. During these sessions, students were introduced to the Wordscapes app and guided in solving vocabulary puzzles that encouraged word recognition, spelling accuracy, and contextual understanding. Meanwhile, the control group continued learning through standard classroom methods such as reading texts and memorizing word lists. In addition to tests, the documentation method was used to collect supporting data, including class attendance, student work samples, and photos of learning activities. These data helped triangulate the findings and provided qualitative insights into students' engagement and motivation during the learning process.

To analyze the data, statistical methods were used. The researcher conducted normality and homogeneity tests to confirm that the data met the assumptions required for further parametric testing. Subsequently, an independent sample t-test was used to compare the post-test scores between the two groups. The significance level was set at 0.05. If the p-value obtained from the t-test was less than 0.05, it indicated that there was a statistically significant difference between the groups, meaning the use of Wordscapes had a measurable effect on vocabulary mastery. In summary, this chapter explains the research design, population and sample, variables, data collection instruments, and data analysis procedures used to explore the effectiveness of the Wordscapes application in vocabulary learning. The methodology ensures that the study maintains both internal and external validity, providing reliable and applicable results for similar educational settings.

RESULT AND DISCUSSION

A. Description of the Data

This research was conducted from March 6, 2025, to April 6, 2025, at MTs Boarding School Al-Um, North Bengkulu. The study involved two classes: Class VII.A as the experimental class and Class VII.B as the control class. A total of 43 students participated, with 22 students in Class VII.A and 21 students in Class VII.B. The aim was to investigate the effect of using the Wordscapes application on students' vocabulary mastery in English. The sample selection used purposive sampling, selecting specific classes to represent the experimental and control groups. The experimental class (VII.A) used the Wordscapes application during lessons, while the control class (VII.B) used traditional teaching methods.

Before the treatment, the researcher submitted a formal request to the principal of MTs Al-Um on February 24, 2024. After obtaining approval, the treatment was administered in four sessions with different focuses: verb recognition, past tense verbs, antonyms, and synonyms. The sessions occurred on March 6, 13, 18, and 22, 2025. Students in the experimental class were provided vocabulary materials through the

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Wordscapes application, interactive learning media, and discussions guided by the teacher. A pre-test was administered on March 6 to both classes to determine students' initial vocabulary mastery. After the four instructional sessions, a post-test was administered on March 22. These tests served to assess the progress made by each student in both classes.

B. Experimental Class

Class VII.A, as the experimental class, consisted of 22 students (9 males and 13 females). The pre-test and post-test results indicated significant improvement in vocabulary mastery. The pre-test average score was 56.27, with a minimum score of 38 and a maximum score of 80. In the post-test, the average score rose to 75.72, with the lowest score increasing to 54 and the highest reaching 92.

Below is a summary of selected score changes:

1) Student ARP: from 61 to 92
2) AHA: from 42 to 88
3) ANA: from 65 to 92
4) RJN: from 73 to 92

These results demonstrate a clear and consistent improvement among most students after using the Wordscapes application. The use of this gamified vocabulary tool allowed students to learn new words in a more engaging and memorable manner. The interactive nature of the app stimulated students enthusiasm and active participation, leading to better retention and understanding. These findings indicate that integrating the Wordscapes application into the learning process had a positive impact on students vocabulary mastery.

C. Control Class Results

In comparison, the control class (VII.B), composed of 21 students (8 males and 13 females), was taught using conventional methods without any digital intervention. The pre-test average score in this class was 48.19, and the post-test average was 52.61. The lowest score increased slightly from 25 to 26, and the highest from 73 to 80.

Despite the slight improvement, the gain in scores was much lower than that observed in the experimental class. For example:

1) MRA: from 73 to 80
2) HMA: from 53 to 76
3) FNR: from 56 to 64

However, many students showed very small score increases (e.g., 1 to 3 points), and some remained unchanged. This suggests that conventional instruction, while still beneficial, did not lead to the same level of vocabulary mastery improvement as the Wordscapes-based instruction.

D. Data Analysis

1. Normality Test

To ensure the validity of further statistical analysis, the normality of the data was tested using both the Kolmogorov-Smirnov and Shapiro-Wilk tests via SPSS. The significance values were:

Table 1. Test of Normality Experimental Class and Control Class

Tests of Normality		
	Kolmogorov-Smirnov[a]	Shapiro-Wilk

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	Statistic	df	Sig.	Statistic	df	Sig.
Pre-Test Experimental Class	.158	22	.165	.923	22	.088
Post-Test Experimental Class	.167	22	.112	.924	22	.094
a. Lilliefors Significance Correction						
Pre-Test Control Class	.200	21	.027	.943	21	.245
Post-Test Control Class	.189	21	.050	.945	21	.279
a. Lilliefors Significance Correction						

a) Experimental class pre-test: 0.088
b) Experimental class post-test: 0.094
c) Control class pre-test: 0.245
d) Control class post-test: 0.279

Since all significance values are greater than 0.05, the data from both groups can be considered normally distributed. This confirms that the pre-test and post-test results from both classes are suitable for parametric statistical tests such as the t-test and F-test.

2. Homogeneity Test

The Levene test was employed to assess variance equality between the two groups. For both the pre-test and post-test:

Table 2. Test of Homogeneity of Variance Post-Test

Test of Homogeneity of Variances					
		Levene Statistic	df1	df2	Sig.
Pre-Test	Based on Mean	.811	1	41	.373
	Based on Median	.482	1	41	.491
	Based on Median and with adjusted df	.482	1	39.666	.492
	Based on trimmed mean	.825	1	41	.369
Post-Test	Based on Mean	2.546	1	41	.118
	Based on Median	1.916	1	41	.174
	Based on Median and with adjusted df	1.916	1	38.170	.174
	Based on trimmed mean	2.573	1	41	.116

a) Pre-test Levene's Sig.: 0.373 (based on mean)
b) Post-test Levene's Sig.: 0.118 (based on mean)

These significance values are above the 0.05 threshold, indicating that the data are homogeneous. Therefore, the assumption of equal variances between the two groups is met, justifying the use of independent sample t-tests.

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3. T-Test Results

To determine whether the Wordscapes application significantly improved students' vocabulary mastery, a t-test was conducted comparing post-test scores between the two classes:

Table 3. The T-Test Result of Post-Test both Experimental and Control Class

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Nilai.Posttest	Group 1	22	75.73	11.893	2.536
	Group 2	21	52.62	15.038	3.282

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Nilai Post-Test	Equal variances assumed	2.546	.118	5.603	41	**.000**	23.108	4.124	14.779	31.438
	Equal variances not assumed			5.572	38.082	**.000**	23.108	4.147	14.713	31.503

a) Experimental class post-test average: 75.73
b) Control class post-test average: 52.62
c) Mean difference: 23.11
d) t-value: 5.603
e) Significance (2-tailed): 0.000

Since the significance value is below 0.05 and the t-value exceeds the critical t-table value (1.684), the difference in post-test scores between the experimental and control groups is statistically significant. This proves that students taught with the Wordscapes application performed significantly better than those taught with traditional methods.

4. F-Test (ANCOVA)

An F-test was also conducted to determine whether the treatment significantly influenced the dependent variable (vocabulary mastery):

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Table 4. F-Test Result Tests of Between Subjects Effects

Tests of Between-Subjects Effects						
Dependent Variable: nilai post-test						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	5737.289[a]	1	5737.289	31.392	.000	.434
Intercept	176986.591	1	176986.591	968.390	.000	.959
kelas	5737.289	1	5737.289	31.392	.000	.434
Error	7493.316	41	182.764			
Total	191799.000	43				
Corrected Total	13230.605	42				
a. R Squared = ,434 (Adjusted R Squared = ,420)						

a) F value: 31.392
b) Significance: 0.000
c) Partial Eta Squared: 0.434

Since the F value exceeds the F table value of 4.08 and the significance value is below 0.05, it can be concluded that the use of the Wordscapes application significantly affected students' vocabulary mastery. Moreover, the Partial Eta Squared value indicates that 43.4% of the improvement in vocabulary scores was due to the Wordscapes treatment classified as a moderate effect size.

The results of this study strongly support the integration of digital tools in language instruction, especially for vocabulary acquisition. The significant improvement in vocabulary mastery among students in the experimental class aligns with previous research by Prensky (2001), who coined the term "digital natives" to describe the new generation of learners who are more responsive to technology-based learning environments. The use of the Wordscapes application in this research provided students with a learning experience that was interactive, engaging, and gamified. This encouraged them to learn vocabulary more actively and independently. The application's structure based on puzzles and word challenges—also promoted critical thinking and retention.

The findings are consistent with Buckingham (2007), who argued that digital media enhances creativity and critical thinking in students. Additionally, Mayer (2009) emphasized that multimedia learning must align with cognitive principles to enhance understanding, which was evident in how students in the experimental group retained and applied new vocabulary.

Furthermore, the positive impact of digital learning tools is also emphasized by Warschauer and Matuchniak (2010), who stated that the integration of technology must be accompanied by equitable access and teacher support to be effective. In this study, the teacher's role in facilitating app-based learning was crucial for its success. Despite the significant results, some limitations remain. The success of the Wordscapes application relied on teacher guidance, student motivation, and availability of supporting devices. Without these components, the effectiveness of digital tools may vary.

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Based on the data analysis on the seventh grade students of MTs Al-Um Boarding School of North Bengkulu, the results showed a significant improve in students vocabulary mastery on the students post- test scores after taken part in learning with the help of Wordscapes application. This shows that game based learning strategies, especially Wordscapes, are able to create a fun learning atmosphere, as well as improve the effectiveness of students vocabulary mastery. At the initial stage, a pre-test was conducted to both classes, namely the experimental class and the control class. The average pre-test score of the experimental class was 56.27 while the control class was 48.19. The difference in these scores indicates that both classes had relatively equal levels of initial ability, although the experimental class was slightly higher. After being treated using the Wordscapes application for four meetings, the mean value of the experimental class post-test increased to 75.72. In contrast, the average score of the control class that used conventional methods only rose to 52.61. This means that the increase in the experimental class reached 19.45 points, while the control class only increased by 4.42 points. This significant increase indicates that the use of Wordscapes as a learning media is very effective in improving vocabulary mastery.

Furthermore, a normality test was conducted using the Shapiro- Wilk method. The test results showed that the significance value (Sig.) for the experimental class pre-test was 0.088 and the post-test was 0.094. For the control class, the Sig. value of the pre-test was 0.245 and the post-test was 0.279. Since all Sig. values are greater than 0.05, it can be concluded that the data in each group is normally distributed. This means that the analysis can proceed with parametric tests, such as the t- test. The homogeneity test was also conducted using the Levene Test. The results show that the significance value in the pre-test is 0.373 and the post-test is 0.118. Because both values are more than 0.05, the data from both groups can be said to be homogeneous, meaning that the variance between the experimental and control classes is not significantly different. The next step is to conduct a T-Test (Independent Sample T- Test) to determine whether the difference in score improvement between the experimental and control classes is significant. The test results show that the calculated T value is 5.603 and the significance value (Sig. 2- tailed) is 0.000. Since the Sig. value is smaller than 0.05, and the calculated T value is greater than the T table (1.683), it can be concluded that there is a statistically significant difference between the experimental and control class post-test results. In other words, the use of Wordscapes application has a significant effect on improving students vocabulary mastery.

The results of this test are in line with research conducted by (Umbola et al., 2022), showed that Wordscapes can improve vocabulary acquisition and learning enthusiasm of high school students. (Vu et al., 2022), stated that the use of word games is effective in helping vocabulary retention in EFL (English as a Foreign Language) students. (Oktamia Anggraini Putri, 2022), found that Wordscapes are effectively used in junior high school to improve students vocabulary skills. Thus, based on the results of statistical tests, it can be concluded that the use of Wordscapes application has a significant effect on improving vocabulary mastery of seventh grade students of MTs Al-Um Boarding School Northh Bengkulu. This finding not only proves the correctness of the research hypothesis, but also strengthens the theory of ame based learning which emphasizes the importance of an interesting, fun, and interactive learning process in improving student achievement. It is hoped that the results of this study can provide benefits for teachers and students, and encourage the creation of more effective English language learning, especially in vocabulary mastery.

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CONCLUSION

Based on the results of research conducted on seventh grade students at MTs Al-Um Boarding School North Bengkulu, it can be concluded that the use of Wordscapes application has a significant effect on improving students vocabulary mastery. In this research, the experimental class was given treatment using wordscapes application for four meetings, while the control class did not get the treatment and continued to use conventional learning methods. In the experimental class using Wordscapes application, the lowest pre-test score was 38 and the highest score was 80, while in the post-test it increased to 54 for the lowest score and 92 for the highest score, with an average post-test score of 75.72. Meanwhile, in the control class using the conventional method, the lowest pre-test score was 25 and the highest was 73, then increased to 26 and 80 in the post-test, with an average post-test of only 52.61. In addition, statistical analysis using SPSS version 28 showed a calculated F value of 31,392 with a partiel eta squard value of 43.4%. The calculated F value is greater than the F tab value of 4.08, which means that there is a significant influence between the vocabulary mastery of students who use Wordscapes application and those who do not use Wordscapes application. Thus, it can be concluded that the used of Wordscapes application is effective in improving the vocabulary mastery of seventh grade students at Al-Um Islamic boarding school in Northh Bengkulu.

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