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Extent of Microlearning Habit and Students' Vocabulary Retention

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ABSTRACT

This study investigates the degree of microlearning practices and how they affect vocabulary retention in West Visayas State University-Himamaylan City Campus BSEd English majors. A questionnaire and vocabulary retention test created by the researcher were used to analyze 98 English major students using a descriptive-correlational research design. The purpose of the investigation was to find out whether microlearning which is defined by brief, focused instructional content has a substantial impact on students' vocabulary development. Across all demographics, the results demonstrated that students routinely participated in microlearning activities; there were no statistically significant differences when categorized by year level, sex, or age. Similarly, despite these factors, pupils showed a proficient degree of language memory. The mean scores of older and female students were a bit higher, but these differences were not statistically significant. Spearman's rho analysis of the relationship between microlearning and vocabulary retention showed a small and non-significant relationship (r = -0.053, p = 0.604), indicating that microlearning may not be an adequate stand-alone strategy for long-term vocabulary retention in its current form. Microlearning does not appear to significantly improve vocabulary retention when used alone, despite of the fact that learners continue to show consistent behavior. These findings show that the learners' vocabulary retention is probably influenced by a variety of factors other than microlearning alone, such as cognitive depth, repetition, and learning environment. The study recommends that larger samples, more variables, and longitudinal designs be used in future research to better understand the pedagogical benefits of microlearning in language training.

INTRODUCTION

The process of acquiring and retaining vocabulary is essential in language learning, especially in situations where English is taught as a second or foreign language. Vocabulary retention is an action of retaining something. The capacity to retain and retrieve words and their meanings across time is an important aspect of language learning. Microlearning is an approach that centralizes in delivering one single objective or skill at a time within short time frames, ranging from a few seconds to 10-15 minutes. Microlearning – based ESP programs have shown promise in developing vocabulary and reducing cognitive load (Gohar, 2023). The approach aids in negating the Ebbinghaus forgetting curve (a theory that demonstrates the exponential rate at which information is forgotten over time when no effort is made to retain it), increases retention, and speeds up the learning process by avoiding mental fatigue (Shail, 2019). It aims to develop learners' capacity to connect multiple ideas and resources, leading to a deeper understanding of the subject matter (Marcelle & Brahim, 2023).



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With the rise of digital learning environments, microlearning has surfaced as an effective strategy for improving vocabulary acquisition and retention. Recent studies have started looking into how microlearning can help with language learning objectives, especially vocabulary growth, building on this expanding body of knowledge. Furthermore, these studies have explored the effectiveness of microlearning in enhancing vocabulary retention among students. Its benefits, including increased learner engagement, flexibility, and material delivery efficiency, have been emphasized by earlier studies. According to these results, microlearning could be a potent supplement to or perhaps a replacement for more conventional teaching strategies in vocabulary acquisition. Therefore, the current study contributes to the continuing discussion regarding how new instructional strategies can improve learning outcomes in language education by investigating the impact of microlearning techniques on students' vocabulary learning capacity and motivation in college students (Chen & Sitthiworachart, 2023). Various techniques that can be utilized includes the use of flashcard – based techniques, mobile applications, audios, videos, and social media platforms. This can be applied in several contexts, including formal and informal learning environments, using different modalities.

The current study uses a descriptive-correlational survey approach to investigate the relationship between students' vocabulary retention and the usage of microlearning strategies, contributing to this continuing legacy of research. The study collects information on learners' participation in microlearning activities and their associated vocabulary retention scores rather than changing variables to see if there is a meaningful correlation between the two. This study intends to offer nuanced insights into how microlearning activities may affect vocabulary acquisition by concentrating on naturally occurring patterns in an authentic educational environment. It is anticipated that the results will guide instructional strategies and bolster the incorporation of microlearning as a practical method for teaching vocabulary.

REVIEW OF RELATED LITERATURE

Many educational institutions have adopted online learning since the Covid-19 virus has spread to nearly every nation on the planet. These had presented difficulties for both teachers and students. The administration adopted a new strategy in an attempt to close these gaps. Among Given that Microlearning is one of these solutions, which was introduced by Hector Correa in 1963. In his book The Economics of Human Resources, he coined this phrase. Ever since online education was introduced, Since microlearning is thought to be beneficial, it has gained popularity and been adopted by numerous government agencies, businesses, and educational institutions.

Lessons are more readily and quickly absorbed by students. In other words, it is a learning approach that Disseminate content in small, simple segments that conventionally focuses on a single learning objective or skill at a time. These short Instructional sessions can range from a few seconds to around 10–15 minutes and are often designed to be accessed as needed, making them exemplary for mobile or digital learning environments. Microlearning is a new approach that has evolved and is expected to assist students meet their learning objectives in online courses. The term "microlearning" can be understood as learning activities on a small scale because it combines the words "micro" (small size) and "learning" (learning activities). According to Simonson et al. (2018), microlearning is merely a phrase that describes a pedagogy that promotes learning in brief bursts and can be supported by a variety of platforms (Cendekia, 2022). That was mentioned during Cendekia 2022. Short-term learning activities and relatively small learning units are the focus of microlearning. This phrase refers to the process of learning in a mediated



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setting and is used in e-learning and related domains. According to Rafli & Adri (2022), some instances of microlearning or micro-learning content include: 1) Text. You can utilize brief paragraphs that are easy for pupils to understand while using this content. 2) Images: Both real-world photographs and illustrations can be used as examples. 3) Video: a quick video that shows a portion of the course and provides instructions on how to work. To put it another way, it is a method of teaching that typically concentrates on one learning goal or skill at a time and distributes information in brief, straightforward chunks. These brief instructional sessions are ideal for mobile or digital learning environments because they can last anywhere from a few seconds to roughly ten to fifteen minutes and are frequently made to be accessed as needed. For four reasons, microlearning is thought to be able to improve the effectiveness of the e-learning process. 1). Learning materials are designed to be bite-sized. Short presentations of the subject are easier for students to understand since they are less likely to be distracted by extraneous distractions while they are learning. 2) Particular. Because of its tiny size, the content is not just theory; rather, it combines a theory with a practice or example that addresses common issues. 3) Quick. Short content presentation will lead to a brief learning period, allowing for quick comprehension of a learning item when accessible on a cellphone. in order to prevent students from being drawn to distractions outside of the classroom. 4) Modifying requirements and conditions. The ability to create learning objects at any time facilitates students' ability to locate and retrieve the material. Learning materials can become more easily understood and long-lastingly memorable by microlearning (Maria & Anna, 2022). Theoretically, micro-learning allows users to concentrate on a single piece of knowledge at a time by segmenting the material into smaller, more manageable learning periods. A person can more readily recognize traits that are appropriate for their purpose when they focus on a specific stimulus, and the feature they are paying attention to becomes ingrained in their consciousness. It makes it possible to create engaging microlessons that direct students toward a certain learning objective. The course's structure and design can also be used by educators to improve user performance within microlearning mobile applications. ShailCureus, Mrigank S., 2019. Murphy et al. claim that attitudes regarding purchase intention and brand or business affirmation are significantly influenced by an item's position [19]. Even the atmosphere of "first impressions" about persons can be produced by this phenomenon. According to a groundbreaking study by Asch, the impression created by the provided collection of attributes was influenced by the sequence in which they were listed [20]. Overall, people's attitudes toward a person were determined by the position of the personality traits. For example, a person who was labeled as "intelligent-industrious-impulsive-criticalstubbornenvious" would have a more positive first impression than someone who was labeled as "enviousstubborn-criticalimpulsive-industrious-intelligent."

Vocabulary plays a crucial role in reading comprehension and language learning (Curtis, 2005; Schmitt & McCarthy, 1990). Research has shown that vocabulary knowledge is a key predictor of reading success, particularly for minority language learners and adult literacy students (Curtis, 2005). Various approaches to vocabulary instruction have been studied, including context-based learning, semantic mapping, and intentional learning (Schmitt, 2020). While multiple exposures to words and interactive approaches have shown positive effects on comprehension, the most effective method of vocabulary instruction remains undetermined (Hansen, 2009). Vocabulary acquisition is influenced by factors such as word frequency, intralexical aspects, and cognitive constraints (Schmitt & McCarthy, 1990). The relationship between vocabulary and reading comprehension has been consistently demonstrated across studies, highlighting its importance in educational settings (Hansen, 2009). However, further research is needed to investigate student retention and levels of word knowledge in relation to vocabulary instruction (Hansen, 2009;



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Schmitt, 2020). Some of the earliest studies of memory, recall, and spaced or micro-learning were carried out by psychologist Hermann Ebbinghaus. Memory is not a single faculty of the mind, but rather is composed of multiple systems with different operating principles and multiple neuroanatomies, according to Squire (2004). Memory is thought to be formed by the creation and linking of new neurons together. The shape, pattern, and allocation of neurons in various brain clusters create a specific memory, and these patterns can be transferred over time from short-term memory regions (which rely more heavily on the pre-frontal cortex) to long-term memory regions for indefinite storage. The neural system that creates long-term memory for facts and events is made up of multiple lobes, the hippocampus, entorhinal, perirhinal, and parahippocampal cortices [2]. Through recall and reintroduction, memories can be moved to long-term storage. Rehearsing particular memories can alter, improve, or strengthen the memory while also encouraging new neural connections to the neuronal cluster. This memory-altering process is called neuroplasticity, a topic that needs more study. In the brain, neurons mostly transcribe short-term memories. Recall enhances memory for long-term storage and facilitates the formation of new neural connections. According to research, an emotional connection to the original stimulus may improve memory retention by strengthening neural fibers, establishing connections with the amygdala nuclei (which control emotions), and solidifying long-term memory [3–5]. The acquisition of new vocabulary is a crucial component of language learning, but it necessitates frequent and varied exposure to the new terms and their usage, according to A. Erradi, Hind Almerekhi, and Sajeda Nahia (2013). Using various techniques to improve students' retention has become a crucial component of learning in a world that is changing quickly due to electronics and the quick introduction of new inventions. Studies showing the long-term effectiveness of memory strategy instruction (Ghorbani & Karami Riabi, 2011) support the Depth of Processing Hypothesis, which holds that deeper cognitive engagement results in better retention. Gamebased micro-learning platforms, like LingoSnacks, have demonstrated significant improvements in vocabulary acquisition and retention when compared to traditional classroom methods (Erradi et al., 2013). These gadgets are well-liked by users, making them one of the greatest tools for educational institutions to implement, according to Al Tameemy (2017). With more than 6 billion subscriptions worldwide, mobile phones have emerged as a crucial conduit for that information [11]. It has also been demonstrated that strategy training improves long-term vocabulary retention, with high-proficiency learners reaping the most benefits (Nemati, 2013). The successful implementation of mobile learning requires that 1) teachers and students focus more on collaborative-driven practices, 2) teachers receive adequate training on mobile learning, 3) students receive adequate guidance on mobile learning, and 4) parties recognize and re-adjust to the challenges of distraction and the multitasking behavior of mobile device usage, according to a 2018 critical review by Pedro et al. [12].

It has a very important place in every step of life and influences the quality of life, according to Mehmet Ali Cicekci, Fatma Sadık Journal of Education and Learning, 2019. The phrases "to pay attention, be all ears, to take into consideration" are commonly employed in daily life. Communication issues arise when one is not paying attention, a small distraction can lead to mishaps, and a casual reading can lead to misunderstandings. It is really difficult to fully understand why pupils don't always pay attention in class. Every element has a significant impact on how engaged students are in the classroom; generally speaking, interactive instruction and video games increase student participation (Duli Pllana, 2020). Additionally, he stated that the primary goal of any game is to win. The same concept is presented in many levels with various rules in every game. Therefore, by conveying the fundamental idea in many ways, we will



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demonstrate our interest in teaching the lesson. Learning and memorization are two distinct ideas. According to Human Learning and Memory. There is a relationship between learning and remembering. There is a relationship between learning and remembering. Learning receives new experiences and acquisitions via listening; also, learning sends those new experiences to the memory for processing, storing, and retrieval when needed (Duli Pllana, 2020). The work of Kaboha and Elyas (2018) was acknowledged in Integrating Movie-Based Mobile Learning (2020). Multimedia technology has become more popular in classrooms in recent years, and many argue that it is a valuable teaching tool that should be used more often. Advocates point to the benefits of multimedia's ability to combine visual and aural components to support traditional teaching methods. "Multimedia's Impact on Vocabulary Learning and Retention" (2022) This study analyzes vocabulary acquisition in relation to multimedia integration into the classroom in the context of Kallas's work (2017). Kallas states that teachers should be facilitated in employing more multimedia materials as a result of students being exposed to diverse text and audio stimuli which yield far greater learning benefits than hearing words or reading them on screen. It has been documented that students with the aid of multimedia resources significantly surpasses their peers who use text-based products as a means of learning and retaining vocabulary (Mayer, 2020; Lin & Tseng, 2019). Nevertheless, research suggests that the best practices for vocabulary acquisition involve a rich pertinent context (Takač & Šišková, 2021). Knowing the definitions of terms that people see, hear, or can pick up from a collection and use in their work helps them retain their vocabulary. Mayer's Cognitive Theory of Multimedia Learning (2020) referenced Mayer's (Citation 1997, Citation 2001) cognitive theory of multimedia learning, which framed multimedia assets as cognitive supports for knowledge production rather than merely information delivery.

Mayer's theory is based from three presumptions related to human information processing: 1) the dualchannel assumption, 2) the limited-capacity assumption, and 3) the active-processing assumption. As stated from the dual channel assumption, "Humans possess separate channels for processing visual and auditory information." (Mayer Citation2009, 63). It comprises the auditory-verbal channel for processing spoken words and the visual-pictorial channel for processing visual images that are seen. Dual-coding theory is reflected in this assumption (Paivio Citation1972, Citation1986, Citation1990). According to the limited-capacity assumption, people's ability to receive and retain information is always limited. A person's working memory has limited capacity for both verbal and visual stimuli; therefore, cognitive best utilized with the application of metacognitive resources are techniques. As stated in the active-processing assumption, learning demands some form of active work and effort, not simply receiving and digesting available information. Learners should not be bombarded with information. Instead, give them the tools and materials that will aid them in seamlessly integrating words and images into organized, meaningful structures ready for long-term retention.

RESEARCH QUESTIONS

- 1. What is the extent of microlearning habit of BSEd English majors when taken as a whole and when grouped according to age, sex, and year level?
- 2. What is the students' level of vocabulary retention when grouped according to age, sex, and year level?
- 3. Are there significant differences in the extent of microlearning habit of BSEd English majors when taken as a whole and when grouped according to age, sex, and year level?
- 4. Are there significant differences vocabulary retention of BSEd English majors when taken as a whole and when grouped according to age, sex, and year level?



5. Is there significant relationship between the extent of microlearning habit and vocabulary retention of **BSED** English majors?

RESEARCH METHODOLOGY

Research design

This study employed a quantitative descriptive-correlational research design to investigate the relationship between students' use of microlearning techniques and their vocabulary retention. The primary aim was to describe the level of engagement in microlearning activities, assess vocabulary retention outcomes, and determine whether a statistically significant correlation exists between the two variables.

RESPONDENTS

The respondents of the study were the 98 English major students of West Visayas State University -Himamaylan City Campus. The samples were chosen through Purposive Sampling.

INTSTRUMENTS

The study includes the following instruments:

A validated researcher made questionnaire on the respondents' profile.

A likert scale which is composed of 15-item statements about the Extent of Micro Learning Habit with 4point rating scale; and a 30 items researcher-made vocabulary retention test which is composed of three areas: Word Recognition, Contextual Usage and Synonym/Antonym.

DATA ANALYSIS

The data were gathered through google form. The data analysis was done after the data were gathered, tabulated, and organized.

SEX	Ν	Mean	Interpretation	Standard
			-	Deviation
MALE	17	3.384	Always	0.349
FEMALE	81	3.486	Always	0.253
TOTAL	98	3.468	Always	0.273
AGE				
Ages 18-19	24	3.397	Always	0.272
Ages 20-21	50	3.475	Always	0.278
Ages 22 and above	24	3.525	Always	0.260
YEAR LEVEL				
FIRST YEAR	21	3.378	Always	0.245
SECOND	33	3.455	Always	0.302
YEAR		21.00		
THIRD YEAR	29	3.570	Always	0.250

TABLE 1

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FOURTH	15	3.427	Always	0.244	
Note: 3 26-4	00 "Always" 25	1-3 25 "Sometimes"	1 76-2 50 "Rar	ely" 1 00-1 75 "Ner	or"

To determine if the frequency of the target behavior varied by age groups, a Kruskal-Wallis H test was conducted. The nonparametric equivalent of one-way ANOVA was selected since it doesn't require the assumption of normality of underlying distributions and hence is appropriate for ordinal data or data that break parametric assumptions. Participants were categorized into three groups—18–19 years, 20–21 years, and 22 years and older-and their engagement scores ranked. The mean ranks increased from 41.73 in the youngest cohort to 50.63 in the middle cohort and 54.92 in the oldest cohort, suggesting a clear trend of growing participation with age. In spite of this positive trend in mean ranks, the Kruskal–Wallis statistic (H = 2.762, df = 2) fell short of statistical significance (p = .251). In practical application, this p-value indicates a 25.1% chance of seeing these differences in rank sums (or more extreme) if, within the population, age has absolutely no effect upon engagement. Since this probability greatly surpasses the traditional alpha of 5%, we cannot reject the null hypothesis and conclude that the variations which we have seen would plausibly be explained by sampling fluctuation instead of by a systematic effect of age. Therefore, although there is a descriptive suggestion that older students report marginally greater engagement, the absence of statistical significance (H = 2.762, p = .251) suggests too little evidence to conclude a real age effect. Researchers should thus interpret these age differences cautiously and consider alternative qualitative or longitudinal methods to investigate whether and how age-related factors

SEX	Ν	Mean	Interpretation	Standard
				Deviation
MALE	17	24.24	PROFICIENT	3.192
FEMALE	81	25.58	PROFICIENT	2.392
TOTAL	98	25.35	PROFICIENT	2.581
AGE				
Ages 18-19	24	24.79	PROFICIENT	2.889
Ages 20-21	50	25.34	PROFICIENT	2.479
Ages 22 and above	24	25.92	PROFICIENT	2.448
YEAR LEVEL				
FIRST YEAR	21	24.86	PROFICIENT	2.613
SECOND	22	25.67	DDOFICIENT	2 570
YEAR	55	23.07	FROMUENT	2.370
ΓHIRD YEAR	29	24.86	PROFICIENT	2.656
FOURTH	15	26.27	PROFICIENT	2 282
YEAR	1.7	20.27		2.202

TABLE 2

influence the development and maintenance of this behavior over time.

The students' level of vocabulary retention when grouped according to age, sex, and year level. Taken as a whole and grouped according to sex.

Note: 20.01-30.00 "Proficient", 10.01-20.00 "Developing", 0.00-10.00 "Beginning"



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The analysis of the significant differences in the extent of microlearning habit among BSEd English majors when grouped according to age shows that there is no statistically significant difference among the three age groups. This conclusion is supported by the result of the Kruskal-Wallis test, which produced a test statistic of 2.762 with 2 degrees of freedom and a p-value of 0.251.

Since the p-value is greater than the standard threshold of 0.05, the differences in the extent of microlearning habits across age groups are not statistically significant. While the mean ranks suggest a gradual increase in microlearning engagement from the youngest group to the oldest-41.73 for ages 18-19, 50.63 for ages 20–21, and 54.92 for ages 22 and above—these differences do not reflect a meaningful or consistent pattern in statistical terms.

This goes to show that while it seems older students have a somewhat greater tendency to practice microlearning, the difference in behaviors is not enough to determine that age has a considerable impact on students' microlearning strategies. In general, the results suggest that microlearning is a more or less common practice among BSEd English majors, irrespective of their level of academic or intellectual development.

TABLE 3

The significant	t differences in	the extent	of microlearning h	abit of BS	Ed English maj	ors when taken as a
whole and whe	en grouped acco	rding to a	ge, sex, and year le	vel.		
According to s	sex					
		n	Mean Rank	Sum Ranks	of Mann- Whitney U	Significance p-value
SEX	MALE FEMALE	17 81	43.00 50.86	731.00 4120.00	578.00	0.298

*p>0.05, "NOT SIGNIFICANT"

98

Total

Based on the results of the significant differences in microlearning habits of BSEd English majors, both male and female students do not differ statistically significantly. This is under the framework that sex is the variable considered. "This finding is corroborated by the Mann-Whitney U Test results where the pvalue was 0.298 and U-value was 578.00."

As to the reason why microlearning gaps exist in the two groups'. The average for female students was, as anticipated, higher, with a mean rank of 50.86, compared to 43.00 for male students. However, this disparity, as noted earlier, is not large enough to be of practical relevance, so one has to question the credibility of sex-based reasoning hypothesized. These sample data reinforce the conclusion that the difference is more likely to be due to random variability rather than an underlying true effect is more plausible than a true effect."

Aside from that this still microlearning behavior can tell us something about its demographic, male and female BSEd English Majors exhibit similar patterns microlearning behavior confirm that microlearning is a behavior consistent across different student demographics. More studies would be needed to determine if differences by age and year level could shed light on the factors influencing student engagement in microlearning activities.

According to Age



of the significant differences in the extent of microlearning habit among BSEd Eng

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Category	Mean Rank	Kruskal Wallis	Df	Sig (2-tailed)	
First Year	38.71				
Second Year	49.67	7 706	3	0.052	
Third year	60.09	19 /./06	3	0.032	
Fourth Year	43.77				
*p>0.05, "NOT SIGNIFICANT"					
	Category First Year Second Year Third year Fourth Year	CategoryMean RankFirst Year 38.71 Second Year 49.67 Third year 60.09 Fourth Year 43.77 * $p > 0.05$, "NOT S	CategoryMean RankKruskal WallisFirst Year 38.71 Second Year 49.67 Third year 60.09 Fourth Year 43.77 * $p > 0.05$, "NOT SIGNIFICANT"	CategoryMean RankKruskal WallisDfFirst Year 38.71 Second Year 49.67 Third year 60.09 Fourth Year 43.77 * $p > 0.05$, "NOT SIGNIFICANT"	

According to Year Level

A comparison of the different subclasses or 'microlearning habit' subtypes across the English BSEd majors with year level grouping indicates that although the set differences did not reach the conventional benchmark, they were close enough to approach noteworthy significance. Based upon the data's three degrees of freedom, the test statistic was computed to be 0.052, under the conventional hypothetical significance level using the Kruskal-Wallis test. This, however, indicates a circumstantial trend rather than statistically significant differences that can solely be attributed to random sampling errors when calculated evenly distributed or larger sample sizes are used.

The third-year students had the highest mean rank of 60.09 followed by the second-year students with 49.67, then came the fourth-year students with 43.77 and the first-year students with 38.71 came last. The mean ranks enable an interpretation of the English BSEd students' absorption of modern educational technologies which aid to and actively foster deeper understanding that are also exercised during the data gathering period. In the higher year levels, students tend to have ascribed to greater amounts and more intellectually advanced academic content and as such, able to navigate independently if they have



employed taught coping skills or learned to adapt their acquired technology enhanced instruction skills toward learning.

Even though the outcome does not precisely meet the requirements for statistical significance, the closeness of the p-value to the boundary level of a 0.05 p-value threshold is interesting. It can be deduced from these results that the year of study may play a role in influencing learners' microlearning behaviors. Therefore, this relationship should be researched further, possibly with a longitudinal approach to observe changes over time or with a larger sample size.

TABLE 4

The significant differences in the vocabulary retention of BSEd English majors when taken as a whole and when grouped according to age, sex, and year level.

According to sex

		n	Mean Rank	Sum of Ranks	Mann- Whitney U	Significance p-value
	MALE	17	38.71	658.00	505.00	0.083
SEX	FEMALE	81	51.77	4193.00	505.00	0.085
	Total	98				

^{*}*p*>0.05, "NOT SIGNIFICANT"

The examination of the "*statistical difference in retention of vocabulary among BSEd English majors grouped according to sex*" indicates that there is no statistically relevant difference in performance between male and female students of the same course. This is the case with the Mann Whitney U test which showed a result of U-value = 505.00 and the p-value = 0.083.

Even though the p-value lies above the widely accepted 0.05 border, it is still close enough to suggest a trend that portrays better performance for Female vocab retention compared to their male counterparts. This is evident from the mean ranks as females indeed had a stronger rank 51.77 than male students who were stuck at 38.71 thus indicating better performance by females. Still, because the result does not achieve statistical significance, it cannot be concluded with assurance that gender can be categorized as a reason for difference in retention of vocabulary in this sample.

The data above, showing slight support to the theory that female students have an advantage when it comes to retention of vocabulary suggests that the differences observed are likely due to random variability rather than consistent evidence pointing to sex. It is recommended to have further qualitative research which incorporates a larger sample to broaden understanding of whether these assumptions posed by the trend can hold statistical weight.

	Category	Mean Rank	Kruskal Wallis	Df	Sig (2-tailed)
Age	Ages 18-19	44.35		2	0.367
	Ages 20-21	48.95	2.007		
	Ages 22 and above	55.79			

According to age

**p*>0.05, "NOT SIGNIFICANT"



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To analyze if there were differences in participant responses among three age groups: 18–19, 20–21, and 22 and older, the Kruskal-Wallis H test was performed in this study. This test is appropriate for solving more than two groups, unlike the other tests that depend on normal distribution; it does not make assumptions of normality on the distribution of the variable under study. The test yielded a Kruskal-Wallis H statistic of 2.007 with a p-value of 0.367. The outcome indicates that the changes in responses among the age groups are insignificant in a statistical sense, which is the case because the significance level is greater than the often-accepted alpha level of 0.05.

The mean ranks value for each group indicates the overall response pattern for each group and provide valid descriptive statistics as well. The youngest group: 18 to 19 years old had the lowest rank: 44.35. This value is the mean rank for this group on this studied variable. The oldest, 22 and above group had the highest mean rank with 55.79 while 20- to 21-year-olds had 48.95, slightly above the previous age group. Unlike the values ranging from 0 to 2 suggesting an increasing trend in the variable's value with age, the Kruskal-Wallis test suggests the value does trend upwards but not enough to be considered statistically significant. Simply, it can be said that although older people seemed to score overall higher, the differences across age groups and their samples was likely just random chance, random sampling, or random sample-wide averaging at play, which is not dependent on age.

The analysis found that responses provided by participants were not impacted significantly by age as reasonably expected, at least not in the scope of this study. A number of reasons impacting significance must be considered, for example, sample size, the amount of variability existing in each group, and the type of variable being measured in the sample. While applicable, it must also be noted that although using the non-parametric Kruskal-Wallis is a robust method, it also has the drawback of not considering other variables or explaining where the differences actually are. These results may encourage other researchers to assume in the future to examine these parameters with broader context or contextual and demographic modifier factors on a different and more diverse sample set. Despite lacking the scope age does not have a significant effect on responses, the findings from this study are clear considering the scope provided by the question.

	Category	Mean Rank	Kruskal Wallis	Df	Sig (2-tailed)	
	First Year	43.71				
YEAR	Second Year	53.23	1 000	2	0.190	
LEVEL	Third year	43.79	4.000	5	0.160	
	Fourth Year	60.43				
	* > 0.65 "NOT GLONIFIC ANT"					

According to Year Level

*p>0.05, "NOT SIGNIFICANT"

Upon categorizing the BSEd English majors by year levels, the analysis for differences in vocabulary retention revealed significant gaps, but the findings indicate that the gaps lack statistical significance. In support of this, the Kruskal-Wallis test results p-value equaled 0.180 and the test statistic was 4.888, with three degrees of freedom.

The information given did not illustrate any significant differences in retention levels across year levels as it is apparent that the p-value exceeds the 0.05 threshold by a large margin. Even so, means ranks



showed minimal differences with the highest mean rank being 60.43 for fourth-year students and 53.23 being for second year students, while first year and third year students had 43.79 and 43.71, respectively. This suggests that with a modest increase/addition to retention improvement in regard to academic progression, fourth year students with acquired exposure to advanced vocabulary in upper-level coursework could mark the retention increases. Students in those courses would likely see increased exposure to advanced vocabulary. Still, since the differences lack statistical significance, firm conclusions cannot be drawn. Though the findings suggest that retention may improve with increased academic level, the variation among years within the sample data is too low to support statistical significance.

TABLE 5

The significant relationship between the extent of microlearning habit and vocabulary retention of BSED English majors?

			Extent of	Vocabulary	
			Microlearning habit	Retention	
	Extent of	Correlation Coefficient	1.000	-0.53	
	Microlearning habit		1.000	-0.55	
Spearma		Significance (2-tailed)		0.604	
n's rho	Vocabulary	Correlation Coefficient	0.52	1.000	
	Retention		-0.55	1.000	
		Significance (2-tailed)	0.604		
		* > 0.05 WIOT GLOUIDL	$\alpha \omega \pi $		

**p*>0.05, "NOT SIGNIFICANT"

The correlation between microlearning habits and vocabulary retention among BSEd English majors was found to not have a statistical relationship, within the scope of the study's problem. This is also confirmed by the Spearman's rho correlation coefficient which is -0.053 and the p-value that stands at 0.604.

The correlation coefficient indicates there exists a very slight negative relationship between the two variables, vocabulary retention and microlearning habits. However, this relationship is not statistically significant because the p-value of 0.604 is much larger than the conventional threshold of 0.05. In simpler terms, the modest negative relationship that has been recorded is most likely due to chance and suggests no meaningful link between the two factors.

This study shows the amount of vocabulary students are able to retain does not depend on the amount of microlearning they do. Microlearning, with its brevity, might enhance immediate comprehension and interest; however, factors such as the volume of time spent studying, reading, learning approaches employed, and the depth of cognitive processing applied might be more potent influences on vocabulary retention.

In this context, based on the observations made, it seems that microlearning has no impact on vocabulary retention, whether positive or negative, for BSEd English majors. It is suggested that future studies seeking to explore the implications of microlearning on language learning outcomes consider changing or adding measureable components of microlearning or examine more intervening variables.

DISCUSSIONS

According to the study's findings, microlearning is a popular teaching method among BSEd English majors, as shown by the overall mean rating of 3.468, which falls into the "Always" category. When



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grouped by sex, female participants reported a slightly higher mean (3.486) compared to their male counterparts (3.384). However, statistical analysis using the Mann-Whitney U Test showed that this difference was not significant (p = 0.298), indicating that sex has no significant role in influencing microlearning habits. Similarly, analysis by age groups showed an increase rate in microlearning engagement, with students aged 22 and above demonstrating the highest mean score (3.525). Nonetheless, the Kruskal–Wallis H test confirmed that these differences were not statistically significant (H = 2.762, p = 0.251).

Year-level analysis revealed that third-year students had the highest level of microlearning engagement (mean = 3.570), followed by second-year students (mean = 3.455). The p-value of 0.052 obtained from the Kruskal–Wallis test came close to but fell short of the traditional threshold of statistical significance. This significant finding increases the potential connection between academic performance and the extent of microlearning behavior that suggests for more research with larger sample sizes or various studies. All of these results suggest that microlearning is a behavior that is consistently practiced by BSEd English majors of West Visayas State University- Himamaylan City Campus, across various demographic subgroups, with no observable differences according to students' year level, sex, or age.

The result of vocabulary retention shows that students across all demographic groups fall within the "Proficient" category, with a total mean score of 25.35. Female students (mean = 25.58) performed better than male students (mean = 24.24), though this difference was not statistically significant (p = 0.083). If grouped according to age, retention scores show a moderate increase, with students aged 22 and above achieving the highest mean score (25.92). Yet, as with microlearning, these differences failed to reach statistical significance (p = 0.367). An analysis by year level revealed that fourth-year students obtained the highest average score (26.27), followed by second-year students (25.67), while first- and third-year students had identical means of 24.86. Despite these variations, the p-value of 0.180 indicates that the differences are not statistically significant.

Finally, the study examined the relationship between microlearning habits and vocabulary retention through Spearman's rho correlation analysis. The correlation coefficient was -0.053, with a p-value of 0.604. This result confirms that there is no statistically significant relationship between the two variables. The negligible and negative correlation suggests that microlearning, at least in the form and frequency practiced by the participants, does not directly enhance vocabulary retention. This finding implies that while microlearning may support short-term engagement or conceptual understanding, it may not provide the depth and repetition necessary for the long-term retention of vocabulary. Therefore, future research should consider incorporating other pedagogical variables, possibly with more robust or diverse sample populations, and exploring the longitudinal impact of microlearning strategies to better understand their effect on language acquisition outcomes.

Conclusion

This study aimed to investigate the extent of microlearning habits and the level of vocabulary retention among BSEd English majors, while also determining whether significant differences exist across demographic variables such as age, sex, and year level, and whether a relationship exists between the two constructs. The findings revealed that microlearning is a widely adopted strategy among BSEd English majors, with respondents consistently reporting high levels of engagement regardless of demographic classification. Although minor variations were observed—particularly with third-year students reporting the highest microlearning engagement—none of the differences by age, sex, or year level reached



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statistical significance. This suggests that microlearning is a uniform behavior within the academic population studied and is not significantly shaped by demographic characteristics.

Similarly, vocabulary retention levels were found to be proficient across all groups, with females and older students generally achieving slightly higher scores. Yet, as with microlearning, these differences did not yield statistical significance, indicating that vocabulary retention is also a common capability across the student body, not strongly influenced by age, sex, or academic year. Furthermore, the study found no statistically significant correlation between the extent of microlearning and vocabulary retention, as evidenced by a negligible and negative Spearman's rho correlation. This implies that, while microlearning may enhance immediate comprehension or engagement, it may not be sufficient on its own to significantly influence the long-term retention of vocabulary.

In conclusion, the findings underscore the need for a more integrated approach to language learning, one that complements microlearning strategies with other pedagogical methods that promote deeper cognitive processing and long-term memory consolidation. Future research is recommended to explore other variables that may mediate or moderate the impact of microlearning on academic outcomes, ideally through longitudinal designs and larger, more diverse samples. Such studies may offer a more comprehensive understanding of how modern learning strategies can be optimized to support the development of essential language competencies among pre-service English teachers.

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