

## **Effects of Vocabulary Retention and Foreign Language Learning Effectiveness of Non-Language Major Students: A study in Hanoi city, Vietnam**

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### **Abstract:**

This study explores the practice of mindfulness meditation as a measure to adjust the relationship between vocabulary retention and foreign language learning effectiveness of students in Vietnam. It was carried out through a cross-sectional survey using intentional sampling technique (n = 200). Multivariate linear regression and moderator regression were also applied to prove the hypotheses. Research results demonstrate that there is a positive and meaningful relationship between mindfulness meditation practice, vocabulary retention and students' foreign language learning performance. In particular, the practice of mindfulness meditation acts as a moderating variable between the level of vocabulary retention and the foreign language learning efficiency of non-language major students in Hanoi, Vietnam. policy implications to improve their foreign language learning effectiveness.

**Keywords:** Mindfulness; Remembering New Words; Final Grade of English Course; Foreign language learning; Vietnamese students; Vocabulary Retention.

### **1. Introduction**

Many Vietnamese students have signed up for meditation classes because of their substantial benefits. Many meditation classes are open to all audiences including students, among of which there are some free ones creating conditions for everyone to be able to register. However, there is still a lack of quantitative studies evaluating the impact of mindfulness meditation on vocabulary retention and foreign language learning efficiency. There have been many studies on the role of mindfulness in different cultural contexts such as assessing the impact of a semester-long mindfulness meditation course on 152 first-year Taiwanese university students and compare it with 130 controls by Ching, Koo, Tsai, & Chen (Ching, Koo, Tsai, & Chen, 2015). In their study, they indicate that a semester-long mindfulness meditation course can improve academic efficiency in terms of both students' attention and cognitive functioning at Taiwan University. Retention is the process of establishing information in memory (Richards, Platt, & Platt, 1992). In human life, memory plays a very important role and is an indispensable condition for people to have a normal and stable psychological life. It stores the results of the cognitive process whereby people can learn, cultivate and develop their intelligence. In the process of a foreign language learning, memory must be trained. Memorization strategies as one among vocabulary learning techniques are more effective than using wordlists to improve vocabulary (Soner Sozler, 2012), visualizing a situation in which words might be used (Zare, 2012), and encoding vocabulary into phonological and semantic clusters in memory. (Faizah Saleh

AL-Hammadi, 2012). In contrast, learning a foreign or second language is viewed as a process of memory activation and language attention enhancement, which can lead to language storage and increase learning outcomes and language development (Faizah Saleh AL-Hammadi, 2012).

Many studies have found such various benefits of mindfulness for education namely improving attention functions and cognitive flexibility (Adam Moore & Peter Malinowski, 2009), bettering learning (Zeilhofer, 2020), producing positive effects on cognitive performance including the ability to memorize (Quek, Majeed, Kothari, Lua, Ong, & Hartanto, 2021), creating speech fluency and cognitive flexibility (Marciniak, Sheardova, Pavla, Daniel, Rastislav, & Jakub, 2014), helping the learners easily handle difficult situations in their study and work (Gina Paul & Steven, 2007), improving learning efficiency in class (Jian Wei Lin & Li Jung Mai, 2018), producing cognitive flexibility and other attention functions as well as delivering the significantly better performance than those who did not meditate on attention (Moore & Malinowski, 2009), creating a habit of memorizing (Filipović, 2018), making connections between facts and concepts (Emanuel Bylund & Scott Jarvis, 2010), improving students' learning outcomes (Fiebert), & Mead, 1981), helping learners self-regulate in their learning, which means after being trained they have improved their self-discipline, self-assessment ability, cognitive skills, ability to organize and manage learning materials; improving the ability to control their anxiety (Corti & Gelati (2020).

It can be said that there have been many studies on the relationship between mindfulness practice and foreign language learning efficiency. There is, however, still a lack of ones that explore the regulatory role of mindfulness practice on the relationship between vocabulary retention and foreign language learning efficiency. The objectives of this study are to explore the relationship between them as well as to determine the role of mindfulness practice in moderating the relationship between vocabulary retention and foreign language learning efficiency. This study is conducted with the aim of filling in the theoretical gap while providing additional evidence on the effects of mindfulness on enhancing the ability to remember learners' vocabulary and bettering their foreign language learning achievement.

## **2. Literature Reviews**

### *2.1. Relationship between Mindfulness and Memory*

According to Malinowski mindfulness originates in Buddhist teachings and is among the five Buddhist practices, along with the faith, effort, concentration, and wisdom. It is considered as responsive attention and awareness of events and experiences as they occur in the present moment (Brown & Ryan, 2003). Mindfulness meditation practice beneficially impacts motivation and memory over time with potential effects on educational and professional achievements (Brown, Goodman, Ryan, & Anālayo, 2016). Any experience deriving from internal or external stimuli is perceived, recognized, and accepted without evaluation (Furthermore, Kabat-Zinn, 2003; 2008). Mindfulness improves foreign language learning by communicating and memorizing through information encoding processes (Lueke & Lueke, 2019), enhancing attention and memory (Nicole, Mark, Zindel, & Scott 2007), bringing about beneficial effects on motivation and memory by the time (Brown, Goodman, Ryan, & Anālayo, 2016), exerting positive effects on memory and the ability to regulate emotions (Dubert) et al., 2016; Jha, Stanley, Kiyonaga, Wong, & Gelfand, 2010).

Learners cultivate mindfulness as an effective and efficient technique for improving their cognitive functions and memories (Mrazek, Franklin, Phillips, Baird, & Schooler, 2013), remarkably enhancing in their ability to remember (Quach, Jastrowski, & Alexander, 2016), considerably ameliorating their spatial processing, visual acuity and memory (Zeidan, Johnson, Diamond, David, & Goolkasian, 2010), improving their attention and memory, reducing their depressive symptoms while getting their memory activities better and sustaining their attention (Chambers, Lo, & Allen, 2008).

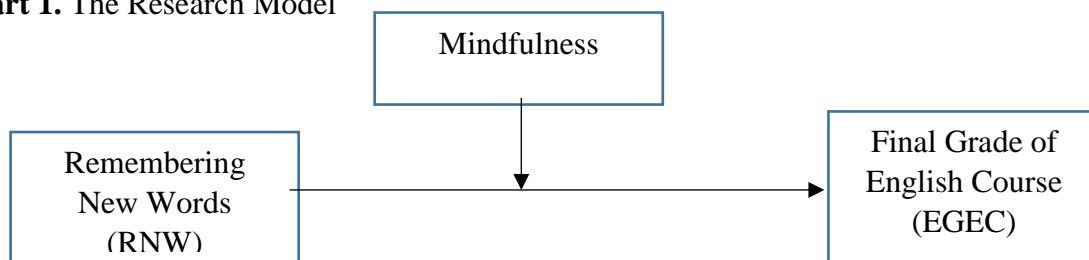
## 2.2. Relationship between Mindfulness and Foreign Language Learning

Mindfulness has created favorable conditions for students' foreign language learning, cultivated their creativity and intelligence, and promoted their collaborative learning. In addition, it provides them with opportunities to explore their own perceptions, learn from others, reflect and think critically.

The foreign language classes under the conditions of mindfulness practice show positive signs of increasing academic achievement and cognitive in comparison to the compared group (Zeilhofer, 2020), raising the level of attention and reducing distraction (Mortimore, 2020). 2017), facilitating the learning process, cultivating creativity and intelligence; Mindful collaborative learning has provided students with opportunities to explore their own perceptions, learn from others, reflect and think critically (Wang & Liu, 2016), collaborating and supporting language learning process (Fateme Moafian, Hooshang Khoshshima, Javad Salehi Fadardi, & Francesco Pagnini, 2019). Mindfulness is a positive and consistent predictor of foreign language motivation both directly and indirectly (Afsaneh Ghanizadeh & Hossein Makiabadi and Samaneh Abdi Navokhi, 2019).

From the literarute reviews, the authors have built a research model on mindfulness that regulates the relationship between vocabulary retention and foreign language learning efficiency as shown in Chart 1 below:

**Chart 1.** The Research Model



In the above-mentioned research model, the independent variables namely Mindfulness and RNW affect the dependent one, EGEC. The Mindfulness variable regulates the relationship between RNW and EGEC to varying degrees. This is the task that is needed to study in order to clarify the relationship between them.

### 3. Hypotheses

*H1. Mindfulness has a positive and significant impact on students' vocabulary retention.*

*H2. Mindfulness has a positive and significant impact on students' foreign language efficiency.*

*H3. Mindfulness adjusts the relationship between students' ability to memorize vocabulary and their foreign language learning efficiency*

## **4. Research Method**

### *4.1. Surveyed Area*

The study was conducted at universities in Hanoi in July 2020. At this point, the students had received the semester's GPA report. As of this moment, Hanoi has 43 public and 14 private universities, and 30 other higher education institutes. Participating in the survey are non-English major students who were instructed by the instructors to practice short mindfulness meditation before learning listening skills and doing grammar exercises in classes.

### *4.2. Research Samples and Methods*

To carry out this study, the authors conducted a survey with two steps, which are preliminary and formal to collect the participants' opinions.

### *4.3. Preliminary investigation*

The research team uses a qualitative method by in-depth interviews with educational researchers and psychologists to adjust the research scale as well as to better the questionnaire in such a way to suit the characteristics of the survey area. On the basis of the results from the literature review and the interviewees' comments, the questionnaire is designed with 2 parts, in which part 1 is used to collect information about the participants' demographics such as ages, genders, academic majors and part 2 gathers information about their GPA, vocabulary retention and mindfulness practice. (GPA is calculated according to the provisions of Decision No. 43/2007/QĐ-BGDĐT and Circular No. 57/2012/TT-BGDĐT of the Ministry of Education and Training of Vietnam). Information about their vocabulary retention is gained from a multiple-choice test on the ability to memorize the meanings of 100 words learned during the semester while information about mindfulness practices is gathered by the State Mindfulness of Mind Scale (MSM). MSM was developed by Alayo, Bodhi and Bishop et al (Alayo, 2004; Bodhi, 1993; Bishop et al., 2004) on the findings of earlier research on mindfulness and related constructs (e.g., Langer, 1989). Many researchers (Brown & Ryan, 2003; Messick, 1995; Haynes, Richard, & Kubany, 1995) and more recently Galia Tanay & Amit Bernstein (2013) have respectively developed this measure. It consists of two factors which are State Mindfulness of Mind with 15 items and State Mindfulness of Body with 6 items.

In this study, the research team inherits the State Mindfulness of Mind with 15 items. Because the State Mindfulness of Body does not match the research objectives, it is removed from the questionnaire.

The English questionnaire was translated into Vietnamese by two professional interpreters. The translation process was carried out according to the principle of adapting to Vietnamese culture. After their detailed discussion and final consensus, a single Vietnamese version was created.

A professional bilingual expert in the field of education contributed his idea to this version to create a final one. Then, it was pre-tested on 40 participants selected to be demographically representatives of ages, genders, and academic majors. During the evaluation period, they were asked to complete this final version. Followed by minor tweaks made to perfect the questions as well as to make them easier to understand. When the final Vietnamese version was completed, it was used for the official survey.

4.4. Official investigation

Participating in the study is a selection of students from universities in Hanoi. They are the ones who have followed the mindfulness guidelines from instructors, monks and experts in mindfulness practice. The questionnaire was directly sent to them by non-random sampling method. As a result, 200 votes are satisfactory, achieving a response rate of 100%. Their demographic information is shown in Table 1 below.

**Table 1.** Demographic characteristics of survey participants

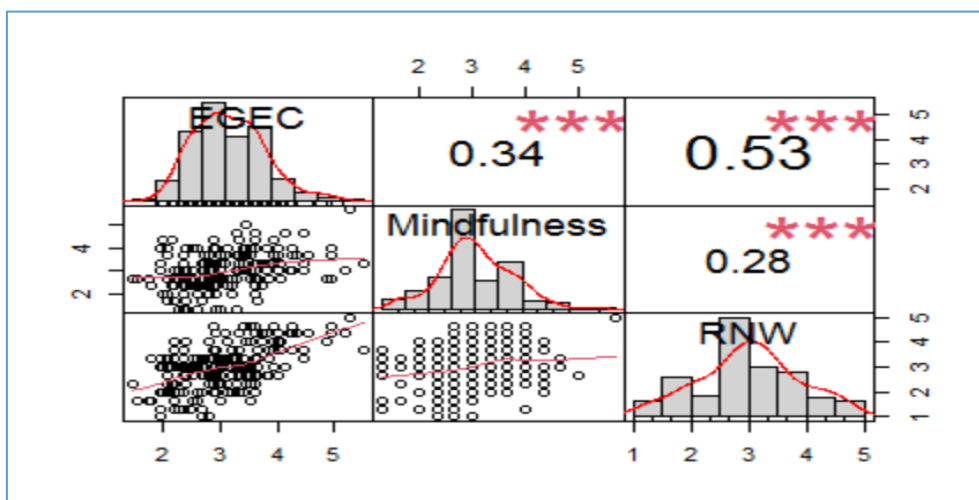
|        | Bachelor's program |     |       |         |       |     |       |     |       |               |     |     |
|--------|--------------------|-----|-------|---------|-------|-----|-------|-----|-------|---------------|-----|-----|
|        | Accountant         |     |       | economy |       |     | law   |     |       | public policy |     |     |
|        | Count              | Row | N %   | Count   | Row   | N % | Count | Row | N %   | Count         | Row | N % |
| Age    | 19 years old       | 8   | 29.6% | 9       | 33.3% | 6   | 22.2% | 4   | 14.8% |               |     |     |
|        | 20 years old       | 9   | 30.0% | 2       | 6.7%  | 11  | 36.7% | 8   | 26.7% |               |     |     |
|        | 21 years old       | 9   | 27.3% | 8       | 24.2% | 10  | 30.3% | 6   | 18.2% |               |     |     |
|        | 22 years old       | 9   | 27.3% | 10      | 30.3% | 8   | 24.2% | 6   | 18.2% |               |     |     |
|        | 23 years old       | 6   | 22.2% | 3       | 11.1% | 10  | 37.0% | 8   | 29.6% |               |     |     |
|        | 24 years old       | 14  | 28.0% | 10      | 20.0% | 17  | 34.0% | 9   | 18.0% |               |     |     |
| Gender | Female             | 28  | 30.1% | 22      | 23.7% | 25  | 26.9% | 18  | 19.4% |               |     |     |
|        | Male               | 27  | 25.2% | 20      | 18.7% | 37  | 34.6% | 23  | 21.5% |               |     |     |

5. Research Results

5.1. Pearson correlation analysis

Pearson correlation analysis is used by the authors to analyze the correlation between quantitative variables. As can be clearly seen in Table 2, with the 5% level of significance, the correlation coefficient shows that the relationship between the dependent and independent variables is statistically significant (Sig. < 0.05). The magnitude of the correlation coefficients ensures that multicollinearity does not occur. Therefore, other statistics can be used to verify the relationship between variables.

**Table 2.** Pearson correlation analysis results



## 5.2. Moderation regression Analysis

Subsequently, the authors conduct multivariable linear regression analysis on the relationship between 2 independent variables, Mindfulness and RNW, 1 dependent one, EGEC, and Moderation regression Analysis in order to determine that the Mindfulness variable moderates the relationship between RNW and EGEC ones. As can be observed in Table 3, model1 has  $R^2 = 0.320$  and model2 has  $R^2 = 0.343$ , which shows that the linear regression model is built in accordance with the data set model1 = 0.320 % and model 2 = 0.343%, respectively. Both models indicate that the two independent variables affecting the dependent one are not of statistical significance.

**Table 5.** Moderation regression Analysis

| Dependent variable: |                             |                         |
|---------------------|-----------------------------|-------------------------|
|                     | (Model 1)                   | (Model 2)               |
| Mindfulness         | 0.206***<br>(0.061)         |                         |
| RNW                 | 0.415***<br>(0.054)         |                         |
| Mindfulness         |                             | 0.184***<br>(0.054)     |
| RNW                 |                             | 0.392***<br>(0.051)     |
| Mindfulness:RNW     |                             | 0.132**<br>(0.054)      |
| Constant            | 1.214***<br>(0.212)         | 3.053***<br>(0.046)     |
| Observations        | 200                         | 200                     |
| R2                  | 0.320                       | 0.343                   |
| Adjusted R2         | 0.313                       | 0.333                   |
| Residual Std. Error | 0.637 (df = 197)            | 0.628 (df = 196)        |
| F Statistic         | 46.270*** (df = 2; 197)     | 34.060*** (df = 3; 196) |
| Note:               | *p<0.1; **p<0.05; ***p<0.01 |                         |

Table 5 reveals that, with the 95% confidence, the hypotheses proposed by the research team are accepted. To be specific, model1 denotes that the RNW variable has the strongest effect on the EGEC one with  $\beta = 0.415$ , followed by the Mindfulness one with  $\beta = 0.206$ . Model2 indicates that the Mindfulness variable moderates the relationship between the RNW one and the GPA one with  $\beta = 0.291$ , which means the increase or decrease of the Mindfulness makes the relationship between the RNW and the EGEC also increase or decrease.

## 6. Discussion and Conclusion

The research findings demonstrate that mindfulness has a close relationship with vocabulary retention and foreign language learning efficiency. In other words, mindfulness has a positive and significant effect on this relationship. The findings are similar to those of (Nicole, Mark, Zindel, & Scott 2007; Brown, Goodman, Ryan, & Anālayo, 2016; Dubert et al., 2016; Jha, Stanley, Kiyonaga, Wong, & Gelfand, 2010 ). The researchers suggest that mindfulness betters foreign language learning by improving communication and memory through information encoding processes.

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In particular, they also show that mindfulness regulates the relationship between the level of students' vocabulary retention and their foreign language learning efficiency. This is considered as our new findings that have yet to be found in any other studies.

From the aforementioned findings, the following conclusions can be drawn:

*Firstly*, it is recommended to apply mindfulness in combination with foreign language learning as it can be beneficial for university lecturers as well as students (Harumi Takiguchi, 2015). Mindfulness practice improves academic achievement since it helps control inhibitions, improve memory and ameliorate cognitive functions (Reilly, 2020), strengthen learners' concentration and allow them to continue gain more knowledge from lessons (Robert, 2013), better enhance alertness (Ostafin & Kassman, 2012).

*Second*, it is absolutely essential to share the facts about foreign language classes at university because teaching foreign languages is challenging and demanding especially at high levels and even in the best circumstances. To support students to learn foreign languages more successfully, teachers need to constantly conduct some research to discover and test the most effective teaching methods (Harumi Takiguchi, 2015). There is a need for them to make efforts to teach mindfulness creatively and effectively so that their students are able to learn better, feel motivated and more engaged in their learning processes (Harumi Takiguchi, 2015), and it helps increase learner' motivation (Olga, 2020). This is highly significant because language for cognition is a contextual and transient bond (Zeithaml, Berry, & Parasuraman, 1988).

## **7. Limitations**

Like other experimental studies, this study has also some limitations that should be considered when discussing its research findings. First, our survey method reflects the respondents' subjective perception towards the questions investigated. Subjective data has some inherent disadvantages that are hard to avoid like in any survey (Pakpour, Gellert, Asefzadeh, Updegraff, Molloy, & Sniehotta 2016). In other words, our data is collected over a single period of time. Cross-sectional data do not allow for a dynamic assessment of changes in students' intentions and related behaviors towards their college education, which may affect the applicability of our research findings. (Xin, Liang, Zhanyou, & Hua, 2019). The future researches should, therefore, combine both cross-sectional and long-term studies.

The intentional sampling method has certain limitations and not fully reflecting population characteristics (Lin et al., 2016; Strong et al., 2018). Our survey was conducted in a Vietnamese cultural context and more general statements should, consequently, be put forward by applying more development research models and results from other countries and cultures (Sun et al., 2012).

There is also another aspect of mindfulness that affects vocabulary retention and language learning efficiency. Future studies should explore regulatory variables (such as different characteristics in each individual; duration, frequency, and ways of meditation practice) (Michael & Christopher 2019). Furthermore, the R<sup>2</sup> of both models is low, which leads to a decrease in their significance. In further studies, it is necessary to increase the sample size to improve them.

## 8. Acknowledgments

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## 9. Conflict of interest

The authors declare that there is no conflict of interest.

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