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## ROLE OF METACOGNITION IN EAP VOCABULARY DEVELOPMENT: CROSS-SECTIONAL STUDY

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**Abstract.** *Metacognition is most broadly defined as higher order thinking process which presupposes active control over the cognitive processes engaged in learning. The teachers are not the only ones who should address the learning issues in the classroom, the learners should also be geared toward being aware of the thinking process as this will help them prepare in making conscious decisions about what they can do to improve their learning. Metacognition, the ability to think about one's own thinking processes, plays a crucial role in empowering students to effectively retrieve and deploy strategies they have learned in specific contexts and apply them to other situations. When students engage in metacognitive practices, they gain a deeper understanding of how they learn, which enhances their overall learning experience and academic performance. The main objective of such attempts is to allow students to become more aware of their preferred learning strategies and to help them become more responsible for meeting their own objectives.*

*The aim of the cross-sectional study is to investigate metacognitive strategy awareness in the context of EAP vocabulary development. Specifically, the research aims to assess the level of metacognitive strategy awareness among English learners. By employing a quantitative research approach and utilizing a questionnaire to survey 54 students of English Language and Literature at the Faculty of Philosophy in Kosovska Mitrovica, the study aims to provide an understanding of metacognitive strategy awareness in EAP vocabulary development at the tertiary level of education.*

**Key words:** *metacognition, vocabulary development, EAP, learning strategies, higher education*

### 1. INTRODUCTION

“Students without metacognitive approaches  
are learners without direction.”  
(Chamot & O'Malley, 1990, 8)

English learners often have limited exposure to real-life language use, which can hinder their ability to encounter vocabulary in meaningful contexts and impede their vocabulary acquisition. When learning new vocabulary, English learners may struggle to

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understand the contextual nuances, associations, and connotations that help solidify word meanings and usage. Therefore, they may find it challenging to retain newly learned vocabulary due to limited practice opportunities, inadequate reinforcement, ineffective memorization techniques, or relying heavily on translation between their native language and the target language, which can hinder their ability to develop a direct association between words and their meanings. Metacognitive strategies promote “self-awareness and self-monitoring” (Papleontiou-Louca, 2003, 24), enabling the learners to take ownership of their vocabulary learning process. They become more proactive in setting goals, planning their learning, and assessing their progress. Furthermore, these strategies empower the learners to choose appropriate vocabulary learning techniques based on their individual needs and preferences and engage in deeper levels of processing (Ma, 2013) by actively reflecting on and analyzing vocabulary items. This promotes better understanding, retention, and recall of word meanings, collocations, and usage patterns. By developing metacognitive awareness, English learners can transfer their knowledge and strategies to different vocabulary learning contexts (Chamot, 2004). They become more adaptable in applying effective techniques to diverse learning situations, both inside and outside the classroom.

The research findings on the role of metacognition in vocabulary development in the context of English for Academic Purposes (EAP) have several potential implications for teachers and learners, emphasizing the practical value of understanding and leveraging metacognition to enhance vocabulary learning outcomes. English teachers can incorporate metacognitive strategies into their vocabulary instruction approaches by explicitly teaching how to engage in self-regulation, goal-setting, monitoring, and reflection to optimize vocabulary acquisition and retention (Anderson, 2002). By guiding learners to develop metacognitive awareness, teachers can help them become more strategic and autonomous learners, leading to improved vocabulary learning outcomes. This study seeks to measure the extent of metacognitive strategy awareness and to identify the specific metacognitive strategies employed by students of English Language and Literature. By employing a quantitative research approach and utilizing a questionnaire, the study aims to gather data and provide an understanding of metacognitive strategy awareness in EFL vocabulary development at the tertiary level of education. The research findings will contribute to the existing literature on metacognition and inform EFL educators and practitioners about the importance of metacognitive strategies in optimizing vocabulary learning outcomes.

## 2. LITERATURE REVIEW

Metacognition, a term coined by John H. Flavell (1979), has gained significant attention in the field of language acquisition due to its crucial role in learners' cognitive processes and strategies. Metacognition refers to individuals' capacity to reflect upon and be aware of their own cognitive processes, enabling them to monitor, regulate, and control their learning experiences (Flavell, 1979). In the context of language acquisition, metacognition involves learners' conscious awareness of their cognitive activities during language learning tasks (Vandergrift, 2007). By engaging in metacognitive processes, learners can gain insight into their strengths, weaknesses, and preferences in language learning, leading to enhanced language proficiency (Cohen, 2011). The conceptualization of metacognition in language acquisition encompasses two fundamental components: metacognitive knowledge and metacognitive regulation. Metacognitive knowledge refers

to learners' understanding of their own cognitive processes, language learning strategies, and the nature of language tasks (Flavell, 1979). It involves the knowledge and awareness of learners' cognitive strengths and weaknesses in language learning contexts. Additionally, metacognitive knowledge includes knowledge about effective language learning strategies and their appropriate application (Vandergrift, 2007). Metacognitive regulation, on the other hand, involves learners' ability to monitor, control, and adjust their cognitive processes to optimize their language learning outcomes (Zimmerman, 1989). It encompasses metacognitive monitoring and metacognitive control. Metacognitive monitoring refers to learners' capacity to assess their comprehension, identify areas of difficulty, and monitor their language learning progress (Flavell, 1979). Learners who have developed good metacognitive monitoring skills are able to identify areas in which they lack comprehension and take the right steps to fill such gaps in their knowledge. Metacognitive control entails learners' active regulation of their cognitive processes, such as planning, selecting suitable strategies, and evaluating their effectiveness (Pintrich, 2000). Numerous studies have highlighted the positive impact of metacognition on language learning outcomes. Active engagement in metacognitive processes empowers learners to become more autonomous and effective in their language learning (Vandergrift, 2007). Metacognitive strategies, such as self-reflection, goal setting, and strategy selection, enable learners to monitor their own learning, identify areas for improvement, and make informed decisions regarding the most effective approaches to language learning tasks (Vandergrift, 2007). Furthermore, metacognitive awareness has been linked to increased self-efficacy, motivation, and engagement in language learning (Cohen, 2011). As learners develop metacognitive skills, they gain confidence in their language learning abilities and are more likely to persist in their learning endeavors. Metacognition also promotes deeper engagement with language tasks, as learners become actively involved in monitoring their understanding and making strategic adjustments (Cohen, 2011).

The theoretical frameworks on metacognition in language acquisition provide valuable insights into the ways in which metacognitive processes contribute to language learning and shape instructional practices. These frameworks offer a deeper understanding of the cognitive and metacognitive mechanisms involved in language acquisition and provide a foundation for designing effective language teaching and learning strategies. Two prominent theoretical frameworks in this area are the Cognitive Academic Language Learning Approach (CALLA) and the Sociocultural Theory (SCT). The Cognitive Academic Language Learning Approach (CALLA), proposed by Chamot and O'Malley (1994), is a metacognitive framework specifically designed for language learners. CALLA highlights the importance of metacognitive strategies in language learning, such as planning, monitoring, and evaluating one's language learning process. According to this framework, learners need to develop metacognitive knowledge, including awareness of their language learning strengths and weaknesses, understanding of effective language learning strategies, and knowledge about how to apply these strategies in different language learning contexts. The CALLA model emphasizes the explicit instruction and integration of metacognitive strategies into language instruction to enhance learners' metacognitive awareness and self-regulation (Chamot & O'Malley, 1994). The Sociocultural Theory (SCT), proposed by Vygotsky (1978), provides a social and cultural perspective on metacognition in language acquisition. As defined by SCT, language learning is a social activity embedded in cultural and social contexts. Metacognition, in this framework, is seen as a socially mediated process. Learners develop metacognitive skills through social interactions,

collaborative tasks, and dialogues with more knowledgeable others. The SCT highlights the role of scaffolding and guidance from teachers and peers in promoting learners' metacognitive development. It emphasizes the importance of creating a supportive and interactive language learning environment that encourages learners to reflect on their language learning processes, monitor their understanding, and regulate their language learning strategies (Vygotsky, 1978). These theoretical frameworks provide a solid foundation for grasping metacognition in language acquisition and have implications for language instruction. By incorporating metacognitive strategies into language teaching practices, teachers can assist learners in becoming more aware of their own language learning processes, monitoring their language proficiency, and effectively regulating their learning strategies.

In the 1980s, the most significant educational discovery was believed to be the emphasis on teaching for cognitive development, as noted by Calfee (1981) in Koutselini's work (1995). The goal of education is to foster intelligent behavior, and therefore, teaching methods should focus on nurturing children's metacognitive abilities, as suggested by Costa (1981 in Papaleontiou-Louca, 2007, 27). According to Baker and Brown (1984), teaching students to employ learning strategies has yielded positive outcomes. By consistently asking themselves questions related to the characters, key events, overall concepts of a story, making connections to prior knowledge, explaining ideas to others, and predicting outcomes, students can enhance their self-awareness and take active control of their learning process. As the saying goes, "[t]each someone how to ask questions, and they will acquire the skill to learn throughout their life" (Papaleontiou-Louca, 2007, 19).

According to Paris and Winograd (1990), students can improve their learning by developing an awareness of their own thinking processes while engaging in activities such as reading, writing, and problem-solving at school. They identify two crucial aspects of metacognition: self-evaluation and self-regulation of cognitive processes. Self-evaluation refers to individuals reflecting on their own knowledge and abilities, answering questions about what they know, how they think, and when and why they should apply knowledge strategies. Koutselini (1995) concurs with this perspective, asserting that the development of metacognition leads to independent learning, deeper understanding, increased motivation, and higher academic performance.

Borkowski and Muthukishna (1992 in Papaleontiou-Louca, 2007, 17) highlight the significance of metacognitive theory, emphasizing its potential for assisting teachers in creating classroom environments that promote flexible and creative strategic learning. Furthermore, Chamot & O'Malley (1990) assert that students who lack metacognitive approaches are essentially learners who lack guidance or the opportunity to reflect on their progress, achievements, and future directions. Consequently, Butler and Winne (1995) suggest that theorists unanimously agree that the most effective learners are those who possess self-regulation skills. While metacognitive strategies in reading and listening have received more attention (Baker & Brown, 1984; O'Malley et al., 1985), the impact of metacognition on vocabulary acquisition has only gained recognition in the 21st century (Rasekh & Ranjbary, 2003; Zhao, 2009).

Teaching vocabulary and vocabulary learning strategies are the building blocks of acquisition of a second language (Tenieshvili, 2023). Proficient language users in academic settings require a wide range of target vocabulary, but simply stumbling upon the necessary words by chance is not sufficient. The enhancement of their learning process relies heavily on the application of metacognitive strategies. Kuhn and Dean (2004) emphasize that metacognition prompts learners to engage in reflection and

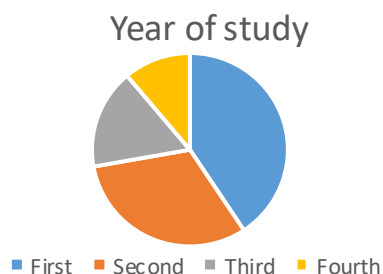
evaluation, essentially requiring them to think about their own thinking. Additionally, they stress that alongside the language-focused aspects addressed by teachers in the classroom, learners should also be directed towards developing an awareness of the thinking process, which can lead to the cultivation of stronger thinking skills. This process assists them in making deliberate decisions to improve their learning. According to O'Malley et al. (1985), metacognition empowers students to retrieve and utilize strategies taught in specific contexts, enabling their application in various situations. The primary goal of such endeavors is to enhance students' awareness of their preferred learning strategies and promote a sense of responsibility for achieving their own objectives. The literature consistently demonstrates a strong correlation between the teaching of metacognitive strategies and the utilization of vocabulary learning strategies.

### 3. THE CROSS-SECTIONAL STUDY

A cross-sectional study is a type of observational research design that examines a population at a specific point in time or within a short period and it aims to gather data from different individuals or groups within a population to assess the prevalence, distribution, and associations of various variables of interest at that particular time (Labaree, n.d.). In a cross-sectional study, data is collected from a sample of participants representing the population of interest. The participants are selected based on predetermined criteria, such as age, gender, or other relevant characteristics. Data is typically collected through surveys, questionnaires, interviews, or other measurement tools. The primary focus of a cross-sectional study is to obtain a snapshot of the population at a specific time, allowing researchers to explore relationships between variables and identify patterns or trends (Labaree, n.d.). It is important to note that while cross-sectional studies can provide valuable insights into population characteristics and associations, they have limitations. They do not allow for the examination of changes over time or causality. The aim of the cross-sectional study presented here is to investigate metacognitive strategy awareness in the context of EAP vocabulary development. Specifically, the research aims to assess the level of metacognitive strategy awareness among EAP learners by employing a quantitative research method based on a questionnaire. The researchers seek to achieve the following objectives: 1) measure the extent of metacognitive strategy awareness among the learners; and 2) identify the specific metacognitive strategies employed by the learners in the context of vocabulary development. By employing a quantitative research approach and utilizing a questionnaire to survey students of English Language and Literature at the Faculty of Philosophy in Kosovska Mitrovica, the study aims to provide an understanding of metacognitive strategy awareness in EAP vocabulary development in higher education.

The subjects of the investigation were the students of the Department of English Language and Literature at the Faculty of Philosophy in Kosovska Mitrovica (N=54). The first demographic stratification was done based on the year of study, the majority of the participants were first-year students (40.7%), then second year (31.5%), while the third (16.7%) and fourth (11.1%) year students make up the quarter of the sample (Graph 1). The second stratification was based on gender with 70.3% female students and 29.7% male. The ratio between genders was predictable as the student population at the Department is predominantly female. The convenience sampling technique was used to collect data. It means that this study took into account all those students who were easily

available. The authors submit to the low generalizability of this technique even though the number of participants makes up for 73.2% of the active student body in the academic year 2021/22 when the survey was conducted.



Graph 1. Distribution of the sample based on the year of study

For the purposes of this study, Vocabulary Learning Questionnaire<sup>1</sup> developed by Zhao (2009) was administered to the respondents in electronic form (via Google Forms). The questionnaire was designed based on the literature about metacognitive strategy employment (Oxford, 1990; Qiufang, 1996 according to Zhao, 2009). The questionnaire included 28 metacognitive strategies and was designed to measure the students' employment of metacognitive strategies of planning (items 1-10), monitoring (items 11-20), and evaluating (items 21-28). The questions were of the five-scale Likert-type, consisting of a statement to which subjects would indicate one of the five responses: 1=never or almost never true of me; 2=rarely not true of me; 3=usually true of me; 4=often true of me; 5=always true of me. To ensure the reliability of the questionnaire, it underwent a split-half reliability test and the correlation of the two parts was significant (Cronbach'  $\alpha$  .81) and this proved that the reliability in terms of inherent consistency was fairly good (Zhao, 2009, 124). To analyze the results of the survey, the authors used descriptive statistics and one-sided t test to assess the following hypotheses:

- h1 The learners at the Faculty of Philosophy in Kosovska Mitrovica demonstrate varying levels of metacognitive strategy awareness in the context of vocabulary development.
- h2 The learners employ a variety of metacognitive strategies, such as goal-setting, self-monitoring, and self-reflection, in vocabulary development.
- h3 Learners who have a clear goal in vocabulary learning are more likely to demonstrate higher metacognitive strategy awareness.

#### 4. ANALYSIS OF THE SURVEY

We used an established technique, namely descriptive statistics, to analyze the compiled data. Specifically, the first employed measure was mean which describes the central tendency that represents the average value of a set of data and it provides an overall representation of the data set's typical value. Range is also included as a measure of dispersion that represents the difference between the maximum and minimum values in a data set to indicate the variability of the data. Finally, the standard deviation is a measure of dispersion that quantifies

<sup>1</sup> The questionnaire is available here <https://bit.ly/VocabLearnQuest>

the average amount of variation in a data set to indicate how much the individual values in the data set differ from the mean. Table 1 provides summary information on three categories of the questionnaire (Planning, Monitoring, and Evaluating).

Table 1 Summary of descriptive statistics for the three categories

Category	Mean	Range	SD
Planning	4.0	2	0.632
Monitoring	3.1	4	0.834
Evaluating	3.4	3	0.483

The mean score for the Planning category is 4.0, indicating that, on average, the students rated their planning metacognitive strategies as used often or always. The range of 2 suggests that there is some variation in the responses within this category. The standard deviation of 0.632 indicates that the responses are relatively close to the mean, suggesting a moderate level of agreement among the participants regarding their planning abilities. The mean score for the Monitoring category is 3.1, indicating that, on average, the participants rated their monitoring strategies employed as usually. The wider range of 4 suggests a greater variation in the responses within this category compared to the Planning category. The higher standard deviation of 0.834 indicates that the responses are more spread out from the mean, indicating a higher degree of disagreement among the respondents. Finally, the mean score for the Evaluating category is 3.4, which is a similar value to the previous category. The lower standard deviation of 0.483 suggests that the responses are relatively close to the mean, indicating a higher level of agreement among the participants.

Table 2 presents the results of a t-test conducted on a set of items related to the category of planning metacognitive strategies. The table includes the item description, mean, standard deviation, t-value, and p-value. The t-value measures the magnitude of the difference between the sample mean and the theoretical expectation, while the p-value indicates the statistical significance of the difference. A one-sided t-test is a statistical test used to determine if there is a significant difference between a sample mean and a population mean in a specific direction. It is used when there is a specific hypothesis about the direction of the difference between the sample and population means.

Table 2 Descriptive statistics and one-sided T-test for category Planning

Item	Mean	SD	t-value	p-value
I have a clear goal in vocabulary learning.	4.08	0.92	-2.82	0.011
I have the awareness of drawing a vocabulary learning plan.	2.81	1.25	-8.09	<0.001
I have a short-term plan and a long-term plan.	3.37	1.19	-5.78	<0.001
I would spend some time memorizing vocabulary every day.	3.33	0.97	-6.08	<0.001
I would consider how to better accomplish my plan.	3.79	0.91	-3.49	0.002
My plan is detailed, including the deadline of accomplishing all the tasks.	3.04	1.35	-7.63	<0.001
I would predict the difficulties encountered and the ways of solving it.	3.46	0.99	-4.86	<0.001
I would check whether the plan is implemented in time.	2.96	1.34	-7.48	<0.001
I would continuously adjust the plan according to the present situation.	3.31	1.13	-5.39	<0.001
I will ask teachers and peers to scout the implementation of my plan.	2.33	1.26	-9.77	<0.001

Participants' responses to the item "I have a clear goal in vocabulary learning" had a mean of 4.08, which was significantly higher than the theoretical expectation ( $p = 0.011$ ). This suggests that participants generally have a clear goal in their vocabulary learning. The items denoting awareness of planning, deadlines, and difficulties had significantly lower means ( $p < 0.001$ ). This indicates that participants may have difficulties or limitations in areas such as awareness of planning, having a structured plan, consistent vocabulary practice, and considering ways to improve their learning approach and may need to improve their planning, problem-solving, implementation, and adaptability skills in their vocabulary learning process. Finally, the item "I will ask teachers and peers to scout the implementation of my plan" also had a significantly lower mean ( $p < 0.001$ ), indicating that participants may be less inclined to seek feedback and support from teachers and peers regarding the execution of their learning plan. Overall, the findings suggest that participants could benefit from interventions and strategies that focus on enhancing their planning skills, consistency in practice, problem-solving abilities, adaptability, and seeking feedback from teachers and peers. By addressing these areas, participants may improve their vocabulary learning outcomes and overall learning experience.

Table 3 provides information about the mean, standard deviation, t-value, and p-value for the items in the category of monitoring strategies. The t-values indicate the magnitude and direction of the difference between the sample mean and the theoretical population mean. The p-values represent the statistical significance of these differences.

Table 3 Descriptive statistics and one-sided T-test for category Monitoring

Item	Mean	SD	t-value	p-value
Before carrying through a vocabulary activity, I would think of the purpose and requirement of the activities, including what strategies to use.	2.96	1.21	-7.13	<0.001
I know when to use certain vocabulary strategies and how to use them.	3.42	1.14	-4.35	<0.001
I attempt to find out the best way of learning vocabulary.	4.12	0.92	-1.75	0.086
When starting to learn a new word, I would consider to what extent I can master the word.	3.96	0.97	-2.53	0.018
After class, I immediately review the vocabulary learned during the class.	3.29	1.09	-5.54	<0.001
I frequently discuss the learning experience with teachers.	3.37	1.07	-4.77	<0.001
I would share vocabulary learning strategies with peers.	2.83	1.13	-6.23	<0.001
I always check the disparity between the present situation and the goals set in the plan.	3.37	1.07	-4.77	<0.001
I will listen to the vocabulary learning experience of my peers.	2.81	1.15	-8.01	<0.001
When finding my vocabulary strategies no longer effective, I would adjust them in time.	3.21	1.17	-6.62	<0.001

The t-value of -7.13 indicates a significant difference from the theoretical population mean, with a p-value of less than 0.001, and it suggests that participants are mindful of the purpose and the requirement of the learning activities. Based on the results, they know when to use certain vocabulary strategies and how to use them (Mean: 3.42, SD: 1.14), where the t-value of -4.35 indicates a significant difference from the population



mean, with a p-value of less than 0.001 to support it. Participants tend to consider their mastery level (Mean: 3.96, SD: 0.97) when beginning to learn new words, but the effect size is relatively small compared to other items. They also seem to engage in immediate vocabulary review after classes (Mean: 3.29, SD: 1.09), tend to have regular discussions about their learning experience with teachers (Mean: 3.37, SD: 1.07), share their learning strategies with peers (Mean: 2.83, SD: 1.13), and listen to their learning experience (Mean: 2.81, SD: 1.15). Finally, participants tend to frequently assess the gap between their current situation and their set goals (Mean: 3.37, SD: 1.07) and make necessary adjustments promptly (Mean: 3.21, SD: 1.17). Overall, in this category, the participants generally exhibit positive behaviors and attitudes.

Table 4 displays the outcomes of a t-test performed on a collection of items associated with evaluating metacognitive strategies. The table provides information on the item description, mean, standard deviation, t-value, and p-value. The t-value gauges the extent of difference between the sample mean and the theoretical expectation, while the p-value signifies the statistical significance of this disparity.

Table 4 Descriptive statistics and one-sided T-test for category Evaluating

Item	Mean	SD	t-value	p-value
I would check my improvement on vocabulary learning at certain time intervals.	3.71	1.12	-3.10	0.004
I will fix a date to check whether my vocabulary strategies are used smoothly and effectively.	3.75	1.04	-3.57	0.002
I always summarize the ways of learning vocabulary.	3.17	1.17	-7.07	<0.001
I always summarize my vocabulary learning in order to find out the achievement made and deficiency existed.	3.04	1.18	-7.60	<0.001
After accomplishing a certain task, I will consider how to do it better the next time.	3.54	1.03	-4.04	<0.001
I often evaluate my vocabulary learning strategies to find out the problems existed and the ways of solving them.	2.83	1.21	-7.47	<0.001
I usually think why I make a mistake in vocabulary learning.	3.13	1.14	-5.76	<0.001
I could draw a lesson from the previous mistakes in vocabulary learning	2.87	1.19	-7.97	<0.001

The monitoring category contains eight items. Participants reported significantly lower mean scores than the theoretical expectation, suggesting that they were less likely to actively monitor and assess their progress in vocabulary learning (Mean: 3.71, t-value: -3.10, p-value: 0.004). Similar to the previous item, participants exhibited lower mean scores than expected, indicating a tendency to be less proactive in ensuring the smooth and effective implementation of vocabulary strategies (Mean: 3.75, t-value: -3.57, p-value: 0.002). The results also suggest a lack of consistent practice in summarizing their vocabulary learning methods and a lesser tendency to reflect on their vocabulary learning achievements and identify areas for improvement. Furthermore, participants reported significantly lower mean scores than the theoretical expectation, suggesting a reduced inclination to reflect on their performance and seek ways to enhance future vocabulary learning tasks, and a lesser tendency to evaluate their vocabulary learning strategies, identify existing problems, and devise solutions. The findings suggest that participants in this study may exhibit lower levels of self-reflection and proactive

strategies in vocabulary learning across the board, as indicated by the consistently lower mean scores compared to the theoretical expectation.

## 5. DISCUSSION

The purpose of this cross-sectional study is to explore the awareness of metacognitive strategies in the context of EAP vocabulary development. The study aims to assess the level of metacognitive strategy awareness among EAP learners using a quantitative research method that involves administering a questionnaire. The main objectives of the research are: 1) to measure the degree of metacognitive strategy awareness among the learners, and 2) to identify the specific metacognitive strategies utilized by the learners in the context of vocabulary development. The analysis of the results indicates that the students reported using their planning metacognitive strategies frequently or always with the average score for the Planning category of 4.0. However, there is some variability in the responses within this category, as evidenced by the range of 2. Similar findings are reported by Yang and Bai (2019) whose students adopted a range of planning metacognitive strategies to improve their learning efficiency. This suggests that while many students rate their planning abilities highly, there are also some who may not rely on these strategies as consistently. The standard deviation of 0.632 indicates that the responses are relatively close to the mean, implying a moderate level of agreement among the participants regarding their planning abilities. In other words, there is a general consensus among the students, but with some variation in their individual ratings. Moving on to the Monitoring category, the mean score is 3.1, indicating that, on average, the participants reported usually employing their monitoring strategies as reported by Shih and Huang (2020) and Rasekh and Ranjbary (2003). Compared to the Planning category, there is a wider range of 4 in the responses within this category. This suggests a greater diversity of opinions and practices when it comes to monitoring strategies among the participants. The higher standard deviation of 0.834 in the Monitoring category indicates that the responses are more spread out from the mean. This implies a higher degree of disagreement among the respondents regarding their monitoring strategies. In other words, there is less consensus among the students, and they exhibit more varied approaches to monitoring their own learning progress which is in line with the similar studies (Cubukcu, 2008; Zhao, 2009; Ibrahim et al., 2013). Furthermore, the importance of analyzing a personal experience is well documented in literature (Karsten 2023). Finally, in the Evaluating category, the mean score is 3.4, which is similar to the previous category. The lower standard deviation of 0.483 suggests that the responses in this category are relatively close to the mean. This indicates a higher level of agreement among the participants regarding their evaluating strategies which aligns with the empirical verification of the concept of metacognition (Vorhölter, 2018). To summarize, the students generally reported using their planning metacognitive strategies frequently or always, with some variation in responses. The monitoring strategies showed more diversity in their usage, with a wider range of responses and higher disagreement among the participants, while the evaluating strategies demonstrated a higher level of agreement among the students, indicating a more consistent approach in this aspect of metacognitive strategy usage. All this goes hand in hand with our first underlying assumption that the learners at the Faculty of Philosophy in Kosovska Mitrovica demonstrate varying levels of metacognitive strategy awareness in the context of vocabulary development.

The participants' responses were also analyzed for individual items in all three categories. The results indicate that participants generally have a clear goal in their vocabulary learning. Trujillo Becerra et al. (2015) reported similar findings concluding that goal-setting strategies employed in vocabulary learning also brought about improvements in self-directed learning. However, items related to awareness of planning, deadlines, difficulties, and seeking feedback from teachers and peers had significantly lower means ( $p < 0.001$ ), suggesting that participants may face challenges in these areas and need to improve their planning, problem-solving, implementation, and adaptability skills which is supported by other studies (Chamot, 2004; Saengpakdeejit, 2014). The data analysis reveals a decreased tendency among students to actively monitor and assess their progress in vocabulary learning. Participants displayed a lack of consistent practice in summarizing their vocabulary learning methods, reflecting on their achievements, and identifying areas for improvement. Finally, the responses to the items in the third category suggest a reduced inclination of students to reflect on their performance, seek ways to enhance future vocabulary learning tasks, and evaluate their vocabulary learning strategies. Zarrin and Khan (2014), as well as Asyiah (2017), report similar findings that reflection and evaluation of the strategy use in students scored low compared to the other aspects of metacognition. Overall, the findings indicate that participants could benefit from interventions and strategies that focus on enhancing their planning skills, consistency in practice, problem-solving abilities, adaptability, and seeking feedback from teachers and peers. In the Monitoring and Evaluating categories, participants may need to develop greater self-reflection and proactive strategies in vocabulary learning. In summary, participants generally exhibited positive behaviors and attitudes in some aspects of metacognitive strategies for vocabulary learning, such as considering the purpose and requirement of activities, using certain vocabulary strategies, and engaging in immediate review and discussions confirming the second underlying hypothesis that our students employ a variety of metacognitive strategies in vocabulary development. However, they showed room for improvement in categories of monitoring, and evaluating their vocabulary learning process.

Unfortunately, we have not been able to confirm our third hypothesis that learners who have a clear goal in vocabulary learning are more likely to demonstrate higher metacognitive strategy awareness. The measurement instruments used to assess metacognitive strategy awareness and goal clarity may not have accurately captured the constructs. The tools were not sensitive enough to detect subtle differences leading to the failure to confirm the hypothesis. There might be other factors influencing metacognitive strategy awareness that were not accounted for in the study. For example, individual differences, prior experience, learning styles, or external factors such as the learning environment could have played a role in determining metacognitive strategy awareness, independent of having a clear goal. To further understand the reasons behind the non-confirmation of the hypothesis, it would be helpful to critically evaluate the measurement tools and sample characteristics to provide insights into areas for improvement and inform future research in this domain.

## 7. CONCLUSION

The findings of this research study have important implications for both teachers and learners in the setting of English for Academic Purposes (EAP). The study highlights the practical value of incorporating metacognitive strategies into vocabulary instruction to enhance vocabulary learning outcomes. For teachers, the results suggest the importance

of explicitly teaching metacognitive strategies to students. By guiding learners in self-regulation, goal-setting, monitoring, and reflection, teachers can help students become more strategic and autonomous in their vocabulary learning. This, in turn, can lead to improved vocabulary acquisition and retention. By understanding and leveraging metacognitive strategies, teachers can create more effective vocabulary instruction approaches that cater to the individual needs of their students. For learners, the findings highlight the significance of metacognitive strategy awareness in vocabulary development. Becoming aware of and employing metacognitive strategies can help learners take control of their learning process, set meaningful goals, monitor their progress, and reflect on their strategies and outcomes. This self-directed approach can empower learners and contribute to their overall success in vocabulary learning. Additionally, the research approach used in this study, employing a quantitative methodology and questionnaire, provides valuable data and insights into metacognitive strategy awareness in vocabulary development at the tertiary level of education. These findings contribute to the existing literature on metacognition and inform EAP educators and practitioners about the importance of incorporating metacognitive strategies into their teaching practices. Overall, the study underscores the significance of metacognitive strategies in optimizing vocabulary learning outcomes. By applying these strategies, both teachers and learners can work together to enhance vocabulary development and improve the overall learning experience in the context of English for Academic Purposes.

It is important to identify some potential limitations of the study presented here. Namely, a small sample size can limit the generalizability of the findings to a larger population and does not take into account factors such as age, gender, and language proficiency, which can influence metacognitive strategy awareness and vocabulary learning outcomes. Without a clear understanding of the participant characteristics, it is difficult to assess the applicability of the findings to other contexts. Furthermore, the study relies on self-report data obtained through a questionnaire. Self-report measures are subject to response biases, such as social desirability bias or recall bias. Participants may provide responses that they believe align with what is expected or may not accurately recall their behaviors or experiences. Finally, the cross-sectional design limits the ability to establish causal relationships or determine changes in metacognitive strategy awareness over time. Bearing in mind these limitations, some conclusions can be drawn that are applicable to the population of students taking an EAP course in higher education emphasizing the importance of incorporating metacognitive strategies into vocabulary instruction.

Namely, the results indicate that participants showed varying levels of metacognitive strategy awareness across different categories, such as planning, monitoring, and evaluating as was posited in the first hypothesis. Participants generally reported having a clear goal in vocabulary learning, but they demonstrated lower awareness in areas such as planning, having a structured plan, consistent vocabulary practice, and considering ways to improve their learning approach suggesting that students need to enhance their planning, problem-solving, implementation, and adaptability skills in their vocabulary learning process through direct instruction and modelling. Participants exhibited lower levels of monitoring their progress in vocabulary learning and ensuring the smooth and effective implementation of vocabulary strategies showing a potential lack of proactive engagement in self-assessment and reflection on their vocabulary learning progress. While they demonstrated a tendency to consider their mastery level when learning new words, they exhibited a lesser inclination to evaluate their strategies, identify existing problems, and devise solutions. This highlights a potential area for improvement in terms of seeking external input and collaboration in the vocabulary learning process. Despite the aforementioned limitations, participants generally exhibited

positive behaviors and attitudes, such as immediate vocabulary review after classes, regular discussions with teachers about learning experiences, and a willingness to adjust their strategies and learn from their mistakes. In conclusion, by explicitly teaching self-regulation, goal-setting, monitoring, and reflection, teachers can help learners become more strategic and autonomous in their vocabulary learning, leading to improved outcomes.

## REFERENCES

- Anderson, N. J. (2002). *The Role of Metacognition in Second Language Teaching and Learning*. The Internet ERIC Digest.
- Asyiah, D. N. (2017). The Vocabulary Teaching and Vocabulary Learning: Perception, Strategies, and Influences on Students' Vocabulary Mastery. *Jurnal Bahasa Lingua Scientia*, 9(2), 293–318.
- Baker, L. & Brown, A. L. (1984). Metacognitive Skills and Reading. In P. D. Pearson, M. Kamil, R. Barr, & P. Mosenthal (Eds.), *Handbook of Research in Reading* (353–395). New York: Longman.
- Chamot, A. U. & O'Malley, J. M. (1994). *The CALLA Handbook: Implementing the Cognitive Academic Language Learning Approach*. Pearson.
- Chamot, A. U. (2004). Issues in Language Learning Strategy Research and Teaching. *Electronic Journal of Foreign Language Teaching*, 1(1), 14–26.
- Chamot, A. U. & O'Malley, J. M. (1990). *Learning Strategies in Second Language Acquisition*. Spain: Cambridge University Press.
- Cohen, A. D. (2011). *Strategies in Learning and Using a Second Language*. Routledge.
- Cubukcu, F. (2008). Enhancing Vocabulary Development and Reading Comprehension through Metacognitive Strategies. *Issues in Educational Research*, 18(1), 1–11.
- Flavell, J. H. (1979). Metacognition and Cognitive Monitoring: A New Area of Cognitive–Developmental Inquiry. *American Psychologist*, 34(10), 906–911.
- Ibrahim, E. H. E., Sarudin, I., Muhamad, A. J., & Esa, Z. (2013). An Investigation of the Relationship between Metacognitive Strategies and Vocabulary Size in an ESL Environment. *International Proceedings of Economics Development and Research*, 68, 118–122.
- Kersten, M. (2023). Learning by Doing: The Benefits of Adopting an Online Negotiation Support System into an English for Academic Purposes Course. *Journal of Teaching English for Specific and Academic Purposes*, 11(1), 127–148.
- Kuhn, D. & Dean, Jr, D. (2004). Metacognition: A Bridge Between Cognitive Psychology and Educational Practice. *Theory into Practice*, 43(4), 268–273.
- Koutselini, M. (1995) Metacognition: Conceptual Instruction. *Nea Pedia*, 74, pp. 48–56
- Labaree, R. V. (n.d.). *Research Guides: Organizing Your Social Sciences Research Paper: Types of Research Designs* [Research Guide]. Retrieved from: <https://libguides.usc.edu/writingguide/researchdesigns>
- Laufer, B. & Nation, P. (1999). A Vocabulary Size Test of Controlled Productive Ability. *Language Testing* 16(1), 33–51.
- Ma, Q. (2013). Matching Vocabulary Learning Process with Learning Outcome in L2 Academic Writing: An Exploratory Case Study. *Linguistics and Education*, 24(2), 237–246.

- O'Malley, J. M., Chamot, A. U., Stewner-Manzanares, G., Russo, R. P., & Küpper, L. (1985). Learning Strategy Applications with Students of English as a Second Language. *TESOL quarterly*, 19(3), 557–584.
- Oxford, R. L. (1990). *Language Learning Strategies: What Every Teacher Should Know*. New York: NewBury House.
- Papleontiou-Louca, E. (2003). The Concept and Instruction of Metacognition. *Teacher Development*, 7(1), 9–30.
- Paris, S. & Winograd, P. (1990). Promoting Metacognition and Motivation of Exceptional Children. *Remedial and Special Education*, 11(6), 7–15.
- Pintrich, P. R. (2000). The Role of Goal Orientation in Self-Regulated Learning. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of Self-Regulation* (451–502). Academic Press.
- Rasekh, Z. E & Ranjbary, R. (2003). Metacognitive Strategy Training for Vocabulary Learning. *TESL-EJ*, 7(2), pp. 1-18.
- Rubin, J & Thompson, I. (1994). *How to be a more successful language learner*. Heinle & Heinle.
- Saengpakdeejit, R. (2014). Awareness of Vocabulary Learning Strategies among EFL Students in Khon Kaen University. *Theory & Practice in Language Studies*, 4(6), 1101–1108
- Shih, H. C. J., & Huang, S. H. C. (2020). College Students' Metacognitive Strategy Use in an EFL Flipped Classroom. *Computer Assisted Language Learning*, 33(7), 755–784.
- Tenieshvili, A. (2023). Application and Combination of Different Foreign Language Teaching Methods In ESP Classroom. *Journal of Teaching English for Specific and Academic Purposes*, 11(1), 203–213.
- Trujillo Becerra, C. L., Álvarez Ayure, C. P., Zamudio Ordoñez, M. N., & Morales Bohórquez, G. (2015). Facilitating Vocabulary Learning Through Metacognitive Strategy Training and Learning Journals. *Colombian Applied Linguistics Journal*, 17(2), 246–259.
- Vandergrift, L. (2007). Recent Developments in Second and Foreign Language Listening Comprehension Research. *Language Teaching*, 40(3), 191–210.
- Vorhölter, K. (2018). Conceptualization and Measuring of Metacognitive Modelling Competencies: Empirical Verification of Theoretical Assumptions. *ZDM*, 50(1-2), 343–354.
- Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Harvard University Press.
- Yang, C., & Bai, L. (2019). The Use of Metacognitive Strategies by Chinese PhD Students of Social Sciences in Australian Universities. *International Journal of Educational Research*, 97, 43–52.
- Zarrin, S., & Khan, Z. (2014). A Study of Vocabulary Learning Strategies among Undergraduate Learners of AMU. *US China Foreign Language*, 12(1), 75–82.
- Zhao, N. (2009). Metacognitive Strategy Training and Vocabulary Learning of Chinese College Students. *English Language Teaching*, 2(4), 123–129.
- Zimmerman, B. J. (1989). A Social Cognitive View of Self-Regulated Academic Learning. *Journal of Educational Psychology*, 81(3), 329–339.