Is There A Relationship between Internal and External Factors in Learning?

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Abstract
The influence of psychological factors on academic achievement is a topic of extensive research. The current study's primary objective is to investigate the internal and external elements that influence learning strategy and impact Malaysian undergraduate students' academic performance. 211 of undergraduate students from a public university on Malaysia's East Coast participated using the convenience sampling technique and were given a set of structured questions. In order to examine the data, SPSS was used. The link between internal and external elements of the learning approach was discovered using the Pearson Correlation Coefficient. According to the results of the correlation analysis, there is a strong correlation between internal and external elements that affect learning. In addition, there is a high positive correlation between internal and external learning elements.
Keywords: Learning Strategies, Internal Factor, External Factor

Introduction
Background of Study
A learning strategy is a method of individual organizing and employing a certain set of skills to learn material or complete other activities more quickly and effectively in academic and non-academic environments (Schumaker & Deshler, 1992). Many researches focus on two aspects of learning strategies which are internal and external factors. Examining internal aspects of learning includes Metacognitive Self-Regulation & Cognitive Components. According to Hejazi and Sadoughi (2022), the interest in learning and enjoyment of the

learning process, learners are motivated to participate in academic activities for intrinsic reasons. Unquestionably, inner motivation is what really motivates people to seek out and take on new challenges. Very intrinsically driven students are constantly willing to take on difficult activities even when there are no external rewards in sight and are able to learn on their own. In addition, some students are extrinsically motivated by parental expectations and succeed academically (Ingram & Meaney, 2022). Students anticipate receiving something in return for their work in order to boost their learning motivation and obtain better scores.

Metacognition is defined as one's "awareness and understanding of their own thinking and learning processes, as well as their regulation of those processes to enhance their learning and memory" (Ormrod, 1999). Learners' assessments and beliefs about their own abilities, tracking their knowledge levels, comprehending their cognition and thought processes, and managing learning activities are all examples of metacognitive functions (Alt & Raichel, 2020; Zarestky, 2022). Metacognitive functions also involve controlling various aspects of a cognitive enterprise. In our setting, metacognition integrates the various content- and process-based activities, as well as the social and self-control aspects of work, for CS&E professionals.

Apart from internal factors, external factors are also important elements to be considered in motivating students to learn. Resource management, which encompasses effort management, environment management, and help-seeking, exemplifies how external factors have an impact on the learning process. According to Graham (2022), students feel that their level of self-efficacy and personal beliefs influence how much they engage in active learning. For instance, a student chooses active learning because he is confident it will enhance his learning. While increasing student knowledge of the need for active learning and decreasing participation resistance among students fosters enthusiasm for learning, external factors are useful for analyzing students' motivation for learning (Capone, 2022). The extent to which learners enjoy engaging in active learning is positively correlated with both their perception that doing so makes learning knowledge more successful and their satisfaction with doing so (Rudhumbu & Plessis, 2021).

Generating learning settings where students feel good about themselves by embracing their individuality gives them the motivation to learn (Reash & Lawin, 2021). According to Almaki (2019), learners who exhibit high levels of motivation and self-control are seen as being better capable of independently planning and mastering their learning process. In addition, students with high levels of motivation perform better academically than those with low levels of drive. The impact of motivation on academic achievement among Saudi Arabian undergraduate students is also investigated by the author. The Motivated Strategies for Learning Questionnaire (MSLQ) was developed to assess learners' intrinsic and extrinsic goal orientation, value beliefs, beliefs in their ability to succeed, and anxiety to succeed. This questionnaire is intended to evaluate the learning styles and motivational orientations of college students. In addition, Khosim and Awang (2020) indicate that this instrument in the Malaysian setting exhibits a high reliability and validity as well as good internal consistency. The researcher suggests using this tool in future studies to gauge students' motivation levels. Due to the lack of research using this instrument in Malaysia, this study is being conducted to examine the factors that motivate and hinder learning by using motivational components modified from the Motivated Strategies for Learning Questionnaire (MSLQ).

Examining the influence of internal and external factors in determining perceived learning outcomes is crucial given that learners are expected to self-regulate their learning in the asynchronous learning environment. Further research is needed to better understand the

interaction between students' learning techniques from internal and external sources, taking into account the different learning needs of learners and the learner-determined learning process. Consequently, the current study first explores how internal and external factors affect perceived learning seen learning outcomes in order to acquire insights into the mechanics of perceived value for learners. We also look at how undergraduate students' internal and external learning strategies relate to one another.

Statement of Problem

The issue of student performance at a university has been a major concern in prior studies. Many researchers have expressed an interest in understanding the performance factors of students in higher education institutions. This includes demographic characteristics, type of high school (e.g., high-performance schools), and socioeconomic factors. In this context, previous research has pointed out that a variety of factors influence educational outcomes including gender Ahmad (2015); Azmi & Mustapha (2017), race or ethnic groups Azmi & Mustapha (2017), type of secondary school Kumwenda et al (2017), family income Farooq et al (2011); Kamal & Ahuja (2019), parents qualification and background Kamal & Ahuja (2019); Olufemioladebinu et al (2018), the number of school resources, and the condition of schools' facilities (Ali & Hayat, 2019).

In spite of a growing body of literature conducted in the area of students' academic performance, the findings are mixed. Therefore, the exact factors and how they could affect students' performance have not been fully explored, especially in the Malaysian context. Due to its significance, the current study aims to investigate the internal and external factors affecting learning among university students.

Objective of the Study and Research Questions

This study is done to explore the perception of learners on their use of learning strategies. Specifically, this study is done to answer the following questions;

- How do internal factors influence learning?
- How do external factors influence learning?
- Is there a relationship between internal and external factors for learning?

Literature Review

Strategies for Learning

Based on the previous research on successful language learners, Ellis (1997) summarized five major aspects of good or successful learners including: "a concern for language form; a concern for communication; an active task approach; an awareness of the learning process; and a capacity to use strategies flexibly in accordance with task requirements". Wenden (1991) proposed two main kinds of learning strategies: cognitive strategies (select information, comprehend, store, and retrieve information) and self-management strategies (monitor or manage learning processes such as regulatory skills or self-directed learning skills).

Rubin (1981, 1987) proposed three major strategies that directly or indirectly support language learning. The first one is learning strategy including cognitive and metacognitive strategies. Rubin explained cognitive and metacognitive strategies, which can contribute directly to language learning. Cognitive strategies in learning require analysis, transformation, or synthesis of learning material while metacognitive strategies refer to regulating or self-directed learning such as planning, goal setting, or self-management. The second major type

is communication strategies, which contribute less directly to learning and the third major type is social strategies, which are used when learners are involved in tasks and apply or practice their knowledge (Rubin, 1987).

O'Malley and Chamot (1990) developed three types of strategies, namely metacognitive strategies (selective attention, planning, monitoring, and evaluating learning activity), cognitive strategies (rehearsal, organization, inferencing, summarizing, reducing, imagery, transfer, and elaboration), and social/affective strategies (cooperation, questioning for clarification, and self-talk).

Naiman et al (1978) identified five major learning strategies by observing, testing, and interviewing successful and unsuccessful learners in a university. The five strategies are the active task approach; realization of language as a system; realization of language as a means of communication; management of affective demands; and self-monitoring.

Oxford (1990) proposed a more detailed classification model of language learning strategies based on the synthesis of the previous work on good language learning strategies. She divided language learning strategies into direct strategies and indirect strategies. Direct strategies involve direct learning and require mental processing of the language Oxford (1990), which include (1) memory strategies, which help learners store and retrieve new information, such as grouping, creating mental linkages, applying images and sound, reviewing, and employing action, (2) cognitive strategies, enable learners to understand and produce new language, such as reasoning, practicing, receiving and sending messages, analyzing and summarizing, (3) compensation strategies, allow learners to use the new language for comprehension or production despite limited knowledge, and they are used to make up for "an inadequate repertoire of grammar and, especially, of vocabulary" (Oxford, 1990, p. 17). The strategies include guessing meanings from context or using gestures when the learners do not know the precise expression. Indirect strategies support learning indirectly but are powerful to the learning process (Oxford, 1990), which include (1) metacognitive strategies, which help learners to regulate their learning, such as paying attention, planning, self-evaluating, and monitoring one's errors or the learning process, (2) effective strategies, help learners to deal with their own emotions, motivation, and attitudes, such as lowering anxiety, self-rewards, self-encouragement, (3) social strategies, refers to ways in which learners learn the language through interactions with native speakers or the target language, such as asking questions, cooperating with peers and improving cultural understanding.

Past Studies on Strategies for Learning
Many studies were conducted looking at the strategies undertaken by the students and how it affects their academic performance. In a study conducted by Almoslamani (2022) among university students in Saudi, the researcher investigated the differences in the use of learning strategies due to gender and academic achievement. The findings revealed that micro strategies and study habits are the most preferred strategies by Saudi university students and it differs between male and female students. The study used a scale to collect data using a quantitative method and a cross-sectional descriptive-analytic methodology. Another study was conducted in China among the pre-service teachers who participated in online learning. Their findings showed that learning strategies had indirect effects on their learning satisfaction. This study used structural equation modeling in analyzing the data, thus contributing to the richness of data.

Meanwhile, similar studies were conducted to look at the differences in the learning strategies between students taking business algebra courses and calculus. The findings found

that there were many strategies used by the students such as interactive presentation style, group work with discussion and feedback, volunteer presentations of solutions by groups, raising students' learning interest towards specific topics, involving students in mathematical explorations, experiments, and projects, and last but not least, continuous motivation and engagement of students. The study also confirmed that the implementation of these techniques has a favorable impact on the students' passing rates as well as the average results of the sections (Lugosi & Uribe, 2022). This study, however, could not generalize to the bigger population as it employs only a small number of respondents in the study.

Conceptual Framework
Different learners depend on different strategies to succeed in their learning. People need a variety of conditions to make the best of their learning. According to Rahmat (2018), among some important conditions of learning are the learners' use of strategies, the learning process, and the environment. The environment plays an important for the learning process. Figure 1 shows the conceptual framework of the study. The concept of this study is based on Bandura's (1978) reciprocal determinism. According to Bandura (1978), reciprocal determinism is the concept of learning that takes place through internal and external factors. Reciprocal determinism is the concept of learning that take solace through continual interaction with two factors and the factors are (a) internal factors. Internal factors include cognition and behavior. External factors include environment and social norms In the context of this study, (refer to Figure 1), internal and external factors in reciprocal determinism by Bandura (1978). These two factors are then merged with Wenden & Rubin's (1987) learning strategies such as (a) cognitive components, (b) metacognitive self-regulation, and (c)resource management. The merge leads to Figure 1 below. In the context of this study, internal factors (Bandura, 1978) merge with Wenden & Rubin's (1987) cognitive components and metacognitive self-regulation. Next, Bandura's (1978) external factors merge with Wenden & Rubin's (1987) resource management.
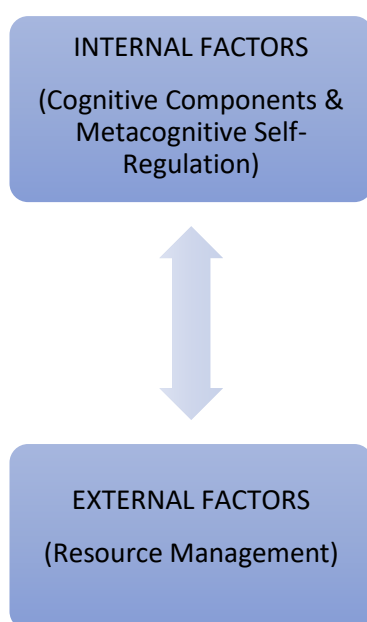
INTERNAL FACTORS

(Cognitive Components & Metacognitive Self-Regulation)

EXTERNAL FACTORS

(Resource Management)

Figure 1- Conceptual Framework of the Study- Is there a relationship between Internal and External Factors in Learning

Methodology

This quantitative study is done to explore motivation factors for learning among undergraduates. A purposive sample of 214 participants responded to the survey. The instrument used is a 5 Likert-scale survey and is rooted in Bandura's (1978) reciprocal determinism Wenden & Rubin's (1987) learning strategies to reveal the variables in Table 1 below. The survey has 3 sections. Section A has items on the demographic profile. Section B has 19 items on internal factors. Section C has 111 items for external factors.

Table 1
Distribution of Items in the Survey

	RECIPROCAL DETERMINISM (Bandura,1978)	LEARNING STRATEGIES (Wenden & Rubin, 1987)				
B	INTERNAL FACTORS	COGNITIVE COMPONENTS	(a)	Rehearsal	4	19
			(b)	Organization	4	
			(c)	Elaboration	6	
			(d)	Critical Thinking	5	
		METACOGNITIVE SELF-REGULATION				11
C	EXTERNAL FACTORS	RESOURCE MANAGEMENT	(a)	Environment Management	5	11
			(b)	Effort Management	4	
			(c)	Help-Seeking	2	
						41

Table 2
Reliability of Survey

Reliability Statistics

Cronbach's Alpha	N of Items
.955	41

Table 2 shows the reliability of the survey. The analysis shows a Cronbach alpha of 955, thus, revealing a good reliability of the instrument chosen/used. Further analysis using SPSS is done to present findings to answer the research questions for this study.

Findings
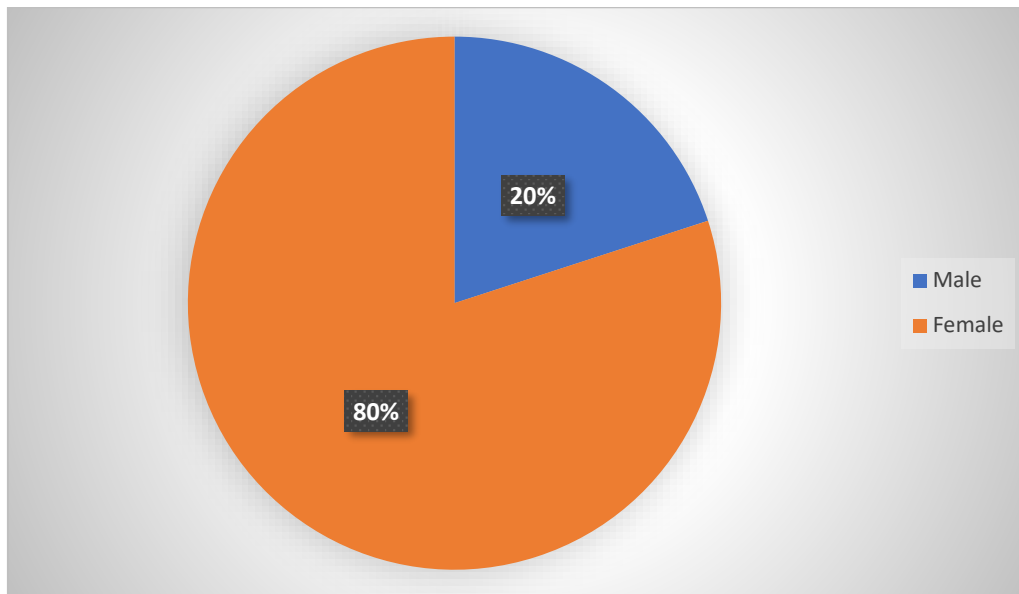Findings for Demographic Profile
Q1.Gender

Figure 2- Percentage for Gender

Figure 2 shows the percentage for gender. It indicates that females participated more in the survey than males.
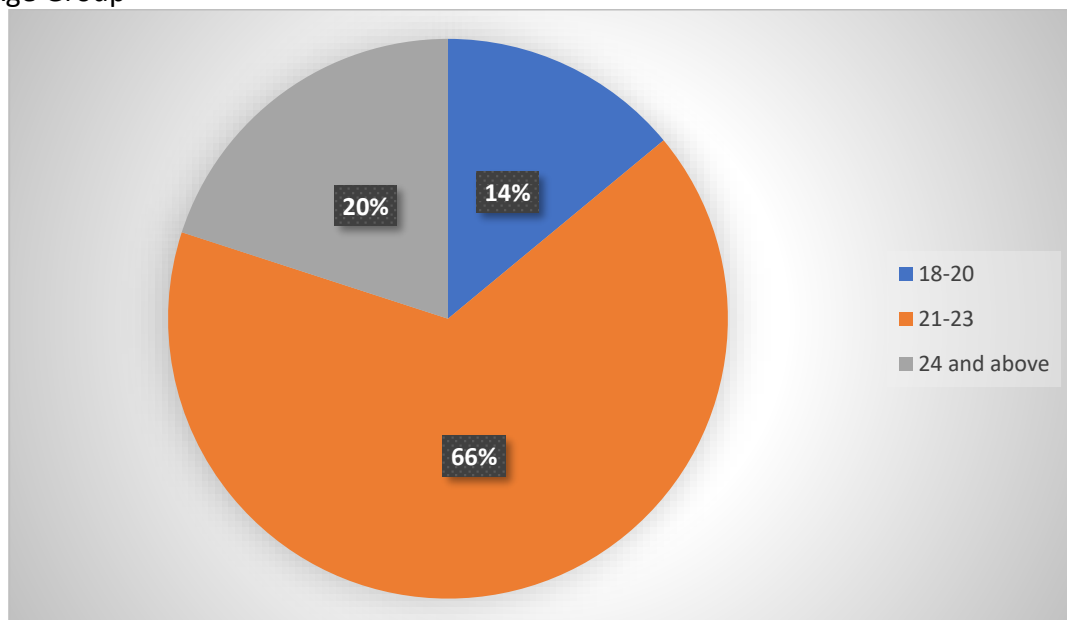
Q2 Age Group

Figure 3- Percentage for Age Group

Figure 3 shows the percentage for age of respondents. It reveals that respondents who participated in this research were from three ranges of age. Most of them were 21-23 years old, followed by 24 and above and 18 - 20 years old.
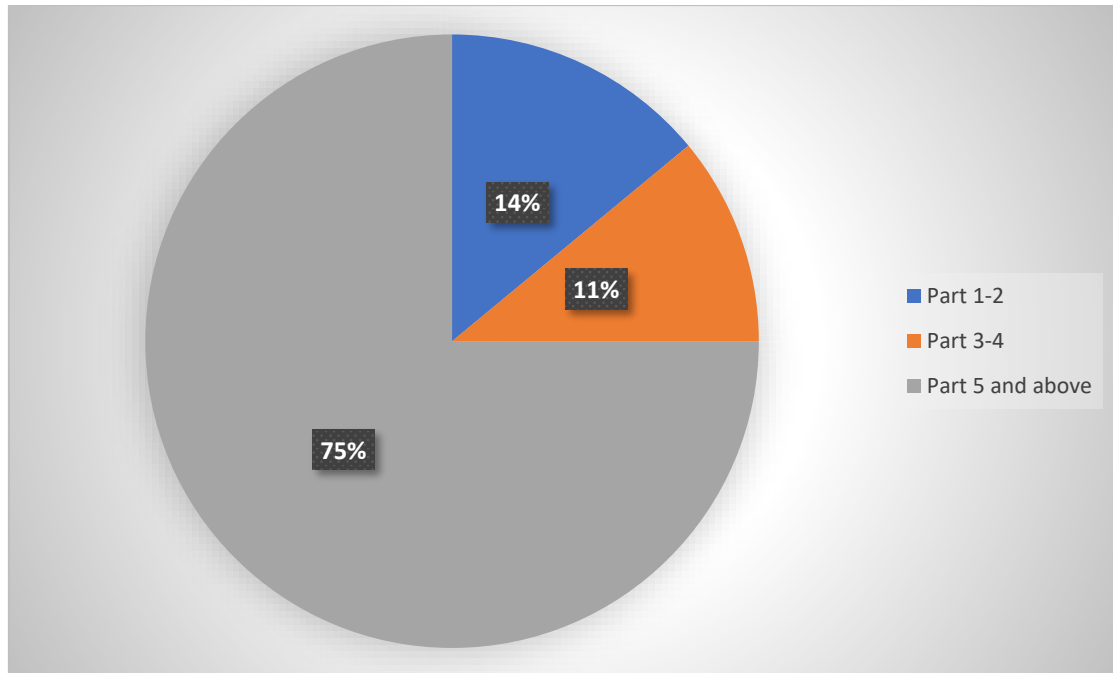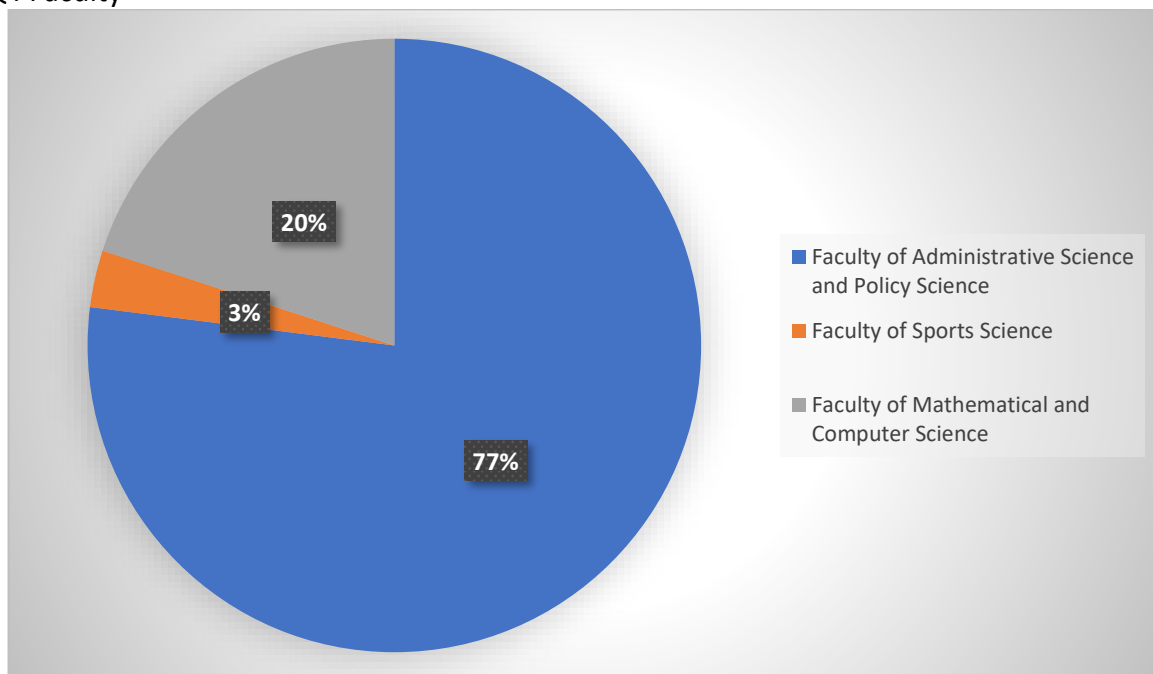
Q3 Semester

Figure 4- Percentage for Semester

Figure 4 shows the percentage for semester of respondents. It shows that most of the respondents who participated in this research were from semester 5 and above which is 75%.

Q4 Faculty

Figure 5- Percentage for Faculty

Figure 5 shows the percentage for discipline of respondents. It reveals that respondents who participated in this research were from three (3) disciplines. Most of them were from Faculty of Administrative Science and Policy Science, followed by Faculty of Mathematical and Computer Science and Faculty of Sports Science.

Findings for Internal factors

This section presents data to answer research question 1- How do internal factors influence learning? In the context of this study, internal factors are measured by (a) cognitive components and (b) metacognitive self-regulation. Cognitive components are further categorized into (i) rehearsal, (ii)organization, (iii) elaboration and (iv) critical thinking.
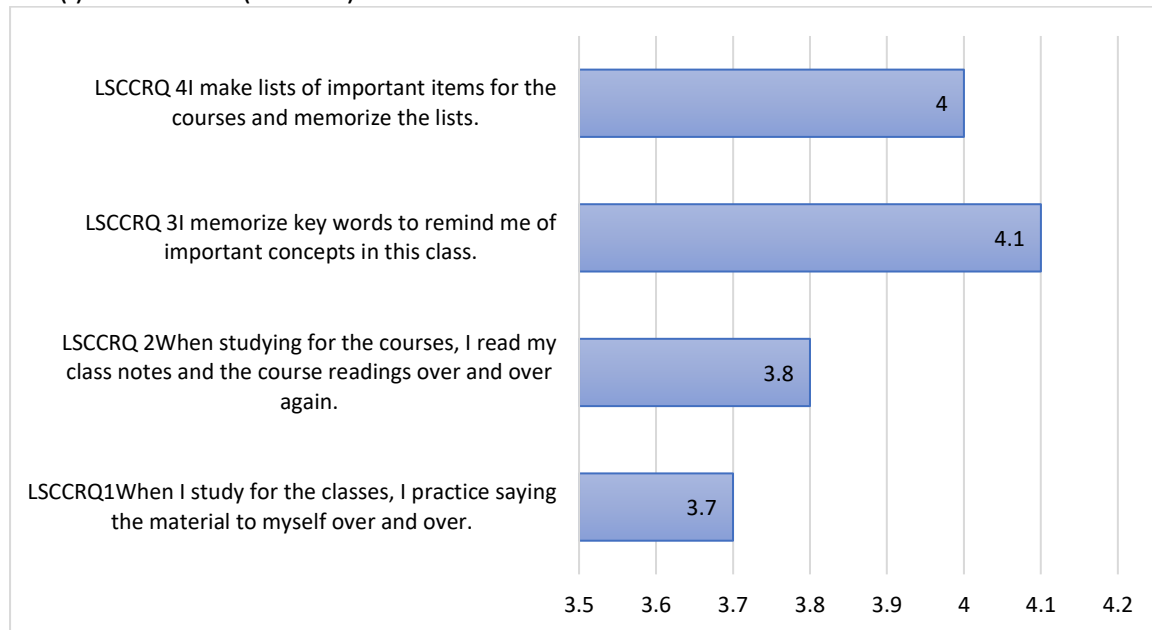
(a) Cognitive Components
(i) Rehearsal (4 items)

Figure 6- Mean for Rehearsal

The highest mean is 4.1 for the items "When studying for the courses, I read my class notes and the course readings over and over again.".

(ii) Organization (4 items)
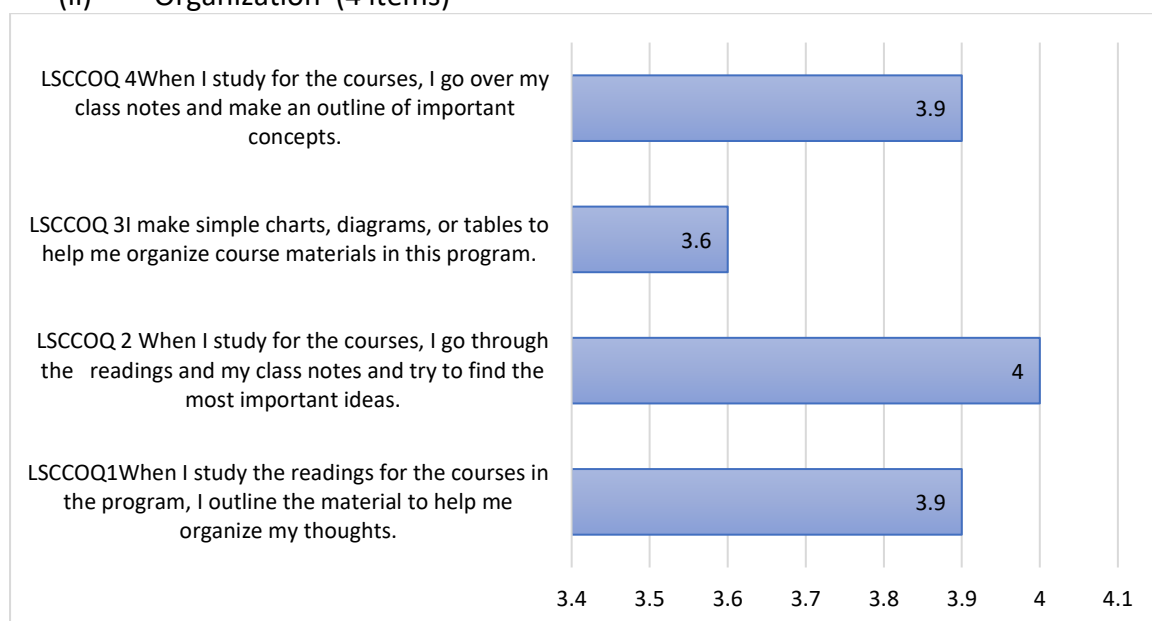
Figure 7- Mean for Organization

The highest mean is 4 for the items "When I study for the courses, I go through the readings and my class notes and try to find the most important ideas".
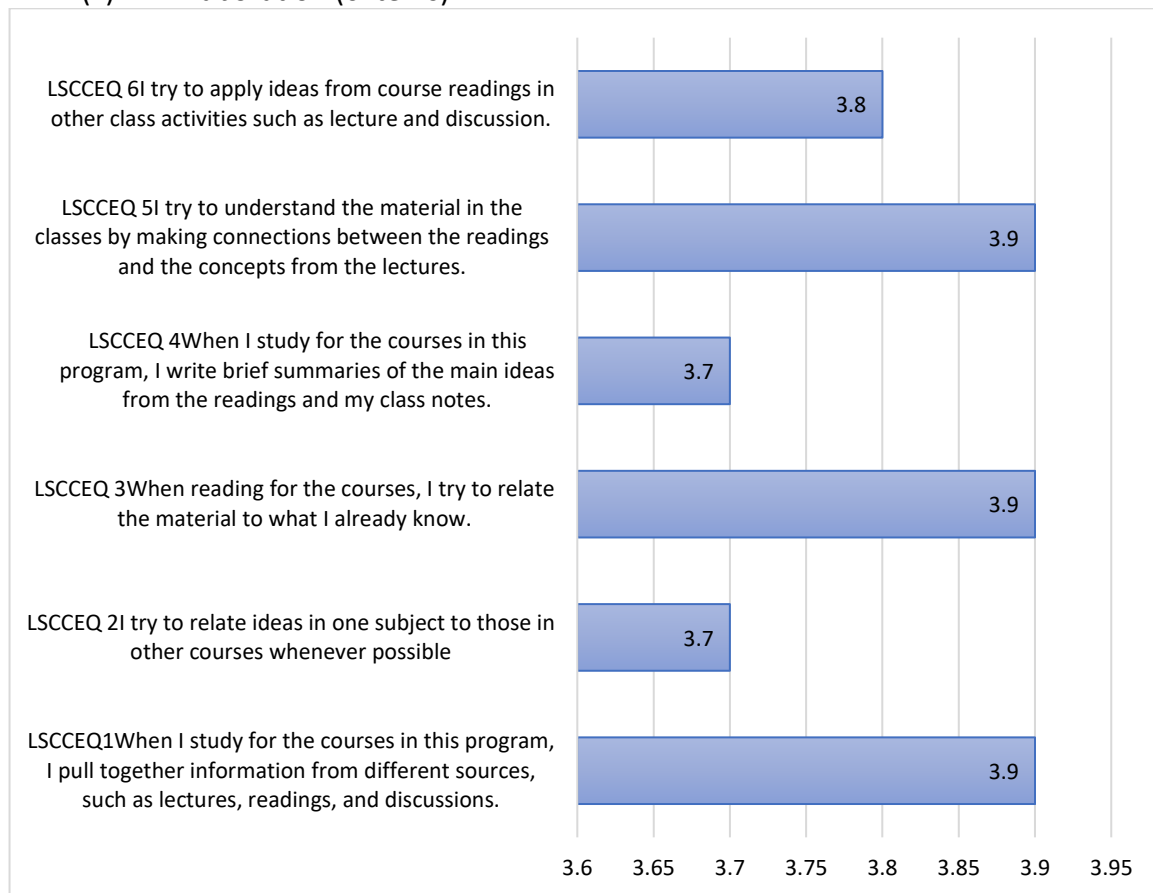
(ii)   Elaboration (6 items)

Figure 8- Mean for Elaboration

One mode of testing the effectiveness of the strategies of learning is in the form of elaboration. From the Figure 8 above it has been found that students can elaborate successfully if they can connect from different sources of materials and classes and apply what they already know (Q1, Q3, Q5=3.9). They can also learn better when they can apply ideas from course materials in classes (Q6=3.8). And lastly, relating ideas from one subject to another and writing brief summaries of main ideas from the courses also help students to elaborate ideas in their learning.

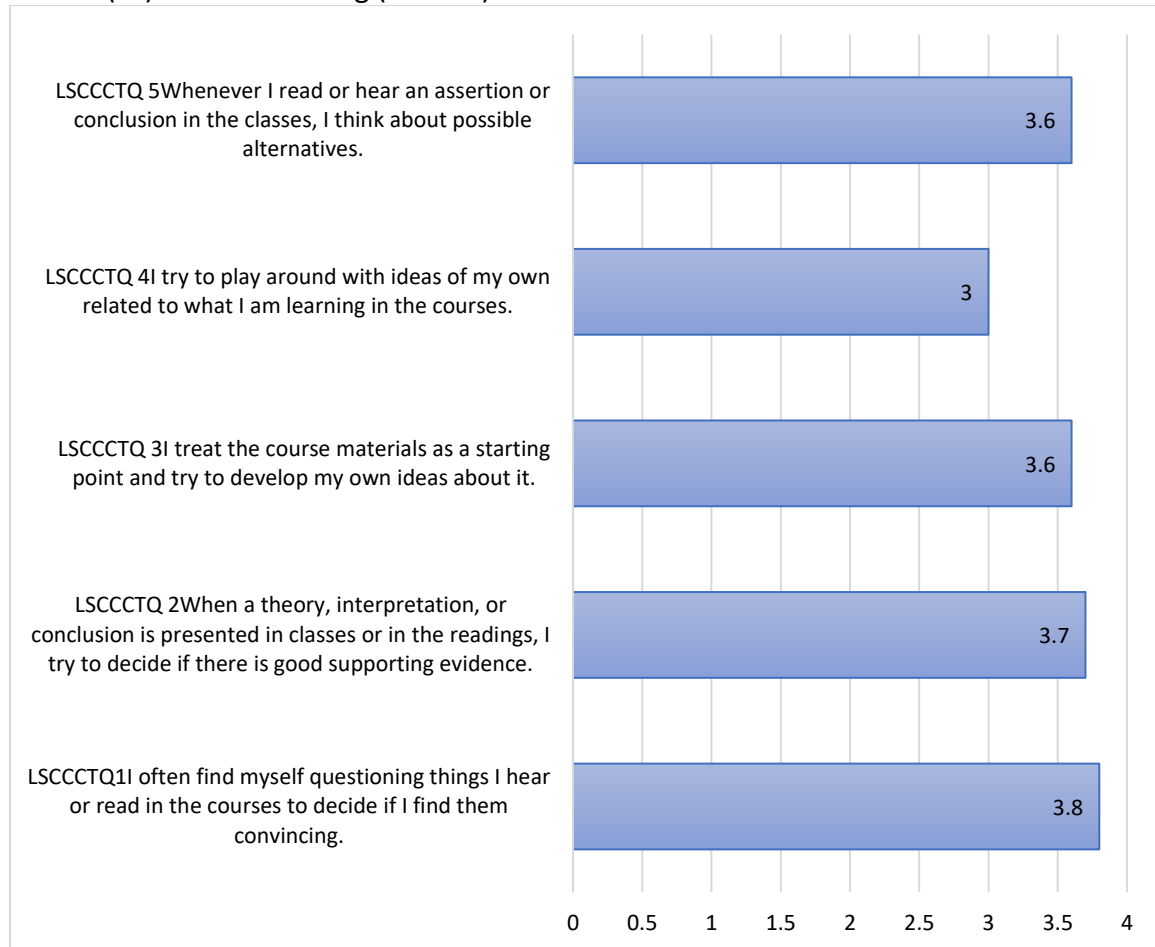### (iv) Critical Thinking (5 items)

Figure 9- Mean for Critical Thinking

Effective strategies in learning can help students to develop good critical thinking skills. Figure 9 shows that students tend to think critically and question knowledge that they have acquired if they find the knowledge convincing (Q1=3.8). They also learn to find good supporting evidence if there's a theory, interpretation, or conclusion presented in classes or in the readings (Q2=3.7). Students also develop their own ideas and think about possible alternatives from materials and classes (Q3, Q5=3.6). However, critical thinking is least developed when students try to relate their own ideas related to what they are learning in their courses (Q4=3.0)

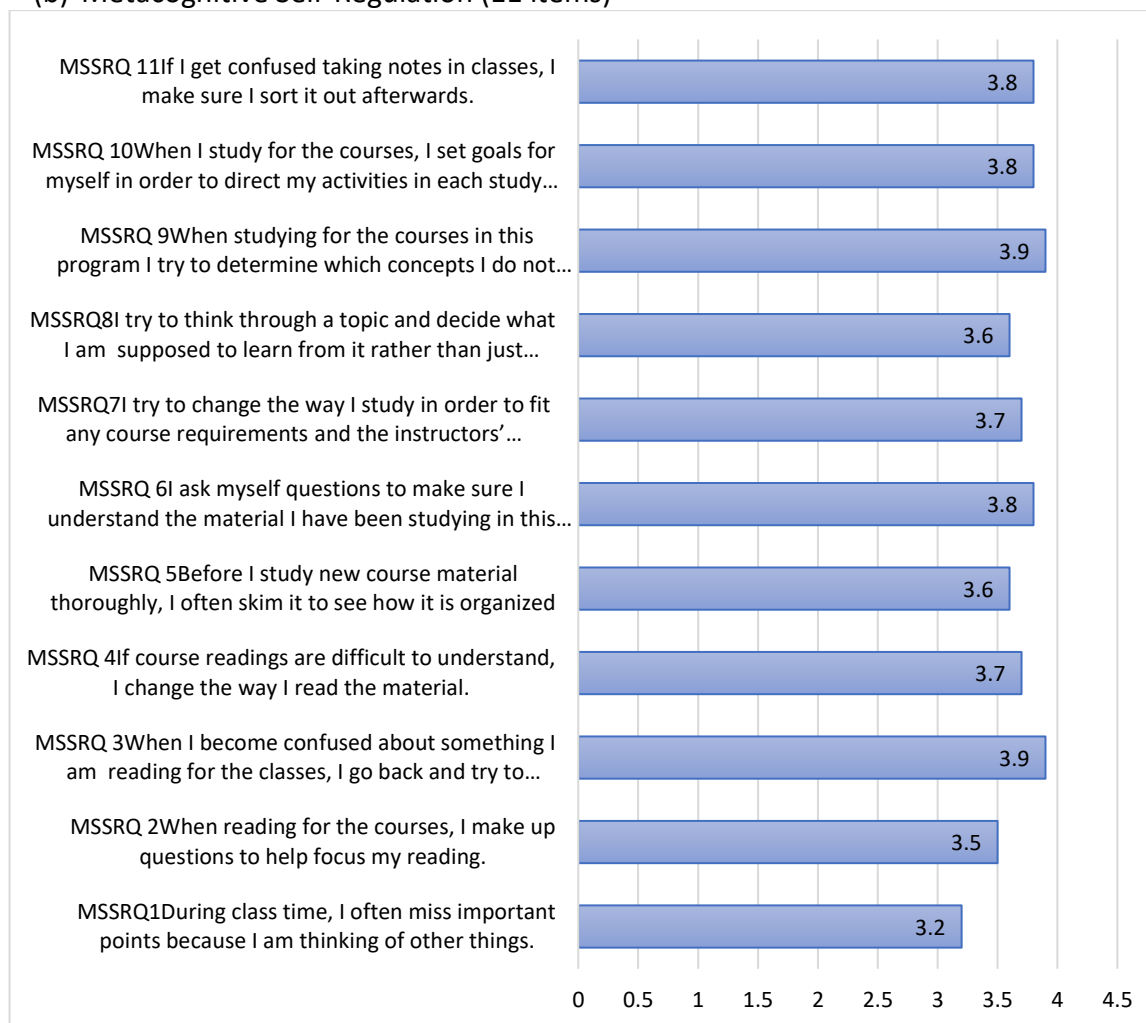(b) Metacognitive Self-Regulation (11 items)

Figure 10-Mean for Metacognitive Self-Regulation

The findings in Figure 10 display the data on metacognitive self-regulation. 11 items were asked of the respondents in measuring their ability to control their own thinking and learning, which we referred to as metacognitive. A mean score between 4.01 to 5.00 was considered to reflect high levels of intrinsic value, scores between 2.01 and 3.00 reflect medium levels of intrinsic value, and scores between 1.0 and 2.00 indicate low levels of intrinsic value. Results showed that the highest mean value is at 3.9, which outlines that respondents agree that when they study the courses in this program, they try to determine which concepts they do not understand well. Also, the respondents also believe that they become confused about something when reading for the classes, so they will go back and try to figure it out. The findings reflect that respondents participating in this study could control their thinking when it comes to reading, thus leading to their achievement in academic performance. However, the lowest mean value was reported at 3.2 which the respondents highlighted that they sometimes miss important information in class because they are thinking about other things. The situations can lead to distraction in their self-regulations, which indirectly affects their academic performance.

In summation, to respond to RQ1 on how internal factors influence learning, it can be seen from the results above that internal factors do influence the learning process. It means that

all the internal factors identified under the cognitive components and metacognitive self-regulation are perceived by students as important mechanisms for effective learning.

Findings for External Factors
This section presents data to answer research question 2- How do external factors influence learning? In the context of this study, external factors are measured by resource management components such as (i) environment Management, (ii) effort management and (iii) help-seeking

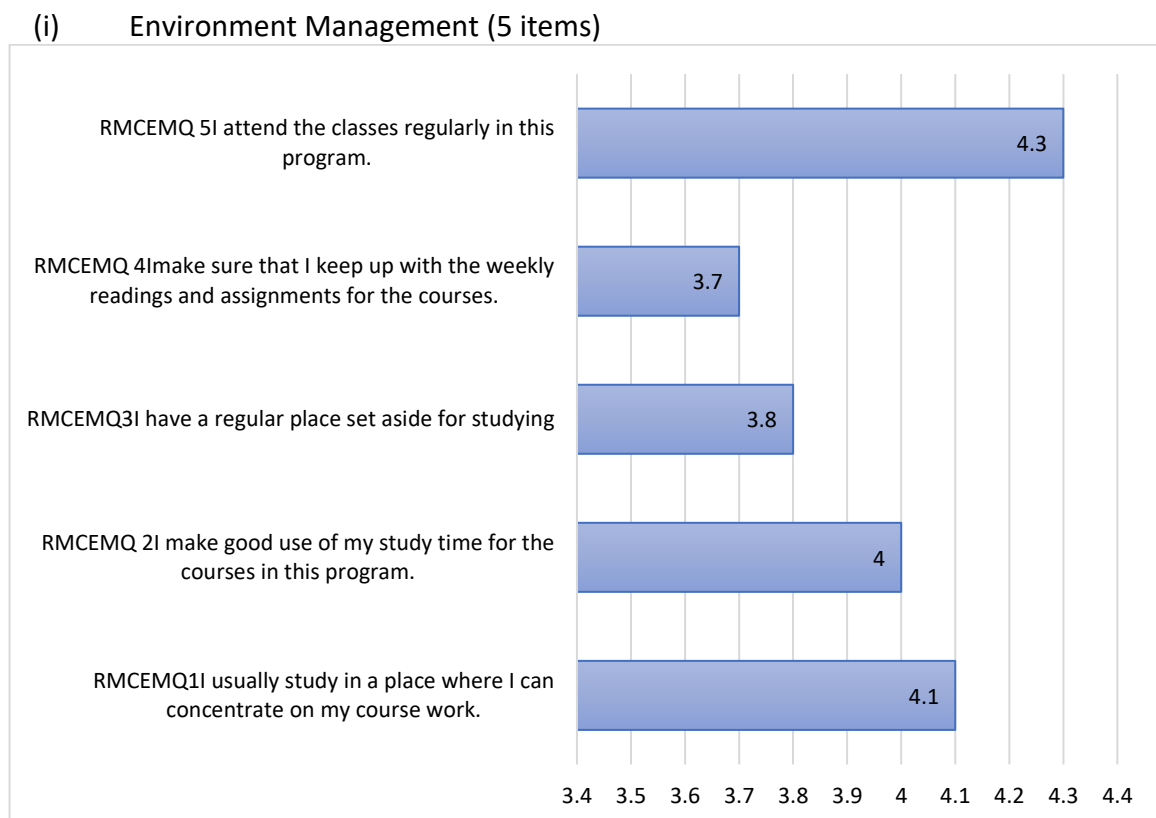(i)   Environment Management (5 items)

Figure 11- Mean for Environment Management

Figure 11 demonstrates the mean score for environment management. All five items show high mean scores, with the highest one is "I attend the classes regularly in this program" (4.3), followed by "I usually study in a place where I can concentrate on my course work" (4.1). While the lowest mean score is "I make sure that I keep up with the weekly readings and assignments for the courses" (3.7). Overall results for this section show that environment management is regarded as crucial by the respondents.
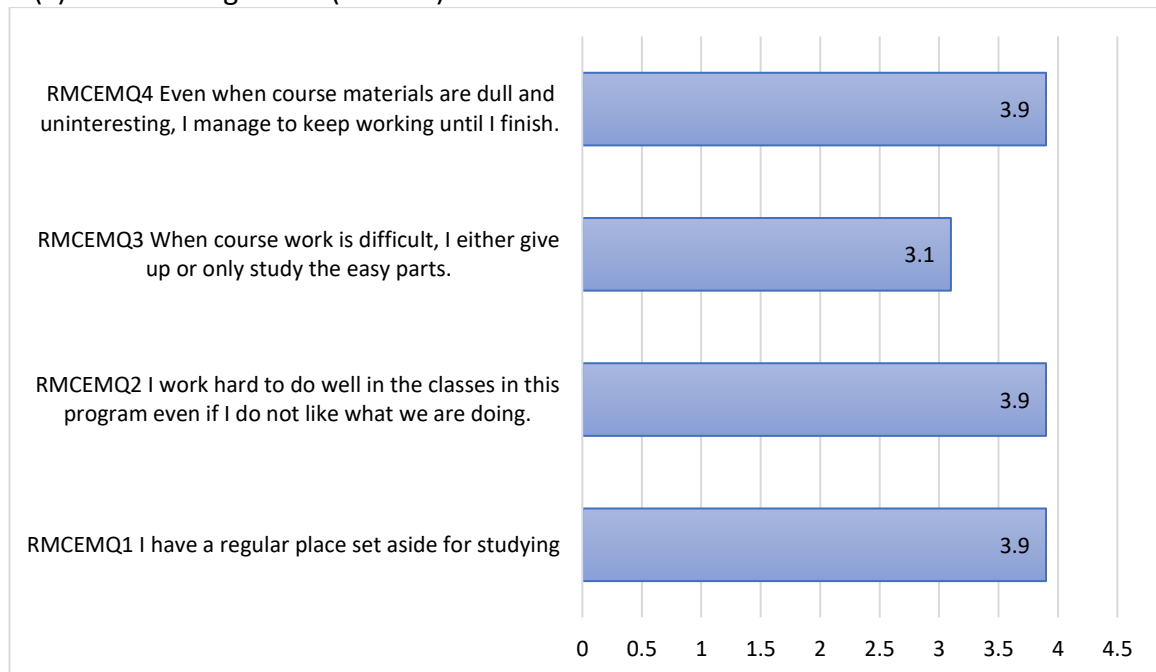
(ii)Effort Management (4 items)

Figure 12-Mean for Effort Management

Figure 12 shows the mean score for effort management factor. The highest mean score (3.9) shared by three items which are "I have a regular place set aside for studying", "I work hard to do well in the classes in this program even if I do not like what we are doing and "Even when course materials are dull and uninteresting, I manage to keep working until I finish". While the lowest mean score is item "When course work is difficult, I either give up or only study the easy parts" (3.1)
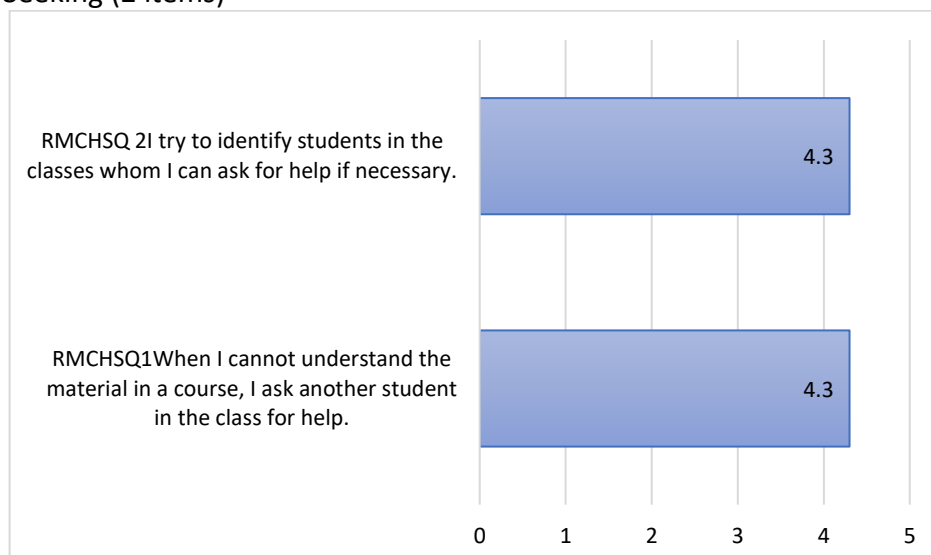
(iii) Help-Seeking (2 items)

Figure 13- Mean for Metacognitive Help-Seeking

Figure 13 above shows that the mean for metacognitive in help seeking is quite high which is 4.3. it means that students do not face with difficulties in asking for help when they do not understand the subject.

From Figures 11-13, show that the mean for all elements of external factors indicates that students agree external factors play a significant role in their learning process. It is proven that external factors such as environmental management, effort management, and help-seeking contribute to active learning and achievement among students.

Findings for relationship between internal and external factors for learning
This section presents data to answer research question 3- Is there a relationship between internal and external factors for learning? To determine if there is a significant association in the mean scores between internal and external factors for learning, data is analysed using SPSS for correlations. Results are presented separately in table 3 below.

Table 3
Correlation between Internal and External

Correlations

		TOTALINTERNAL	TOTALEXTERNAL
TOTALINTERNAL	Pearson Correlation	1	.727[**]
	Sig. (2-tailed)		.000
	N	214	214
TOTALEXTERNAL	Pearson Correlation	.727[**]	1
	Sig. (2-tailed)	.000	
	N	214	214

**. Correlation is significant at the 0.01 level (2-tailed).

Table 3 shows there is an association between internal and external factors for learning. Correlation analysis shows that there is a high significant association between internal and external factors for learning (r=.727**) and (p=.000). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between internal and external factors for learning. It can be concluded that both internal and external factors are important elements in learning process.

Conclusion
Summary of Findings and Discussions
This research aims to analyze the learning strategies among undergraduate students in the era of post endemic. Internal factor learning consists of cognitive and metacognitive self-regulation. While the external factor focuses on resource management. The educators need to support the learning, so it is not only the driving educators who get the motivation to share the knowledge, but the students also get the same motivation in learning the new knowledge. Referring to the result above, it can be concluded that the implementation of learning strategies by considering the internal and external factors in class is effective that can help the students to understand the material according to the student's requirements. This finding supported the previous study conducted by (Rahmat, 2020; Murphy et. al., 2023).
This article outlined the significance of including both internal and external learning strategies in the classroom. The following are the learning strategy model's primary benefits: It

emphasizes the adoption of approaches for encouraging students' learning progress while also taking into account students' backgrounds. Teachers must modify this model to fit their curricula, the setting of their classrooms, and the needs of all students if they want it to be effective. This implies that all students accomplish the learning goals in more engaging and customized ways (Herrera, 2010)

Pedagogical Implications and Suggestions for Future Research
Based on our research, we suggested educators and instructional designers to foster an environment in the classroom that supports individual autonomy. According to Ahmed and Opoku (2022), need-supportive teaching may be a useful strategy for encouraging students to become more autonomously driven and actively engage in their learning, which could satiate each student's need for competence, relatedness, and autonomy.

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