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EXPLORING METACOGNITIVE AWARENESS IN DIGITAL ENVIRONMENT: A STUDY OF ASASI STUDENTS' PERCEPTIONS

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Abstract:

In language learning, there are four skills that a learner must master to be proficient in the language and one of the skills that is hardest to master is writing skills. Being aware of your thinking during writing is beneficial for the learner. This study aimed to investigate the students' perception of Metacognitive Awareness (MA) in writing. This study employed a quantitative research design which utilised a questionnaire. The questionnaire used is the Metacognitive Awareness Inventory that was developed by Schraw and Dennison. The findings from the questionnaire discovered that ASASI students' perspective towards Debugging strategies has the highest influence in their writing performances. The overall results indicated that MA had a positive effect on the ASASI students' writing performances and that they perceived Debugging Strategies to be the most crucial subscale in MAI. The findings from the study are beneficial towards lecturers who teach MUET and students who will be sitting for MUET.

Keywords:

Metacognitive Awareness, Writing, MUET, Digital Assessment

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Introduction

Writing has always played an integral role in language learning. By being able to produce a piece of writing, this showcases that the learner has an adequate amount of knowledge in the linguistical elements of the targeted language. Although writing plays a vital role in language learning, it is also the hardest skill to learn. This is due to the complexity of the language's phonology, morphology, syntax, and semantics system of the language. The process of writing is difficult for the learners to master regardless of the language being in their native language (L1) or if it is in their second language (L2) (Richards, 2008; Negari & Rezaabadi 2012; Flowerdew, 2019). However, it cannot be denied that L2 speakers face more difficulties in academic writing (Zhao, 2017).

Writing is extremely important to a student as it is reflected in their academic achievements. This is due to the reason that most assessments are in the form of examinations, hence students who are competent writers of a language can get better marks in their exams. Although writing is an extremely important skill to acquire in language learning, most L2 learner fail to master it. This is evident as the number of students who failed English in their SPM was as many as 90,000 students (Nordin, 2023), thus action needs to be taken to tackle this issue.

During this point of the study, the students' MUET trial assessment was conducted digitally, hence there is a need to understand digital assessment. There are various factors that contribute to the reason why students fail to master writing. Therefore, investigations must be made to allow teachers to understand what are the factors that hinders the mastery of learners' writing performance and probe on what are the factors that can increase the mastery of writing for a L2 learner. Thus, the present study would like to explore on the perception of metacognitive awareness towards L2 writing performances among ASASI students in Malaysia.

Literature Review

MUET

As a prerequisite for pursuing their bachelor's degree, Malaysian students are required to take the Malaysian University English Test (MUET) to assess their English proficiency. This examination aims to ensure that students are adequately prepared and possess the necessary English skills for higher education contexts. MUET assesses all four ESL skills: listening, speaking, reading, and writing, with a scoring range from one to 360 marks. Test-takers are categorized into five bands, from Band 1 (lowest) to Band 5+ (highest). Each paper carries a 25% weightage and a maximum score of 90 marks, as detailed in Table 1. In 2021, a new MUET format was introduced, involving changes in the weightage, division marks, and question formats across the four papers.

Table 1: New MUET Mark Division

Paper Code	Paper	Duration	Weighting
800/1	Listening	50 minutes	25%
800/2	Speaking	30 minutes	25%
800/3	Reading	75 minutes	25%
800/4	Writing	75 minutes	25%

Source: Retrieved from "800 Malaysian University English Test (MUET) : Regulation and Test Specifications" by Malaysian Examination Council, 2019. Copyright 2019 by Malaysian Examination Council.

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Table 1 shows the new MUET marks division based on the four papers. In the new MUET format, all the four papers have equal weightage at 25% each. This showcases that all skills are equally important without one paper being more important than the other. However, for the duration of test, reading skills and writing skills have the longest duration at 75 minutes respectively. Speaking test takes the least time with 30 minutes and listening skill at the second highest at 50 minutes. The four papers will be divided into different days according to the schedule that has been set by the MEC.

Table 2: MUET New Writing Paper Questions

Task	Stimulus	Response	Level
Task 1	Letter or email 100-135 words	Letter or email of at least 100 words	The language in the stimulus should not exceed B1. Responses may range from A2 to C1
Task 2	Statement setting out an idea or a problem in 40-80 words	Essay (discursive, argumentative, or a problem-solution) of at least 250 words	The language in the stimulus should not exceed B2. Responses may range from B1 to C1

Source: Retrieved from "800 Malaysian University English Test (MUET) : Regulation and Test Specifications" by Malaysian Examination Council, 2019. Copyright 2019 by Malaysian Examination Council.

In Table 2, the table shows the new writing paper questions for MUET writing paper. For the new format, the students need to answer two questions which are writing a letter or an email and writing an essay which is based on the questions given. The essay in task 2 will need the students to do an extensive writing which includes different type of essays such argumentative essay or a problem solution essay. For task 1 the CEFR level of the students should not exceed B1 and B2 for task 2.

Table 3: Table of Attributes and Task Specification

Item	Description
Paper Code	800/4
Weightage	25%
Total score	90 marks Task 1 45 marks Task 2 45 marks
Duration	75 minutes Task 1 25 minutes Task 2 50 minutes
Number of questions	2

International Journal of Modern Education
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Possible questions	Task 1 – Guided writing Letter or email Write a reply letter or an email Task 2 – Descriptive writing Write a statement setting out an idea or an issue Essay (discursive, argumentative or problem-solution)
CEFR level	Task 1 CEFR Level A2-C1 Task 2 CEFR level B1-C1
Language functions	Task 1 Each task should elicit some of the following functions: expressing thanks, apologies, reactions, and preferences accepting/declining/rejecting invitations/offers making requests giving precise information describing experiences, feelings, and events providing advice, reasons, opinions, and justifications Task 2 Each task should elicit some of the following functions: discussing ideas and evaluating arguments or solutions to problems providing advice, reasons, opinions, and justifications giving examples and supporting information

Source: Retrieved from "800 Malaysian University English Test (MUET) : Regulation and Test Specifications" by Malaysian Examination Council, 2019. Copyright 2019 by Malaysian Examination Council.

Table 3 showcases the test specification of the MUET writing test. The newest MUET format is now in line with the Common European Framework of Reference (CEFR) proficiency levels and marking criteria. When it comes to the writing test, students will encounter two tasks. In Task A, they'll need to interpret a given textual stimulus, like notes, and create a letter or email based on that information. The expected length for this task is between 100 to 130 words. Task B involves an extended writing essay where students delve into a provided scenario. They are encouraged to use a reflective essay format, which could be in the form of a discussion, argument, or problem-solving essay. This task requires critical thinking, and students are expected to compose an essay of at least 250 words, drawing from the provided information.

Metacognitive Awareness

According to Flavell (1979), metacognition was initially referred to the knowledge of and the regulation of a person's own cognitive activities in the process of learning. Metacognition can also be defined as the awareness of the learners' ways of learning, an evaluation on the needs of the learners and the ability to generate and implement strategies to meet the needs of the learners (Hacker et al., 2009).

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Flavell (1979) divides metacognition into three domains, which are metacognitive knowledge, metacognitive experiences, and metacognitive strategies. The domain of metacognitive knowledge relates to a person's knowledge of oneself, and others as cognitive processors includes knowledge and beliefs about a person's perception of their abilities and how certain variables (motivation, educational background, age, gender, and motivation) influence learning. Next, metacognitive experiences refer to conscious cognitive or emotional encounters that happen alongside and are connected to intellectual concepts. Finally, metacognitive strategies refer to a person's conscious application of cognitive control strategies.

In a study conducted by Goctu (2017), he states that between all the strategies that is used in learning, metacognitive strategies is of superiority as it employs Higher Order Thinking Skills (HOTS). The HOTS that are used in metacognitive covers skills such as planning, monitoring, and evaluating. As students become more aware of their metacognitive processes, they will be able to apply these strategies in their learning. This claim was supported in Goctu's study as he applied metacognitive strategies to a group of Computer Science students who are required to do academic writing. Goctu discovered that students have been using metacognitive strategies such as planning in their writing, but after being taught on how to apply the metacognitive strategies, the students are able to write better essays and focus on the perspective of the reader when writing the essay. This is crucial in writing. If the readers are unable to understand what is being written, the readers will also not be able to extract and understand the main points and messages that are being delivered by the writer. Thus, it is crucial for learners of a language to be metacognitively aware in their learning process.

Metacognitive Awareness in Writing Skills in Malaysia

This section plans to give a better understanding on the studies that have been done on metacognitive and how it affects writing skills in the Malaysian context. Studies on metacognitive awareness in Malaysia is not widespread as compared to the studies that has been done outside of Malaysia. There were several studies that was conducted to investigate the effects of metacognition towards the writing skills of students across different level of education in Malaysia (Ma & Zainal, 2018; Mastan, Maarof & Embi, 2017; Safari, 2019; Aripin, Hanim & Rahmat, 2021).

In Malaysia, the studies that relates to metacognitive awareness did not look at metacognitive awareness, but only looked at a certain component of it. Ma and Zainal (2018) conducted a study to look at different type of planning condition among primary students in their narrative writing. In secondary school, a study was done to investigate the effects towards a group of intermediate students writing performance with the implementation of writing strategy instruction (Mastan, et al., 2017). Most of the studies conducted in Malaysia was done among tertiary level students. Safari (2019) conducted on the effects of metacognitive knowledge towards a group of ESL students perception towards writing task. Aripin, Hanim and Rahman (2021) did a comparison on how metacognitive awareness is utilised by different gender in their writing.

The most preferred data collection method conducted on the effects metacognitive awareness towards writing skills was by using qualitative method. In qualitative method, the researchers used questionnaire and a pre-test and post-test to collect their data (Mastan, Maarof & Embi, 2017), questionnaire survey and writing task (Ma & Zainal, 2019) and questionnaire by (Safari, 2019; Rahman, Aripin, Razlan & Khairuddin, 2021). However, qualitative method was the

International Journal of Modern Education
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least preferred method by the researchers in Malaysia. Aripin, Hanim and Rahmat (2021) collected his data by jotting out data from think-aloud protocols and video.

From the past literature, it is evident that studies that look into the students' Metacognitive Awareness for MUET writing performance at pre-tertiary level has not yet been studied. Therefore, for this study, it would like to investigate the ASASI students' perception of Metacognitive Awareness in their writing paper.

Digital Assessment

As the progression of technology becomes more rapid, the integration of technology in education increases. This is especially so, when the students' motivation to improve their learning experiences is entangled with the students' passion towards digital tools. This in turn will affect the method of assessments conducted by the assessors, thus increasing the weightage of digital assessment in education. Therefore, there needs to be a stress in digital assessment in the current education setting. Digital assessment has been defined as the integration of technology in the process of creating, delivering, creating, or reporting the student's assessment marks and feedback (Appiah & Van Tonder, 2018). The increasing diffusion of technology in the education sector, especially assessment has eased the process for instructors to conduct assessment. Students are able to receive detailed feedback immediately in real time (Daradoumis et al., 2019) as compared to the traditional method of assessment, making administration and feedback easier. The method of giving feedback has also diversified as the instructor can give the students feedback in the form of written, audio or even in the form of video (Rolim & Isaias, 2018). This allows the students to gauge their understanding of the materials that were assessed immediately, allowing instructors to give a better learning experience for the student. Therefore, digital assessment is increasing in importance especially in recent years, hence there is a need to focus on digital assessment to improve learning experience.

ASASI Students

ASASI is a foundation program which is offered to students in Malaysia. Before entering a university to do their bachelor's degree, it is compulsory for Malaysian students to complete their pre-university program. The ASASI program are divided into several majors depending on what the university offers. The average span of an ASASI program is between one to two years. The students who enter ASASI are trained towards the programs that will be taken in their bachelor's degree. In Malaysia, there are 12 public universities that offer ASASI programs. These universities are University Malaya (UM), University Putra Malaysia (UPM), University Technology Mara (UiTM), University Malaysia Terengganu (UMT), University Sultan Zainal Abidin (UNISZA), University Malaysia Sabah (UMS), University Utara Malaysia (UUM), University Malaysia Sarawak (UNIMAS), International University of Malaysia (UIAM), University Sains Islam Malaysia (USIM) and the National Malaysia Defence University (UPNM) (MyGovernment, n.d.).

Methodology

Research Design

In consideration to the research questions and objectives that have been presented, this research used quantitative research method. Creswell and Creswell (2018) define quantitative research as "the method that involves the processes of collecting, analysing, interpreting, and writing

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the results of a study. The relationship between the variables are analysed and then the data that have been obtained from the analysis are transformed into numbered data so the data can be measured in SPPS.

In research there are two broad classifications of the research design, which are non-experimental design and experimental design. The research design that was employed in this research was experimental research design, specifically a pre-experimental research design. Generally, experimental research design involves the manipulation of certain variable so that that the behaviour that is exhibited can be observed (Sharma et al., 2020). Meanwhile, pre-experimental design is the most basic form of experimental design as it does not have the inclusion of a control group and only consists of an experimental group in the research.

Research Population and Sampling

For this study, a total of 30 students from a public university in Kota Kinabalu, Malaysia was recruited as the participants of this study. These students were doing their pre-university program at University Malaysia Sabah (UMS), specifically the ASASI program. The students were of age 18 years old, and all of them were in their first year second semester. The sampling method used in this study non-probability sampling. This method of selecting participants doesn't give everyone in the population an equal chance of being chosen, which means the results may results to the results being biased (Yadav et al., 2020) or being an isolated case.

The non-probability sampling, specifically convenience sampling and purposive sampling was chosen. Convenience sampling can be defined as a form of sampling that was done by collecting samples of the research based on the convenience such as a location (Edgar & Manz, 2017). Meanwhile, purposive, or judgemental sampling is an approach in which certain situations, people, or events are purposefully chosen to offer essential information that cannot be gathered through other means (Maxwell, 1996). This was due to the reason that there were a set of criteria that the students must reach to be selected as the sample of this study and the students were trained for MUET paper in UMS, hence it was convenient for the researchers to use the students as the sample.

These criteria of the purposive sampling and convenience sampling were that the students must be pre-university students in UMS, and they had to be a student from the ASASI course to make the collection of sampling more convenient. Participation in this study was voluntary after they had been briefed on the objectives of the study. Thus, the recruitments of the participants were selected to meet the requirement of 30 people with no specific ratio of students. Once the quota was met which was a total of 30 students have been achieved, the recruitment was stopped. Thus, in this study, there was a total of 30 students with no specific ratio of female to male.

Data Instruments

The questionnaire used consists of two sections. In the first section, the questions consisted of the demographic questions of the participants. In the second section, the questionnaire used was the Metacognitive Awareness Inventory (MAI) which was developed by Schraw and Dennison in 1994. The MAI questionnaire consisted of 52 items. The questionnaire was adopted with no changes made. This questionnaire was chosen as it had been used by several researchers (Savira & Laksimawati, 2017; Anumudu et al., 2019; Sumarno, 2020; Sumarno et al., 2022) as their questionnaire, thus it was a reliable questionnaire. This questionnaire

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IJMOE
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Volume 5 Issue 19 (December 2023) PP. 344-358
DOI: 10.35631/IJMOE.519024

consisted of two subscales related to metacognition which were metacognitive knowledge and metacognitive regulation. The MAI is a questionnaire developed to measure the extent to which individuals might be more or less metacognitively inclined in their approach to processing information. Table 5 will explain the division of the MAI questionnaire.

The questionnaire was presented in a five points Likert scale (1= strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree). The Likert scale was used in this research as it can provide highly reliable and the data gathered can be compared, contrasted and combined with qualitative data-gathering techniques such as interviews and open-ended questions (Nemoto & Beglar, 2014). The questionnaire was further established between 4 sub sections which are the awareness, cognitive strategy, planning and self-checking. The questionnaire can be referred in Appendix A.

Table 4: Classification of Metacognitive Awareness Inventory Items

Category	Sub-Category	Item No.
Metacognitive Regulation	Planning	4, 6, 8, 22, 23, 42, 45
	Management Strategies	9, 13, 30, 31, 37, 39, 41, 42, 48
	Comprehension Monitoring	4, 8, 12, 16, 20
	Debugging Strategies	2, 6, 10, 14, 18
	Evaluation	7,19, 24, 36, 38, 50
Metacognitive Knowledge	Declarative Knowledge	5, 10,12,16,17, 20, 32, 46
	Procedural Knowledge	3, 14, 27, 33
	Conditional Knowledge.	15, 18, 26, 29, 35

Findings

An Analysis on ASASI Students Perception Towards Metacognitive Awareness Instruction.
This section presents the findings that have been discovered on the ASASI students' perception of the implementation of Metacognitive Awareness Instruction in their writing performance. The findings that were analysed are data that has been collected based on the data gathered from the questionnaire after the students were exposed to MA. An in-depth discussion will be presented on the students' perception of Metacognitive Awareness Instruction and their writing performances after being introduced to Metacognitive Awareness Instruction.
Reliability Analysis

Table 5: MAI Cronbach Alpha Analysis

Instruments	N of Items	Cronbach's Alpha Value
Metacognitive Awareness Inventory	52	0.964
Knowledge of Cognition (KOC)	17	0.922
Regulation of Cognition (ROC)	35	0.939

Table 7 shows the Cronbach Alpha value for the independent variables, Metacognitive Awareness Inventory (MAI). In Cronbach Alpha, when the coefficient value is 0.70 and above, the value is considered to be acceptable in the Social Sciences Research. The data of MAI is

International Journal of Modern Education
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IJMOE
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DOI: 10.35631/IJMOE.519024

broken down into two subcategories which are Knowledge of Cognition (KOC) which contains 17 items and Regulation of Cognition (ROC) which contains 35 items. The overall coefficient value of MAI is 0.96. Meanwhile, the value of KOC and ROC are 00.92 and 0.93 respectively. This suggests that the items have a relatively high internal consistency, thus indicating that the reliability of the data is acceptable.

Analysis on The Perception of ASASI Students Towards Metacognitive Awareness Instruction

Table 6: Students Perception Towards Metacognitive Awareness Instruction

Scale	Subscale	N	Median	Mode	Mean	SD
Knowledge of cognition	Declarative knowledge	8	4	5	3.97	0.99
	Procedural knowledge	4	4	5	4.11	0.91
	Conditional knowledge	5	4	5	4.18	0.86
Regulation of cognition	Planning	7	4	4	4.16	0.84
	Information management strategies	10	4	5	4.23	0.84
	Comprehension monitoring	7	4	4	4.10	0.82
	Evaluation	6	4	5	3.92	0.99
	Debugging strategies	5	5	5	4.46	0.75
Metacognitive Awareness Inventory (MAI)		52	4	5	4.13	0.90

Table 9 shows the descriptive analysis of the independent variable which is the ASASI students' perception of Metacognitive Awareness Instruction that was measured utilising the MAI questionnaire. The descriptive analysis shows that the scales of all the subscales are at a high level, that is Debugging strategies (M=4.46, SD=0.75), Information management (M=4.23, SD=0.84), Conditional Knowledge (M=4.18, SD=0.86), Planning (M=4.16, SD=0.84), Procedural Knowledge, (M=4.11, SD=0.0.91), Comprehension Monitoring (M=4.10, SD=0.82), Declarative Knowledge(M=3.97, SD=0.99) and Evaluation (M=3.92, SD=0.99).

Between ROC and KOC, the students perceived ROC to have more influence in improving their writing performances. Of the eight subscales, debugging strategies which are part of ROC had the highest mean score (average) at 4.46 and the smallest standard deviation at 0.75. The mean score of debugging skills was closest to the maximum value of 5 (Strongly Agree). This indicates the debugging score is the most critical with the highest consistency in the answer chosen by the respondents. While the mean score of evaluation had the overall lowest at 3.92. this proves that out of the eight subscales, Evaluation had the lowest influence on the students writing performances. The second highest subscale is information management strategies with an average score (mean) of 4.23 and a standard deviation of 0.84.

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
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DOI: 10.35631/IJMOE.519024

In Knowledge of Cognition (KOC), Conditional Knowledge had the highest average score (mean) at 4.18 and a standard deviation of 0.86. This indicated that for KOC, conditional Knowledge is the most critical out of the three subscales. Declarative knowledge charted the lowest average score (mean) for Knowledge of Cognition (KOC) at 3.97 and the highest standard deviation at 0.99. This shows that there was high inconsistency in the scales that were chosen for declarative knowledge. The two highest subscales were from Regulation of Cognition (ROC) meanwhile the lowest subscale was from Knowledge of Cognition (KOC). This indicates that the students perceive Regulation of Cognition (ROC) to be the most significant in metacognitive awareness in their writing.

Table 7: Debugging Strategies

Question	Mean	Standard Deviation
25. I ask others for help when I don't understand something.	4.56	0.63
40. I change strategies when I fail to understand.	4.3	0.65
44. I re-evaluate my assumptions when I get confused.	4.47	0.73
51. I stop and go back over new information that is not clear.	4.3	0.84
52. I stop and reread when I get confused.	4.7	0.84
Average	4.46	0.75

Debugging strategies relate to the strategies used by the students to correct their comprehension and the errors in their performances. Debugging strategies consist of five questions whereby the respondents must choose between the 5 choices given which ranged from the lowest scale at 1 being "Strongly Disagree" to 5 which is "Strongly Agree" which is the highest scale. This set of data received a response mostly on the scale of "Strongly Agree". According to data in Table 10, among the five questions in debugging strategies, "I stop and reread when I get confused." had the highest average score (mean) at 4.7. This indicates that this is the most critical in debugging strategies as this was executed most frequently by the students when facing a problem in their writing. However, it also had the highest standard deviation at 0.84 depicting an inconsistency in the scales being answered by the respondents. For the question "I change strategies when I fail to understand." and "I stop and go back over new information that is not clear.", students do this the least among the questions presented in the debugging strategies as the average score (mean) of both questions are 4.3 respectively. However, "I change strategies when I fail to understand." had the smallest standard deviation between the two items, thus indicating that the answer chosen by the participants were more consistent.

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume 5 Issue 19 (December 2023) PP. 344-358
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Table 8: Planning

Question	Mean	Standard Deviation
8. I set specific goals before I begin a task.	4.20	0.76
22. I ask myself questions about the material before I begin.	3.77	1.04
23. I think of several ways to solve a problem and choose the best one.	4.17	0.87
42. I read instructions carefully before I begin a task.	4.63	0.49
45. I organize my time to best accomplish my goals.	3.9	1.02
Average	4.16	0.84

According to data in Table 11, among the five questions in Planning, item 42 which is "I read instructions carefully before I begin a task." had the highest average score (mean) at 4.63. This indicates that this is the most critical in planning as this was executed most frequently by the students when facing a problem in their writing. Item 42 also had the lowest standard deviation amongst the five items in planning at 0.49. This depicts that there was a consistency in the scales being answered by the respondents. Item 22 which is "I ask myself questions about the material before I begin" had the lowest mean at 3.77 and the highest standard deviation at 1.04, thus showing that there was an inconsistency in the scales being answered by the participants. The lower mean score indicates that the students perceived that they rarely ask questions about the material before they begin.

Table 9: Evaluation

Question	Mean	Standard Deviation
7. I know how well I did once I finish a test.	3.80	0.99
19. I ask myself if there was an easier way to do things after I finish a task.	4	1.05
24. I summarize what I've learned after I finish.	3.80	0.99
36. I ask myself how well I accomplish my goals once I'm finished.	3.83	0.91
38. I ask myself if I have considered all options after I solve a problem.	3.97	1.06
50. I ask myself if I learned as much as I could have once I finish a task.	4.1	0.99
Average	3.92	0.99

According to data in Table 12, among the six questions in Evaluation, item 50 which is " I ask myself if I learned as much as I could have once I finish a task." had the highest average score (mean) at 4.1. This indicates that this is the most critical in planning as this was executed most

International Journal of Modern Education
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frequently by the students when they are writing. Item 42 also had the same standard deviation as two other items (item 7 and item 24) and is on the higher end of the spectrum for evaluation at 0.99. This depicts that there was an inconsistency in the scales being answered by the respondents. Item 7 (I know how well I did once I finish a test.) and item 24 (I summarize what I've learned after I finish.) had the lowest mean at 3.80 The lower mean score indicates that the students perceived that they rarely know how well they did once they finish the test, and they rarely summarise they have learnt once they have finished.

Discussion

Discussion on ASASI Students Perception Towards Metacognitive Awareness Instruction

The MAI items were divided into two big scales which are Knowledge of Cognition (KOC) and Regulation of Cognition (ROC). These items were further divided into eight subscales, where three of the subscales are in KOC (Declarative Knowledge, Procedural Knowledge, and Conditional Knowledge) and five subscales are in ROC (Planning, Information Management Strategies, Comprehension Monitoring, Debugging Strategies, and Evaluation). From the current study, ASASI students perceived the subscales under ROC to be most critical in improving their writing performances.

The findings from the focus group discovered that Regulation of Cognition (KOC), specifically towards Debugging Strategies, Information Management and Planning were perceived to be the most critical subscales in MAI according to the ASASI students. After being exposed to Metacognitive Awareness Instruction, the students discovered that when facing a question that they did not understand, the students would go back to the question to re-read it and internalised what the question was asking for. This allowed the students to properly understand the question so that they were able to answer the question based on what was being asked. From the five items in planning, the ASASI students were seen to do item 22 the least, which is to ask questions regarding the material before they begin. However, the ASASI students were still practising this. This allows the students to have a clearer understanding of what the questions are asking for thus allowing them to write better.

Most of the studies conducted that looked at how Metacognitive Awareness Instruction affects the students' writing performances emphasize the role of planning in writing. In the current study, planning also plays a critical role in this study as it is charted as the third most critical subscale in KOC. In this study, students were seen to read the instructions carefully before they begin a task, which is writing. this allows the students to plan what to insert in their writing. According to Fadhly et al. (2017), when planning to write, the writer must prioritise information which holds more value in their writing and omit information which is of less relevance, and this resonates with this study.

The result in this study aligns with several studies conducted in the past. Similar to the study conducted by Kansizoglu & Bayrak (2020), where the subscales which were most critical in their study are Planning, Comprehension Monitoring, Evaluation and Debugging Strategies, the current study showed almost similar results with Debugging Strategies, Planning, Information Management Strategies to be the most critical subscales in Knowledge of Cognition and the subscales which are most significant for Regulation of Cognition are Evaluation and Declarative Knowledge. These subscales were perceived by the students to be the most critical subscales in Metacognitive Awareness to improve their writing performances.

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Another study conducted by Aripin et al. (2021) looked at the students' writing performance among tertiary education students according to their gender. This study discovered that female students were able to see an improvement in their writing as they applied MA in their writing, specifically in planning, monitoring and evaluating. This is in line in agreement with the current study as the students in this study also apply these subscales in their writing and perceive it to affect their writing, especially planning.

Students who used metacognitive awareness in their writing had an improvement in their writing performances and an emphasis was given to the usage of Regulation of Cognition in this study as it had the highest subscale is from ROC. Although the current results indicated Debugging Strategies to be the most critical in MAI, however, planning was also crucial as it had one of the highest average scores (mean) in this study at 4.16. In this study, the students perceived that they need to read the questions very well before answering, and then only will they be able to produce better writing. This result obtained echoes with Goctu (2017) study which looked at the students' perception of the use of metacognitive awareness. In Goctu's study, metacognitive subscales which are planning, monitoring, and evaluating were emphasized and the students' perception found that the usage of metacognitive awareness was proven to be significant and that students were more aware of the usage of planning in their writing, even before being exposed to Metacognitive Awareness. Students who used planning in their writing were able to produce more successful writing as it helps the writers to understand what the readers want to read and to be more focused on their writing.

Conclusion

The purpose of this research was to identify the effects of Metacognitive Awareness Instruction on the pre-university students writing performances. This research was achieved by using a questionnaire, which is the Metacognitive Awareness Inventory (MAI) questionnaire. The present study was conducted at University Malaysia Sabah (UMS) and the subject of the research were specifically selected among the pre-university students who were taking MUET courses as a prerequisite subject. A total of 30 pre-university students at the age of 18 and who were the batch for one of the modules in ASASI UMS. The findings from the study discovered that Debugging Strategies was the most critical subscale followed by Information Management, Conditional Knowledge, Planning as the top four most critical subscales in this study. In this study, students perceived that when they are confused, they stopped and reread the question. This allows the students to build their comprehension of what the question was asking for, thus allowing the students to write accordingly and improve their writing performances. The findings from this study is extremely beneficial for instructors who are teaching MUET, especially when teaching writing skills. One of the improvements that could be made in future research is to expand the sample size. As this research only consisted of 30 students, this could lead to the results being an isolated case. Besides that, by increasing the sample size, the researcher could increase the reliability and validity of the data collected from the sample.

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