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RESEARCH ARTICLE

Mind-mapping Strategy in Process Writing Approach: Idea Extension Evidence for Introductory Paragraph

Mohd Khairi Razali[1], Azwin Arif Abdul Rahim[2, *], Nor Yazi Khamis[2]

[1]Sekolah Menengah Kebangsaan Maran, 26500 Maran, Pahang, Malaysia.

[2]Centre for Modern Languages, Universiti Malaysia Pahang Al-Sultan Abdullah, 26000 Pekan, Pahang, Malaysia.

ABSTRACT – Extending ideas in essay writing is challenging for many ESL students, let alone the low ones. The students need help writing ideas, even in the introductory paragraph. Mind mapping strategy could help students develop ideas by forming *wh*-questions using identified keywords. Hence, this research is conducted to determine the evidence of a mind-mapping strategy in extending ideas for writing introductory paragraphs in the Malaysian University English Test (MUET) Writing Task 2 (Extended Essay). Also, it intends to explore the students' steps in the mind-mapping strategy to extend ideas in the introductory paragraph writing process. The research design is a sequential explanatory mixed-method approach where data were gathered through a needs assessment survey, diagnostic tests, and semi-structured interviews. Process writing activities were designed as a treatment after the survey, and pre-test scores supported the necessity to employ the mind-mapping strategy to the experimental group. Conversely, a control group was formed to contrast the strategy with free writing activities. Test scores of the two groups after eight weeks of the treatment were compared using Klimova's (2014) writing components. The diagnostic pre and post-test scores on ideas extension showed evidence of the strategy. The qualitative findings also augmented the strategy's usefulness in five aspects: 1) as an idea generation strategy; 2) using keywords and *wh*-questions; 3) clear step-by-step processes; 4) improved idea development; and 5) the importance of a good beginning. Further study could expand the strategy's advantages in idea extension and content paragraph organisation for the MUET writing tasks and other essay writing processes.

INTRODUCTION

Writing is a complex process of creating text. It sometimes differs in authors' words, though the process shares similarities in addressing the meaning of ideas to readers. The process involves language, thoughts, experience, feelings, emotions, mechanics, and strategies. The embedded elements broaden the author's knowledge so that they can express freedom of ideas (Oktavianti et al., 2021). Langan (2010) asserted that "mastering essential sentence skills, learning to write effective sentences, paragraphs, and essays, ... are the turning points for every writer, and they will prepare the students for writing situations in college and beyond" (p. XXI). This notion underscores the importance of acquiring these writing skills, at even sentence levels and paragraphs, for students' success in academic and professional settings.

Nevertheless, Klimova (2014) stated that the whole writing process might be influenced by a lack of experience in writing in general or by a relatively short period of using writing approaches. Ramadhanti et al. (2019) remarked that the students' lack of necessary ideas to write their essays is based on their weaknesses in developing content and properly organising writing. In specificity, Dhanya et al. (2020) pointed explicitly to L2 students' incapability to extend ideas and the failure to translate ideas into a comprehensible text as the primary constraint in writing an essay for many. Parnabas (2022) found that pre-university students struggle to write effective thesis statements and decide on a clear stand for their essays due to a lack of vocabulary, difficulty putting thoughts into words, difficulties translating their thoughts from the first language into the target language, failure to plan main ideas, and lack of topical and grammatical knowledge.

Writing an introductory paragraph is another fundamental element in essay writing. The ability to compose elements of general statements, stand, and the thesis statement in the introductory paragraph affects the composition of the structure of the whole essay (Sari et al., 2022). Without a proper introductory paragraph, the entire essay is compromised. Consequently, it is crucial to compose and develop clear ideas as a general statement in the introductory paragraph can create momentum for generating ideas in the content paragraph later. Notably, an introductory paragraph's quality can determine the essay's overall quality. Bresse (2018) found many teachers devote their time and effort to guiding students with their essay's body rather than the introductory paragraph. Students who receive instruction and assistance with writing and improving their opening paragraphs perform better on their essays than those who do not. Hence, Bresse (2018) recommended teachers dedicate more sessions to facilitate students in writing their introductory paragraphs to ensure students understand the need for a well-written beginning of their essay.

*CORRESPONDING AUTHOR | Azwin Arif Abdul Rahim | ✉ email: ariftesl@umpsa.edu.my

There are several ways that teachers and scholars can use to extend ideas in the introductory paragraph. Mind mapping is one of the techniques that the students can use to design and plan their ideas using tree-like branches of information. Compared to the freewriting strategy, which Fhonna (2014) considered as the contributing factor to the difficulties in writing, the challenges include the need for more and disorganised ideas. It is also regarded as careless, random, incoherent, and confusing (Penn et al., 2016). Hence, applying the mind mapping strategy could help students to think, recollect, and visually organise ideas and content for writing. The strategy can facilitate the thinking process and the whole process of essay writing quickly and efficiently because a mind map concept associates ideas or concepts visually and graphically, scaffolding and improving students' curiosity in learning.

However, a study by Gavens et al. (2020) has proven otherwise. The study investigated whether mind mapping adds value as a studying technique. The students' performances improved only at the beginning of the tests but did not progress more after a cycle of tests. These results indicate that the popularity of mind mapping in learning practices does not reflect its effectiveness. The researchers claimed that mind mapping does not appear among the evidence-based techniques recommended to improve learning; teachers widely use it daily (Gavens et al., 2020). Mind mapping also has received negative empirical attention that it took longer to create and organise the ideas in contemporary educational intervention research (Fadillah, 2019). Hence, ascribing the teaching and learning of the strategy in a series of process writing activities, this study aims to bring forth empirical evidence of its effectiveness in generating ideas extension for an introductory paragraph.

In the Malaysian English Language curriculum context, mainly based on the post-secondary English curriculum framework (Ministry of Education, 2021), writing is a primary skill where all students must be able to produce detailed text on a wide range of subjects and explain a viewpoint on a topical issue. However, despite the continuous L2 writing exposure and practices from primary to secondary education for more than five years, writing is simply a problematic, productive language skill to be proficient in. Many could not fulfil the expectations as there is not just one way to compose essays satisfactorily (Su Ping et al., 2020), and they found the essay writing process too complex; hence, they struggled with the writing convention issues (Din et al., 2021).

Writing is one of the skills tested in the Malaysian University Test (MUET). It is a standardised English language proficiency test used in Malaysia to assess the English language skills of Malaysian students who intend to pursue tertiary education in local universities or to meet other academic and professional requirements. Recent revisions have been made to the MUET specification involving all four skills to align it with the Common European Framework of Reference (CEFR) effective 2021 (Audrey & Jane, 2021). The move is to ensure the test is equivalent to other international English Proficiency Tests (Stephanie Jee & Azlina Aziz, 2021) and internationally accepted by global institutions. Candidates are assessed on their ability to construct different written texts with various rhetorical styles, which include accuracy, appropriacy, coherence and cohesion (ideas development and organisation), use of language functions based on purposes and task fulfilment, which would assess students' ability and mature treatment on a topic (Yunus & Chien, 2016). The writing paper has two tasks, namely, Task 1: Guided Writing and Task 2: Extended Writing. This study only focuses on the teaching and learning for Writing Task 2, also known as extended writing, where students must engage in more substantial and complex writing to demonstrate their understanding and critical thinking skills.

This study has two objectives. The first is to identify the evidence of the mind-mapping strategy in extending ideas for MUET Task 2 Extended Writing introductory paragraphs. Secondly, it aims to explore the steps used in the mind-mapping strategy to develop ideas while writing the introductory paragraph. Therefore, conducting pre and post-tests via experimental and control groups and later interviews and analysis of writing samples would allow the researchers to gather evidence of mapping versus non-mind mapping (freewriting) strategies in extending ideas for introductory paragraph writing MUET, Task 2.

LITERATURE REVIEW

Mind-mapping Strategy for Writing

Mind-mapping strategy is a concept that represents an easy-to-use visual diagram-based divergent thinking instrument. (Dong et al., 2021). It is considered the most appropriate strategy for developing spatial-visual intelligence linked to images, colours, and symbols (Yulianto et al., 2020). It is one of the practices which holds an individual skill to interpret, analyse, explain, and evaluate information (Polat et al., 2020). According to Machado et al. (2020), "mind mapping promotes meaningful learning and demonstrates potential effects in the learning process" (p.12). The strategy enables the effective use of diagrams to organise and link ideas and phrases using branches of colours and visual images. This thinking technique encourages learners to develop, plan, organise, and think critically independently.

Literature shows a remarkable writing accomplishment with a mind-mapping strategy. In a study by Naibaho (2022), the teachers who applied embedded mind mapping identified it as an alternative strategy in writing essays, while the students who underwent the strategy regarded it as a prevalent learning material. Yan et al. (2022) stressed the students' ability to organise thoughts through self-assessment mind maps created its potential for an effective and sustainable instruction intervention for higher-thinking capability. In addition, Pribadi et al. (2021) conducted a study to unfold the

mind-mapping strategy in assisting students' written assignments. Using a mind-mapping strategy in writing modular contributed to developing fresh ideas and coherent topics, improving students' acquisition of topic development.

Many L2 students need help in getting ideas into writing. One way to help the students get ideas is by implementing an embedded writing process approach in which a mind-mapping strategy is incorporated into the process. The first step of drilling students to find keywords from the rubric in the essay and asking wh-questions to get answers is the basis for the mind-mapping technique. For the second step, the students repeat the process of identifying keywords from the prior answer and ask wh-questions for the following response. The possibility of getting the following answer after the explanation would create a network of ideas related to the concept from the essay's rubrics. The students could finally grasp a series of ideas by repeatedly identifying keywords and developing wh-questions for answers.

Furthermore, Mantra et al. (2021) stressed that writing can be enhanced through a mind-mapping strategy, especially when English is considered a foreign language. Students who spoke English as their third language benefited from the writing lessons by implementing a mind-mapping strategy. Regarding perception, Fadillah (2019) figured out that most students who engaged with writing lessons had a positive view on the employment of the mind-mapping strategy in learning writing as they felt it aided them with organisational and development of ideas and cognitive refreshment. Lin (2019) discovered that to ensure the effectiveness of high-level thinking skills, a mind-mapping strategy with peer feedback in writing must be incorporated, as both elements provide the students with the teachers' view in evaluating the writing texts. Ke Fu et al.'s (2019) findings demonstrated the positive effect of the strategy on two English tourism students in a Taiwan university where the integrated mind-mapping strategy used in the writing lessons helped the students to improve elaboration and diverse ideas in writing. It allowed them to organise their thoughts and increase their writing performance in a more extensive spectrum.

METHODOLOGY

Research Design

This research adopts a sequential explanatory mixed-method design in which two data sets were collected (Creswell, 2013) (Figure 1). The design comprises a standard cyclical model in educational AR characteristics, which are (i) planning, (ii) action, (iii) observation, and (iv) reflection (Burns, 2015). The choice of mixed methods design is based on the research question, the collected data's timing, the data's relative weight to answer research questions, and the approach adopted to mix the two data sets (Schoonenboom & Johnson, 2017). This mixed-method design offers rich insights and opportunities to capture missed information caused by only one method (Edmonds et al., 2016).
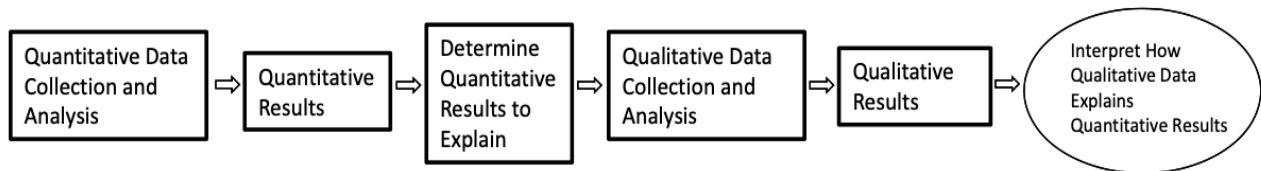

Figure 1. Sequential explanatory mixed-method study approach (Creswell, 2013).

The study AR design is QUAN and QUAL, as the latter would explain the former. The first is to gather quantitative evidence of the student's mind-mapping strategy in extending ideas for writing introductory paragraphs. QUAL data are collected to explore how the students apply the mind mapping strategy to develop ideas in writing the introductory paragraph. The result of the QUAN data analysis is subsequently to answer the study's second objective.

Sampling

The samples for the study were 20 MUET candidates of upper Form Six students of Sekolah Menengah Kebangsaan (SMK) Maran, Pahang. Seven males and thirteen females from the arts and visual class were divided into an experimental and a control group. Ten students were randomly grouped in the experimental group; another ten were in the control group. The cooperative learning method concept was embedded where group discussion was established in the interventions, and each group of ten students was divided into two smaller units of five members (Table 1).

Table 1. A sequential quasi-experimental design with cooperative learning groups.

Quasi-experiment Groups	Participant		
	Group Number	No.	Total n=20
Experimental Group (E)	EG1	5	10
	EG2	5	
Control Group (C)	CG1	5	10
	CG2	5	

Research Instruments

Three instruments were utilised to collect QUAN and QUAL data for the study, i.e., a five-item Likert-scale questionnaire, diagnostic tests, and semi-structured interview questions.

QUAN: Five-Point Likert-Scale Questionnaire of Agreement and Diagnostic Tests

The first quantitative data for the study is gathered via a needs assessment (NA) survey of a five-item Likert-scale of agreement questionnaire. The questionnaire was used to help MUET subject teachers identify the students who need help writing an introductory paragraph for MUET Writing Task 2 (Extended Essay). The questionnaire aims to gather basic information from the 20 identified MUET candidates. The questionnaire was distributed to the candidates before the execution of the study intervention. The five items labelled NA1 to NA5 came with Malay translations (Appendix). The reactions were instantly analysed so that the lesson, which is the study planned intervention, could be carried out to solve issues related to writing an introductory paragraph.

This study applies a quasi-experimental technique, and a diagnostic test 1 (pretest) was administered after the data was gathered from the NA survey. A pre-test was conducted on twenty students who were required to write more than two hundred and fifty words of essay mirroring the MUET Writing Task 2 (*Extended Essay*) question given. The test lasted fifty minutes (based on the standard time allocation by the Malaysian Examination Council). The rubrics were the latest MUET Writing (revised 2021) on *television and its roles during people's leisure time*. At this stage, the twenty students who sat for the test were not taught any writing strategy, and their writing depended on their schemata or experience. The writing texts were assessed by MUET writing external examiners using Klimova's (2014) writing components.

QUAL: Interview Questions

Due to the restriction of contact and Movement Control Order (MCO), semi-structured phone calls were conducted to replace face-to-face interviews. The approach is the best way to gather qualitative data during the Covid-19 pandemic. Doubtless, to adhere to the specified SOP, the phone calls were a convenient way to connect with students far from the school. Although FaceTime or video calls could be more effective, the intention is not to burden the students financially regarding mobile data.

Five respondents (named A, B, C, D, and E) from the experimental group were selected based on the five highest scorers in the Diagnostic Test 2 (post-test) and based on the willingness of their consent to be interviewed. The interview aimed to get answers where they were asked to describe their experience employing the mind-mapping strategy in generating ideas for the introductory paragraph. Three structured questions were asked, and each question produced five responses. They were audio recorded using the interviewer's smartphone and transcribed onto a written document. The interview questions (IQ1 to 4) are

IQ1   What was the strategy that helped you to get ideas in the essay?

IQ2   How did you use the strategy?

IQ3   Can you provide your writing strategy steps to extend ideas for the introductory paragraph?

IQ4   After using the writing strategy, what effect can you see in your essay?

IQ5   Why is it important to learn a writing strategy in an introductory paragraph?

Research Procedures

The study's sequential mixed-method design began with a needs assessment survey to determine students' writing skills (Figure 2). Then, the diagnostic test 1 (pre-test) on the first week of the subject. The test was conducted to measure the student's competency in using their previous knowledge of the freewriting strategy in the essay. The test followed the standard question and allocation of time for MUET Writing Part 2 (Extended Essay). All the students used the freewriting strategy in answering the essay as the treatment (to write using the mind mapping strategy) had not started yet. They only wrote the essay based on their previous knowledge and experience. They were given a brief moment to get some ideas for writing the essay before the test.
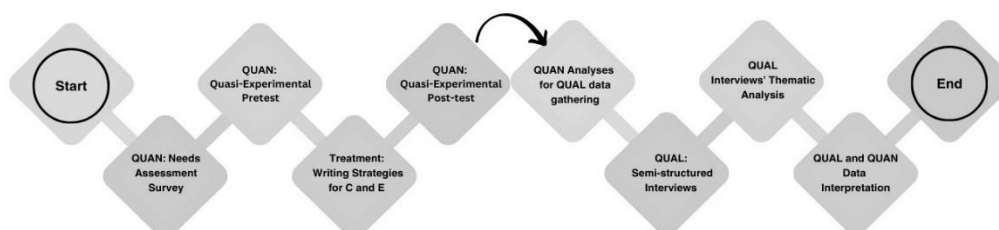

Figure 2. A sequential explanatory mixed-method design for the study.

The results in the findings and discussion part are used to tabulate and analyse the scores from diagnostic tests 1 and 2 (pre-test and post-test). Marking scores with the attempted strategy of freewriting used in the pre-test would be tabulated; post-test scores are compared between the mind mapping strategy (experimental group) and freewriting strategy (control group) to detect any significant progress. A consistent indication of improvement after the treatment (mind mapping strategy for the experimental group) and (freewriting strategy for the control group) can prove which strategy is more beneficial than others. The answer scripts were then handed to the examiners for scoring purposes, where only marks on the content part (30%) of Klimova's scoring assessment (2014) were taken for the data analysis (Table 2).

Table 2. Scoring assessment components adapted from Klimova (2014).

Writing Component	Specification	%
Content	Extent, relevance, subject knowledge	30
Organisation	Coherence, fluency, clarity, logical sequencing	20
Vocabulary	Richness, appropriate register, word form mastery	20
Language use	Accuracy (articles, word order, countable & uncountable nouns, prepositions, sentence constructions)	25
Mechanics	Paragraphing, spelling, capitalisation, punctuation	5

The quasi-experiment began from the second week to week nine by dividing twenty students into four groups. The two groups, E1 and E2 (5 students each) and two C1 and C2 (5 students each), were randomly assigned, where both groups consisted of a balanced number of scorers from the pre-test. After the groups were formed, ten experimental E1 and E2 students were taught and learned process writing and mind-mapping strategies. The other groups of C1 and C2 in the control group underwent process writing with a freewriting strategy through a proper strategy for six hours per week in the next eight weeks, beginning week two to the ninth week (Table 3).

Table 3. Process writing activities for experimental and control groups.

Week & Activity	Process Writing Lessons	
	Experimental Group	Control Group
2: Planning	Brainstorm for general ideas using a mind-mapping strategy	Brainstorming for general ideas using a freewriting strategy
3: Brainstorming	Developing general statements using a mind-mapping strategy	Developing general statements using a freewriting strategy
4: Brainstorming	Developing a stand and thesis statement using ideas generated from the mind-mapping strategy	Developing a stand and thesis statement using ideas from freewriting
5 & 6 Drafting: Identifying main ideas	Mind mapping ideas using keywords – the why or how technique	Using freewriting strategy
7, 8 & 9 Drafting: Expanding supporting details	Using the mind-mapping strategy to expand supporting details	Using the freewriting strategy to expand supporting details

Notably, this study focuses on the evidence of two writing strategies in extending ideas for an introductory paragraph, i.e., mind mapping and freewriting. The strategies were employed in writing the initial part of the overall writing process for MUET Writing Task 2 (*Extended Essay*). After the fourth week, the practices were reiterated for another five weeks to understand and master the strategy. The results would clearly distinguish the two strategies, strengthening the empirical evidence for the strategy and study.

Another data collection was gathered from the semi-structured phone call interviews. The selection considered five students who were the top five scorers of the post-test from the experimental group. The aim was to verify the students' use of the mind-mapping strategy to extend ideas for the introductory paragraph. Once the students agreed to be interviewed, the researcher sought the school's consent to conduct briefings on the interviews' intent and procedures. The interviews were conducted individually to reflect the students' experiences and thoughts when using the strategy. The

interviews were held through recorded phone calls by the researcher. A translated version in Malay was also provided to ensure the students understood the questions, as these interviewees have low English proficiency.

The consent from the Ministry of Education was successfully gained through online eRAS2.0, which is available on its official website. The approval letter dated 27 June 2021 was given to the Pahang State of Education Department before being endorsed to the District Education Office and finally handed to the school. The involvement of the students in this research is based on their mutual consent through printed forms distributed the same day for the survey. The involvement in the pre-test, intervention activities, post-test, and semi-structured (phone call) interviews are made without any pressure and through the students' voluntary will. The students could withdraw from the project if they felt uncomfortable or faced problems, and the recorded data are also kept confidential.

Data Analyses

Starting with the NA, its responses were used to determine the need for diagnostic tests 1 and 2 (pre & post-tests), the employment of control and experimental groupings in the interventions, and the planning for semi-structured interviews. The diagnostic pre and post-tests were designed to assess the student's written introductory paragraphs. Klimova's evaluation scale (2014) was adapted to evaluate the students' writing content regarding ideas extension (Table 1). Since the study focuses on the introductory paragraph, the specific criterion that is assessed is the content. This criterion is itemised by extent, relevance, and subject knowledge. Each item carries ten per cent, 30 per cent for the overall score. Based on the assessment criteria, an intervention activity is highly recommended if scores recorded are lower than ten marks (the lowest band) for the content (idea extension).

For the interview data, findings from the five students were thematically analysed to find evidence of the mind-mapping strategy. Subsequently, to ensure the trustworthiness of the themes that emerged from the participant's responses, the data underwent 'member-checks' and 'perspective comparison.' The processes involve seeking other credible sources' viewpoints, such as their English teachers, who are relatively uninvolved in checking the extent of the data's credibility (Burns, 2015). The teacher's task is to verify the developed themes' accuracy by comparing the three students' ideas extension in both tests.

FINDINGS AND DISCUSSION

The study's quantitative data are presented first, followed by the qualitative ones. The quantitative data are from the needs assessment survey and Diagnostic Test 1 (pre-test) and 2 (post-tests) results. The qualitative data are from five interviewees' semi-structured interview (phone call) transcripts and writing samples.

Needs Assessment Survey Data

Findings from the survey serve as the basis for the need for this investigation. The students generally admitted having serious problems composing introductory paragraphs and required interventions (Table 4). It was apparent that most of them realised they had challenges in writing introductory paragraphs. Most disagreed that getting ideas is not the constraint for writing an introductory paragraph. Also, the students' keen interest in partaking in the specific lessons to write a better introductory paragraph is another reason for this study. Therefore, it is pertinent for the study to find evidence and solutions to issues by extending the ideas of an introductory paragraph and the essay.

Table 4. Needs assessment survey findings.

Needs Assessment Items	% (n=20)				
	SA	A	N	D	SD
I like English writing.	20	75	5	-	-
I can write an introductory paragraph well.		10	35	40	15
I do not have problems getting ideas when writing an introductory paragraph.	-	-	20	45	35
I want to join a specific class to write a better introductory paragraph.	25	75	-	-	-
I look forward to learning a writing strategy that can help me to get ideas when writing an introductory paragraph.	15	80	5	-	-

Diagnostic Test Results

The diagnostic tests are the pre and post-tests for the writing strategies. Table 5 has the scores gathered from Diagnostic Test 1, a pre-test (10 marks each) before the twenty students had any intervention or treatment. All the essays underwent the two examiners' assessments, and any strategy the students used to write the essays was even determined.

The twenty students scored below nine marks, with the lowest score of two. The scores indicated that the students were in the category of the lowest band for the content (ideas extension) section. The data suggested that the students have no specific strategy to extend ideas and may not even realise the weight of a clear general statement in the introductory paragraph to create momentum for the later development of ideas in the content paragraph.

Table 5. Data from diagnostic test 1 (Pre-test).

Student	The Strategy to Extend Ideas	Idea Extension Score (10 marks)	Student	The Strategy to Extend Ideas	Idea Extension Score (10 marks)
S1	Freewriting	4	S11	Freewriting	8
S2	Freewriting	8	S12	Freewriting	6
S3	Freewriting	5	S13	Freewriting	8
S4	Freewriting	7	S14	Freewriting	2
S5	Freewriting	5	S15	Freewriting	6
S6	Freewriting	8	S16	Freewriting	2
S7	Freewriting	9	S17	Freewriting	7
S8	Freewriting	8	S18	Freewriting	3
S9	Freewriting	7	S19	Freewriting	7
S10	Freewriting	9	S20	Freewriting	8

After the eighth week, the students sat for the post-test. The data, as shown in Table 6, revealed that the experimental group (E) had higher scores than the control group (C).

Table 6. Comparison of diagnostic tests 1 and 2 (pre and post-tests) scores for both groups.

Student	Writing Strategy to Extend Ideas for Intro Paragraph	The Score for the Content Section		
		Pre-test	Post-Test	Difference
C01	Free Writing	4	0	-4
C03	Free Writing	5	12	+7
C06	Free Writing	8	11	+3
C07	Free Writing	9	13	+4
C08	Free Writing	8	8	0
C11	Free Writing	8	13	+5
C13	Free Writing	8	8	0
C15	Free Writing	6	0	-6
C19	Free Writing	7	0	-7
C20	Free Writing	8	6	-2
E02	Mind-Mapping	8	14	+6
E04	Mind-Mapping	7	18	+11
E05	Mind-Mapping	5	20	+15
E09	Mind-Mapping	7	22	+15
E10	Mind-Mapping	9	22	+13
E12	Mind-Mapping	6	21	+15
E14	Mind-Mapping	2	11	+9
E16	Mind-Mapping	2	16	+14
E17	Mind-Mapping	7	14	+7
E18	Mind-Mapping	3	12	+9

To ensure reliability, the same two MUET writing examiners who marked the scripts for the pre-test assessed all twenty scripts for diagnostic test 2 (post-test). In addition, they followed the same scoring assessment criteria of Klimova (2014), which was used to assess scripts for diagnostic test 1 (pre-test). All ten students in the experimental group recorded improved scores than the pre-test, with the highest progress score of 15 by three students. Another seven students scored a difference of more than six marks. These data showed the effectiveness of the mind-mapping strategy in helping the students extend ideas in writing an introductory paragraph.

On the contrary, only four samples from the control group showed progress based on the scores. Four students had a decline in scores, and another two were stagnant. These inconsistent scores among the students in the control group provide clear evidence that free writing is not a reliable strategy to assist students in extending ideas, and this supports the finding by Fhonna (2014), who exposed that free writing contributed to the difficulties in writing including lacking ideas and organising ideas.

Qualitative Evidence of Mind-mapping Strategy for Introductory Paragraph's Idea Extension

Analyses of the interviews found five emerging themes from the five interview questions. The findings are tabulated based on the excerpts of the interview questions (IQ1 to IQ4) with the bolded codes forming that formed the five themes: 1) an idea generation strategy; 2) using of keywords and *wh*-questions; 3) clear step-by-step processes; 4) improved idea development; and 5) the importance of a good beginning. For the study reporting, the excerpts taken from the students' responses were edited for more precise explanation.

Idea Generation in Extending Introductory Paragraph Writing

Table 7 presents all five students' agreement that the mind-mapping strategy is helpful to them in generating ideas. The strategy helped trigger ideas that could prevent them from being stuck in the introductory paragraph writing. Also, repeating the strategy throughout the writing process made the ideas more effortless than without using the strategy.

Table 7. Excerpts on using mind mapping for ideas generation (IQ1).

Student A	*To me, mind mapping is the best strategy to generate ideas. If **I don't use** this strategy, it makes me **hard** to find the ideas. Using a freewriting strategy isn't helping that way.*
Student B	*In my opinion, mind mapping is the best one. It helps me **to get ideas more easily** than before. With free- writing, it's hard.*
Student C	*There's no doubt that mind mapping is the strategy that helps me to get ideas in writing. It's because when using the mind-mapping strategy, the **idea comes.***
Student D	*I think that there's no doubt that mind mapping is **the right strategy** for me to get ideas, especially for the introduction part.*
Student E	*I have no choice but to choose mind mapping as the right strategy to get ideas in writing. I find it **easy** when using mind mapping, as **ideas come faster***.

Using Keywords and Wh-Questions

In Table 8, the students explained how mind mapping works. They used two essential elements of mind mapping strategy, namely keywording and *wh*-questioning, to generate ideas in writing. They also compared the use of the strategy with the situation when they were at the secondary level, where getting ideas in writing is challenging and demanding.

Table 8. Excerpts of using keywords and *wh*-questions for mind mapping (IQ2).

Student A	*After I learned this strategy, I understood that ideas can be written if we look for the **keywords** and questions. The more we ask, the more answers we get. The answers are the ideas. I feel great!*
Student B	*However, after using mind mapping, I can see very clearly that ideas can come with **keywords and questions**. It works for me.*
Student C	*It's not easy to get ideas in writing, you know. I always have a mental block to writing. However, after using mind mapping, my job gets easier. I was so excited when I managed to get ideas by **using keywords and wh-questions**. It's easy now.*
Student D	*If I can use this strategy, I may get better results for my previous English subject. I never knew that **keywords and wh-questions** could give ideas. For sure, it's my choice now.*
Student E	*I never thought ideas could be made by just using two steps: underlining **the keyword and then asking wh-questions,** and the magic happens. Mind mapping is so effective!*

Clear step-by-step Processes

The students recalled their steps in using the mind-mapping strategy (Table 8). They began by reading the question more carefully to identify keywords. The keywords were used to form relevant *wh*-questions. The answers to the *wh*-questions were the ideas they used to write. They started to expand their writing by explaining the earlier ideas. They repeated the steps to get to the next idea. Since the ideas were connected from one idea to the next, they believed the steps helped them have a more coherent introductory paragraph.

Table 9. Excerpts of clear mind mapping strategy steps (IQ3).

Student A	*The first step to finding the ideas is **reading the question** and finding **the keyword**. So, to develop visions, we **ask wh-questions about the keyword**. Then, we **see the keyword** and **set it with the wh-question to get the explanation**. We **search the keyword** and **extend it** to get another answer.*
Student B	*First, I **find keywords** from the question and **use the wh-question** to answer. That means my answer becomes my first idea. Then, I **find keywords from the first idea** and use the **wh-questions to get the next idea**. I **see another keyword** from the second idea to get the next idea.*
Student C	*One, we must **find keywords** in the rubric given. Two, we **use the wh-question to develop the keyword**; three, we **answer the question we create** and **find the answer from the question**.*
Student D	*Then, you can **underline the keyword** to **ask wh-questions** about it. After you get the answer to the question, **repeat the same step from the beginning**. You'll notice that ideas will emerge after ideas.*
Student E	*After I **read the question**, I will somehow understand and try to **find the keyword**. Keyword is vital because it helps me to **create questions, I mean wh-questions**. After I get the question, **I will get the answer immediately**. Then, I must return to the first step to get the answers. It's as easy as ABC.*

Improved Idea Development

They expressed a positive experience utilising the strategy because idea generation and development processes have made idea extension easier (Table 10). The repeated concept of identifying and questioning keywords has quickened their thinking process. Hence, less time was needed to dwell on it to move to the subsequent sentences. As a result, they improved their writing compared to their previous strategy.

Table 10. Excerpts of improved idea development in writing (IQ4).

Student A	*I can see that there's an improvement in my essay. It is because I can develop ideas quickly by using a mind-mapping strategy. So, I **don't need too much thinking to build my ideas**.*
Student B	*Before this, I could not write correctly, but my ideas expanded, and my **writing was better** than before when I used this strategy.*
Student C	*I could see many positive improvements in my essay. If I compare the writing I did before form six, I can now **make ideas more accurate**. I also **don't have to take long to think of ideas** to write an introduction. So, I can get the idea in a short time.*
Student D	*After I learned the strategy for the interventions, I finally **understood how to get ideas and how to write them in an academic essay**.*
Student E	*I can now see that I have gotten **ideas well** using the mind-mapping strategy... after I learned it, I finally **knew how to think of ideas**. **My ideas and sentences are now also arranged well and link to each othe**r compared to the previous years.*

The Importance of a Good Beginning

The five interviewees concluded one thing: it is crucial to have a good start, and the steps in the mind mapping strategy helped. With keywords and *wh*-questioning, the mind map offered development to ideas they needed for a thesis statement. They repeatedly employed the steps to extend ideas in identifying main ideas and supporting details. Another advantage is that the production of ideas can create coherence and cohesiveness of ideas (Table 11).

Table 11. Excerpts of the importance of a good beginning (IQ5).

Student A	*I began with good ideas, then extended them into sentences or paragraphs and finally into a complete essay. Mind mapping is a great strategy where I can learn how to get logic and well-linked ideas and eventually create a quality piece of writing.*
Student B	*Without a writing strategy like mind mapping, we cannot start a good essay. It is because the strategy can help us to think about good ideas in the introduction. The strategy also will guide us to arrange our ideas that have a connection to each other.*
Student C	*It is because, with the strategy, I started thinking of ideas in an arranged way. I can even get logical ideas that link to the topic of discussion when using a mind-mapping strategy. With this strategy, I can get ideas from various perspectives from the beginning.*
Student D	*From day one until now in Form Six, the strategy learned in the interventions helped me get ideas in essay writing. The mind mapping strategy made me begin by asking questions and getting answers.*
Student E	*At the start, I asked questions, and I got the answers. The strategy is easy for me to produce more and more ideas. More importantly, all the ideas are linked to each other.*

These qualitative data have provided the reasons for the higher scores among the experimental group students compared to the control. The five students found the mind-mapping strategy has improved their writing, primarily for the introductory paragraph. They expressed positive feedback about the strategy, helping them start writing the introductory paragraph. The strategy benefits the students by generating ideas, writing a more cohesive introductory paragraph, and improving the overall essay.

CONCLUSION AND RECOMMENDATION

Visualising and questioning techniques embedded in the mind-mapping strategy have proven advantageous in extending ideas, particularly in writing an introductory paragraph. The mapping strategy was more helpful in generating ideas than the freewriting strategy. The step-by-step process of mapping the concept by questioning keywords could enhance the thinking process, making it quicker and less burdensome for the students when writing the introductory paragraph. Though the process required a long drilling period, the result proved that the mind-mapping strategy could enhance ideas, thus improving the scores for the overall essay. It can trigger students' engagement in thinking and prior knowledge activation through questioning and visually imagining the key terms or topics of writing. As a result, the students may experience the comfort of generating ideas quickly. The data from the interviews addressed the effectiveness of the mind-mapping strategy, and it backs the findings of Pribadi and Susilana (2020), who found that mind-mapping helped the students to produce fresh ideas, supported in exploring coherent ideas and increased the students' motivation to write. However, it is cautioned that visualisation alone is inadequate to guarantee knowledge acquisition. In other words, the effect of the strategy could be temporary depending on the student's prior knowledge or experiences; hence, a follow-up strategy is highly recommended.

This study highly recommends a mind-mapping strategy. It is plausible that the strategy is suitable for expanding ideas in the body part of an essay. By allowing students to extend ideas in the body paragraph, other writing criteria, like the organisation of coherence, fluency, clarity, and logical sequencing, as assessed in Klimova (2014), are worthy of investigation. Future research should compare or merge the mind-mapping strategy with other writing strategies, such as a community of learning. The strategy that takes on the social view of process writing would be a competing theory with the underpinning cognitive view of mind-mapping strategy. It is curious to explore the connection between the two in enhancing students' motivation and interest in writing regardless of their lack of vocabulary and grammar knowledge. Also, the strategy is recommended for the other section of MUET Writing (Part 1: Guided Essay).

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APPENDIX

1. I like English writing. *
[*Saya suka menulis dalam Bahasa Inggeris.*]

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

2. I can write an introductory paragraph well. *
[*Saya boleh menulis perenggan pengenalan dengan baik.*]

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

3. I do not have problems getting ideas when writing an introductory paragraph. *
[*Saya tidak mempunya masalah menghasilkan ide untuk menulis perenggan pengenalan.*]

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

4. I want to join a specific class to write a better introductory paragraph. *
[*Saya ingin menghadiri kelas khas untuk menulis perenggan pengenalan yang lebih baik.*]

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

5. I look forward to learning a writing strategy that can help me to get ideas when writing an introductory paragraph. *
[*Saya ingin mempelajari strategi yang dapat menghasilkan ide untuk menulis perenggan pengenalan.*]

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree