Enhancing Malay Writing Proficiency Via 5E Inquiry-based learning among Chinese Secondary School Students

Kavitha Ratnam¹, Abdul Rahim Hamdan², Azli Ariffin³, Dr. Kumaran Gengatharan⁴ & Punitha S Thanaraju⁵

¹Sekolah Menengah Jenis Kebangsaan San Min, Teluk Intan, Perak, ²,³Universiti Pendidikan Sultan Idris, Tanjong Malim, ⁴Institut Pendidikan Guru Malaysia, Kampus Sultan Abdul Halim, Kedah, ⁵Politeknik Sultan Abdul Halim Mu’adzam Shah, Bandar Darulaman, Jitra

Corresponding Author Email: kavitharatnam80@gmail.com

Abstract

This study was conducted to examine the effects of the 5E inquiry techniques on the Malay Language writing skills of Second Language students and the problems faced by teachers who use the 5E inquiry technique approach (Involvement, Exploration, Explanation, Elaboration, Evaluation) in improving Malay essay writing skills. This paper highlights the challenges students face in developing effective writing skills, particularly in essay writing, within the context of learning the Malay Language such as issues of student motivation, ineffective teaching techniques, and an emphasis on results, dependence on teachers, and the overall quality of education. Addressing these challenges is crucial for enhancing students' writing skills and promoting critical and creative thinking in essay composition. This paper consists of three main research objectives. The research objectives are to: i. Assess the academic progress of students in the treatment group before and after exposure to the 5E inquiry technique approach (Involvement, Exploration, Explanation, Elaboration, and Evaluation). ii. Compare the pre-test and post-test performance of experimental group students utilizing the 5E inquiry technique approach (Involvement, Exploration, Explanation, Elaboration, and Evaluation). iii. Identify challenges faced by both teachers and students in implementing the 5E inquiry technique approach (Involvement, Exploration, Explanation, Elaboration, and Evaluation) to enhance Malay essay writing skills. A total of 35 form four students in one of the secondary schools were surveyed. The school to conduct the research was chosen according to the random probability sampling technique, and the respondents were determined by the school based on the equivalent academic achievement. Quasi-experimental method was used in this study. In this design, researchers measured participants' outcomes before and after the intervention, and any changes were attributed to the treatment. 5E steps can be taught simultaneously in two periods of language lessons. A pre-test was first given, and four weeks later, eight times intervention and post-tests were conducted on the students. Data were analyzed descriptively and inferentially. The inference made is based on the Paired Sample t-test. The findings show that there is a significant difference between pre-test and post-test means t (34) = -16.709; p < 0.05 whereas the
descriptive is based on the ATLAS.ti analysis. Findings also showed that students' writing skills improved and the students mastered the aspect of the selection of vocabulary which fulfilled the requirements of the question, the use of grammatical and varied compound sentences, appropriate language adjustment, and inclusion of interesting elements in writing essays. In conclusion, the main result of the study showed that the 5E Inquiry-Based Learning was effective in enhancing the students' writing skills. This inquiry technique can be used to teach Science, Mathematics and History subjects. All language skills are worked on through a simple, systematic and cost-free technique. All all skills are learned through a technique that can produce a first class mind student to make national education a world-class education.

Keywords: 5E Inquiry Approach, Chinese Secondary School, Writing Skills

Introduction
Writing skills are one of the most important components in the Malay Language syllabus along with other skills such as speaking, listening, and reading. Writing skills require a complex cognitive activity to arrange words to form simple sentences, compound sentences, and paragraphs, and produce a complete essay. Students need to be mentally concerned about how to plan ideas, navigate available resources, gauge word choices, and evaluate the effectiveness of their word choices, the progress, and the final written product. By doing so, they develop their knowledge and ability to think about cognitive processes and regulate them along the way. Teachers need to leave the set of traditional methods and turn to new methods to be applied in teaching and learning writing so that students improve in every aspect of essay writing (Ariyanti & Rinda, 2018). In addition, modern techniques and teaching aids are certainly very helpful to improve students’ essay writing. Research has confirmed the positive correlation between higher-order thinking Skills (HOTS) and writing development. (Khoa & Bao, 2022). HOTS should be worked on in the production of thoughtful ideas systematically and structured for an essay. This HOTS element can be enhanced through the selection of appropriate teaching techniques and methods. Techniques or methods used in teaching and learning are very important in imparting knowledge effectively. To mend difficulties in writing essays, these studies use 5E inquiry-based learning techniques (Bybee & McCrae, 2011).

Writing skills are a process of disseminating information that is mechanical in nature and communicated systematically, which includes the purpose of writing, use of language, audience, and writing styles. Essay is one of the components of learning the Malay Language that requires good writing skills. Writing skills are the highest skills in the Malay language requiring complex literacy (Yahya et al., 2013; Chandra & Satya, 2018). Paper 1 of the Malay Language holds the largest contributor in determining the Malay Language proficiency in the public examination. It consists of both formatted essays and unformatted essays, and students are given a choice of questions to choose from and answer using appropriate ideas, clear descriptions, inserting interesting elements, and most importantly, the cohesion between each paragraph.

In recent times, the results of students' writing do not show a solid quality. Although there are students who can demonstrate the ability to write essays that fulfill the requirements of questions, the desired quality and achievement are not obtained (Lai et. al., 2017). Teachers have not given adequate exposure to challenging reading material to students, which has caused the students to become dependent on teachers when it comes to writing essays (Lorena, 2015). Teaching writing is more difficult than teaching other skills in the field of language as students face great challenges in comprehending, selecting
appropriate jargon, and applying prior knowledge in grammatical sentences (Fareed et al. 2016).

In the context of language, the use of a variety of teaching and learning techniques can liven up the learning atmosphere in the classroom. Students will feel tired and not show interest or enthusiasm for learning when teachers continue to implement conventional teaching and learning methods, that is, one-way learning only (Noor Habsah & Yahya, 2018). Hence, the selection of teaching and learning techniques in Malay essay writing is very important in creating higher-quality humans. Different teaching styles are guaranteed to provide high-quality education (Beyza & Selin, 2018). Appropriate and simple teaching techniques are essential to achieve essays that meet the expected standards. Therefore, teachers’ learning techniques should be a study of the future and in the form of instruction to stimulate and trigger students' interest in this subject.

Research Objectives
Identifying the achievement of treatment group students before and after being exposed to the 5E inquiry technique approach (Involvement, Exploration, Explanation, Elaboration, Evaluation).

i. Comparing the pre-test and post-test achievement of experimental grouping students with the 5E inquiry technique approach (Involvement, Exploration, Explanation, Elaboration, Evaluation).

ii. iii. Identifying the problems faced by teachers and students who use the 5E inquiry technique approach (Involvement, Exploration, Explanation, Elaboration, Evaluation) in improving Malay essay writing skills.

Research Questions
What are the mean scores of pre-and post-tests of the students before and after the exposure to inquiry techniques in improving Malay Language writing skills among Chinese secondary school students?

i. Is there a significant difference between the mean scores of pre-and post-test of students before and after the exposure to inquiry techniques in improving Chinese secondary school students writing skills?

ii. What are the problems faced by teachers and students who use the 5E inquiry technique approach (Involvement, Exploration, Explanation, Elaboration, Evaluation) in improving Malay essay writing skills?

Methodology
This study uses an experimental method and cluster sampling. The sample of this study was chosen due to the same stream of lessons, same age, and similar achievement in the Malay Language subject in the Pentaksiran Tingkatan 3 (PT3) examination, whereas the method was chosen based on the standards found in the experimental. This research was conducted in a secondary school in Hilir Perak with the help of one of the Malay Language teachers and Form Four students. The teachers were given the necessary training and briefing so that the study could be conducted smoothly. Experiment design is used in this research. The school to conduct the research was chosen according to the Random Probability Sampling technique. This method used was based on the views of Creswell & Creswell (2018), an experimental design systematically manipulates one or more variables to evaluate the outcome. It would help the researcher to make inferences about relationships among variables, and how the
sample results may generalize a broader population of interest. Initially, two classes were selected for the researcher by the school administrator, and from there, the researcher conducted a prior knowledge test just to find out that the two classes shared a similar mean. Between two classes, the researcher then used cluster sampling to choose just one class for the experiment (Creswell & Creswell, 2018)

The instruments used for this research were written tests. A pre-test was first given, and four weeks later, eight times intervention and post-tests were conducted on the students. In this research, the mean, standard deviation, and t-test statistics would serve to investigate the significance. During the intervention, students would go through five inquiry techniques by using the 5E phase Instructional Model flow for each lesson. Pupils would follow 5 phases in mastering the essay well. The first phase would begin with Engage, followed by Explore, Explain, Elaborate, and finally Evaluate. Pupils would be provided with handouts related to current issues a week before the essay writing lesson. On the day of writing, during the first five minutes, the teacher would conduct a simple quiz session related to the topic on students to test their prior knowledge. The quiz would provide space for students to Engage with the learning topic. Next, the teacher would explain the objective of the lesson, and students would be given time to Explore books, notes, and other material to come up with at least one idea with three or four descriptions in ten minutes. Through the Explore activities, students would apply information in the form of mind maps. Next, pupils were to voluntarily present their findings individually for three to five minutes. This Explain session would be carried out approximately for ten minutes. Each student was required to Elaborate their ideas in the form of a paragraph with discourse markers, interesting vocabulary, and appropriate language adjustment. This activity would be carried out for ten to fifteen minutes. Volunteered students’ essay paragraphs would be displayed using a visualizer for evaluation by other students and the teacher. The Evaluation activity would be carried out for ten to fifteen minutes. The class would then end with feedback from the teacher, and the full essays would be assigned as student homework (Bybee et al., 2006).

Four essay questions would be administrated to the students to answer within 1 hour 30 minutes. The items were adapted from some exercise and revision books from the Form Four syllabus. The questions were selected according to the learning objectives presented in the Curriculum Specification of Form Four Malay Language syllabus (Curriculum Development Centre, 2019). Three highly experienced teachers and experts would be assigned to validate the questions based on the learning objectives to find out if they were suitable for testing writing skills. The objectives of the pre-test and post-test were taken from the Curriculum Specification for writing skills. They were used to evaluate the effectiveness of inquiry techniques in developing student’s writing skills and identify the problems faced by teachers in using the 5E inquiry technique approach (Involvement, Exploration, Explanation, Elaboration, Evaluation) in improving Malay essay writing skills (Bybee et al., 2006).

Results
All research questions were analyzed descriptively and inferentially. In research question one, inferential statistics was used. The analysis used for the question was the paired sample t-test to ensure that the scores were significant. In research question two, descriptive statistics was used using the ATLAS.ti analysis. The samples were given the pre-test before the intervention. This experiment group consisted of 35 students and the pre-test was administered by the respective teacher of the subject teacher with the help of another Malay Language teacher.
The pre-test papers were marked by the Malay Language teacher. Paired sample t-test was performed to determine the presence of significant differences in the pupils’ pre-and post-test scores. The results of the t-test are shown in Table I and 2.

What are the mean scores of pre-and post-tests of the students before and after the exposure to inquiry techniques in improving Malay Language writing skills among Chinese secondary school students?

Table 1
Mean Scores and Standard Deviation Of Students Pre- And Post-Tests

<table>
<thead>
<tr>
<th>Test</th>
<th>Mean Scores</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>31.07</td>
<td>4.801</td>
</tr>
<tr>
<td>Post</td>
<td>52.13</td>
<td>5.419</td>
</tr>
</tbody>
</table>

Table I shows the mean score of the pre-test of students was 31.07 and the standard deviation was 4.8, while the post-test mean score was 52.13 and the standard deviation was 5.4. The provided information presents the mean scores and standard deviations of the pre-test and post-test for the students in the research study.

Pre-Test:
Mean Score: 31.07
Standard Deviation: 4.8

The mean score of 31.07 on the pre-test indicates the average performance of the students before the intervention with the 5E inquiry technique approach. The standard deviation of 4.8 suggests the degree of variability or spread in the individual scores around the mean. A higher standard deviation indicates a wider range of scores.

Post-Test:
Mean Score: 52.13
Standard Deviation: 5.4

The mean score of 52.13 on the post-test reflects the average performance of the students after undergoing the intervention using the 5E inquiry technique approach. The standard deviation of 5.4 provides information about the variability or dispersion of individual scores around the mean in the post-test. The increase in mean scores from the pre-test (31.07) to the post-test (52.13) suggests a positive impact of the intervention. This improvement indicates that the students, on average, demonstrated enhanced writing skills after being exposed to the 5E inquiry technique approach. The higher mean score in the post-test suggests that the instructional method had a positive effect on the student’s ability to write essays in Malay. Additionally, comparing the standard deviations can give insights into the consistency of improvement. A lower standard deviation in the post-test (5.4) compared to the pre-test (4.8) may suggest that the intervention helped to reduce the variability in individual scores, indicating a more consistent improvement across the student group. In
summary, the mean scores and standard deviations provide valuable information about the overall performance and consistency of improvement in the students’ writing skills after the implementation of the 5E inquiry technique approach.

Is there a significant difference between the mean scores of pre- and post-test of students before and after the exposure to inquiry techniques in improving Chinese secondary school students writing skills?

Table 2
Significant Differences between The Mean Scores of Pre- And Post-Tests

<table>
<thead>
<tr>
<th>Test</th>
<th>Mean Scores</th>
<th>Standard Deviation</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>31.07</td>
<td>4.801</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>52.13</td>
<td>5.419</td>
<td>-26.214</td>
<td>.00</td>
</tr>
</tbody>
</table>

In Table 2, the t-test shows a significant difference between the pre and post-test means [t (34) = -26.214; p < 0.05]. These results show that there was a significant difference between the pre-test and the post-test. To see the difference between pre-test and post-test data, an analysis of the respondent’s scores for both tests was used. Therefore, the mean score of the post-test based on the 5E inquiry technique approach in essay writing was higher than the mean score of the pre-test.

During the pre-test, the students showed an adequate ability to express and organise information, ideas, opinions, and feelings in writing. Some students showed adequate ability to draft two or more paragraphs appropriately, and some were able to produce long essays that contained many grammatical errors. The students who could not elaborate on ideas well clearly showed that they were lack of general knowledge, and this may be the result of poor reading practice. The students too were not able to comprehend the question clearly, and just answered based on their understanding.

After four weeks, eight times interventions were given to the students, where they were given the post-test. The post-test was conducted and marked by the respective Malay Language teacher. Table 2 shows the mean scores obtained by the students during the post-test. The students excelled in the post-test and showed a very good ability to summarise the main points as well as to explain the key details, express and organise information, ideas, and feelings, produce lesser grammatical errors, better selection of various vocabularies, appropriate language adjustment and increase of interesting elements compared to the previous essays. Students had scored higher than before the intervention.

What are the problems faced by teachers and students who use the 5E inquiry technique approach (Involvement, Exploration, Explanation, Elaboration, Evaluation) in improving Malay essay writing skills?

Since 2020, online teaching and learning began to take place as the outcome of the Covid-19 pandemic. All teaching administration, experiments, and tests were carried out both online and face-to-face following the regulations of the Malaysian Ministry of Education. The
teachers who carried out the treatment and control process of this study were briefed online for an hour. Voting was done during face-to-face classes. Various constraints had to be overcome in the Covid-19 pandemic situation, which was full of Standard Operating Procedures. The Malay Language syllabus from Middle School Integrated Curriculum has also been revised to Middle School Standard Curriculum. The marking rubric for the Malay Language Paper 1 Section B was also changed from 100 marks to 70 marks. Not only that, but the format of Malay Language Paper 1 exam items was also amended and refined by incorporating the HOTS elements, and there are only four questions compared to five in the previous format. Due to that, the Malay Language teachers attended one course after another to strengthen the teaching and learning of the Malay Language.

Although this situation was difficult to practice at the beginning, the implementation of the 5E inquiry technique helped the teachers a lot in understanding the students’ problems with the technique of writing essays with the elements of HOTS. Each phase greatly helped the students to understand the questions well and organise ideas smoothly. After an abundance of circumstances, this research finally managed to be conducted face-to-face. The students went through the treatment process well. According to the teachers, there were no problems faced while using these techniques. Figure 1 shows the responses from teachers after using the 5E inquiry techniques.

![Figure 1. Teachers’ Opinions about 5E Inquiry Techniques](image)

Figure 1 shows the responses from teachers who used the 5E inquiry technique. Respondent 1 stated that the use of this technique had allowed the students to successfully produce ideas well. Apart from that, students were also given space to be actively involved in teaching and learning in the classroom. This technique was also claimed to be very suitable in teaching and learning essay writing. The second respondent reckoned that this technique had helped improve students’ thinking skills and piqued interest in following teaching and learning better. The activities in this technique also helped students identify their strengths and weaknesses. At the same time, there was no denying that conventional techniques could...
cause boredom among students. This technique also helped students to complete a complete essay very well.

**Discussion and Implications**

This research was conducted to investigate the effectiveness of inquiry-based learning to enhance Malay Language writing proficiency. The implementation of inquiry-based learning in Malay Language writing skills could improve students’ writing ability as they can understand the process of writing better. A study conducted at Whittier College, USA to assess students’ feedback on the efficiency of inquiry-based teaching in a second language has shown that the method has reinforced students’ understanding of the learning process well (Lee, 2014). The current issue quiz conducted in the Engage phase has roused the students’ enthusiasm to seek more knowledge. Quizzes has provided space for them to arrange words and answer the best they can. The implementation of quiz activities in language teaching and learning, directly or indirectly, can improve student’s academic performance (Bälter et al., 2013; Roediger et al., 2011).

In the second phase, the Exploration phase, students have done self-exploration a week before this process is implemented through various reading and virtual materials. When they are given the very same essay question, an exploration of questions is done and an individual essay outline is prepared. The exploration of information has enabled them to set and elaborate ideas (Wale & Bishaw, 2020). In the Explain phase, the students voluntarily present their work. Other students can ask questions or give their points of view. Their presentations with feedback from other students help to make room for improvement of ideas and descriptions. The presentation activity gives them a better sense of direction to do things in a proper way to deliver knowledge. Nevertheless, they can master the content Fateme (2014), on a task-based activity. By breaking down a large topic into sub-topics or skills, each student can master certain aspects Brooks & Wilson (2015) by discussing that topic only until becoming an expert. As for other sub-topics, they can learn from others and unleash their hidden talents. In the fourth phase, which is Elaborate, the students are to produce at least one paragraph of a complete idea. The descriptive activities can encourage them to define concepts using their own words. This process can check the understanding of concepts that have been formed by them. This activity is also a form of assessment of students’ understanding of something that has been and is being learned (Abdol et al., 2019). Finally, in the assessment phase, voluntary students’ outcomes are assessed by teachers and other students. The assessment is done by others and builds confidence in the students who convey their views (Dhanaletchumy, 2018). This method strengthens the way students think and improves communication skills, as well as applying it in writing (Johari et al., 2014). Assessments performed by the students have already reached the highest level in Bloom’s Taxonomy Cognitive Level. Complete essays are made into homework.

Learning in the form of inquiry or questioning is learning that requires students to solve problems through investigative activities because it can improve their skills and knowledge independently (Trna et al., 2012). A student-centered and question-oriented learning approach can provide control in the classroom (Blessinger & Carfora, 2014). The inquiry approach can strengthen the content of the curriculum because of the involvement of students in inquiry activities where they will stimulate the brain to generate many questions to get more than one answer. Inquiries and questioning will improve memory, as well as
create new memories for them. Inquiry activities in the classroom will also build a complete effort and self-direction. The group work given can teach the students how to ask questions, investigate the views and facts of friends, and work together to reach a decision together. Students will have confidence, self-initiative, and be able to adapt to the situation. Each inquiry-type activity encourages deeper thinking about the content of the lesson critically and creatively. The tasks are performed to build an understanding of new concepts through students’ methods and thinking styles. Thus, inquiry in the classroom is highly encouraged as it helps a lot in the development of pupils’ cognition and provides them with the value of world marketability (Ghulam et al., 2015). This study is expected to be applied in the development of the national education system in the future.

The study examines the effectiveness of inquiry-based learning in improving Malay Language writing proficiency. Key findings include the use of quizzes, self-exploration, collaborative learning, and a collaborative learning environment. The Engage phase encourages student enthusiasm and improves academic performance. The Explain phase fosters a collaborative learning environment, while the Elaborate phase encourages conceptual understanding and assessment. The Assessment phase strengthens critical thinking, communication skills, and knowledge application. The study’s impact is significant, as it contributes to the national education system, enhancing students’ cognitive abilities, adaptability, and marketability. It also contributes to the theory and practices of language education, emphasizing the importance of student engagement, self-preparation, collaborative learning, and assessment. The study’s novelty lies in its application of inquiry-based learning specifically to enhance Malay Language writing skills, offering insights into effective pedagogical practices.

Conclusion
From the findings and discussions that include the aspects of implications, several recommendations have been presented. Therefore, the Malaysian Ministry of Education should study and make 5E inquiry activities as one of the strategies in teaching each subject, and apply the 5 steps of inquiry every day. Each phase of inquiry matures students’ thinking because all five phases are organised according to Bloom and Anderson’s taxonomy and infused with 21st-century learning. Though the intervention was only carried out eight times, it had a profound impact on the students’ writing and the quality is noticeably increasing. This activity can stimulate students’ thinking style more efficiently and apply it in the written form. Future research should focus on activities that are simple and economical and can be used to enliven the classroom learning atmosphere and improve students’ writing skills. This study gives the implications that this 5E inquiry activity can be used by language teachers and other subject teachers in other school.

References


