Thinking Skills Using I-Think Mapping among Chinese Students in Writing Nationalism Poetry

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Abstract
The concept of high-level thinking skills is explicitly stated in the curriculum in the Malaysian Secondary School Curriculum (KSSM) so that teachers can apply it to teaching and learning to stimulate students' thinking. In this study, applied thinking skills are high-level thinking skills. The objective of this study was to analyze the process of I-Think mapping and the level of bloom taxonomy during the application of writing skills for poems. The methodology used was a Qualitative Approach in which the study adopted document analysis and field studies through observation and interview methods. The instrument used in this study was the observation checklist instrument and the interview protocol. Data were analyzed based on instrumentation and descriptive analysis. The study participants consisted of six Chinese students. The location of the study was conducted in secondary schools in Perak. The findings show that I-Think mapping can be done by the participants during the thinking process of writing the nationalistic poems through at least two I-Think maps and the level of bloom taxonomy used was from the low (remembering and understanding) to the highest levels such as creation. The implications of this study through the teaching and learning of I-Think Mapping in the thinking skill of writing nationalistic poems have been able to help students think critically and creatively while maintaining the spirit of nationalism at the same time.

Keywords: *I-Think Mapping, Flexible Skills, Poems of Nationalism, Document Analysis*

1. Introduction

In line with the fourth shift of the Malaysian Education Development Plan (PPPM) 2013-2025 to produce globally-minded and competitive students, efforts to cultivate Higher-Order thinking skills (HOTS) among teachers and students should be given special emphasis in the teaching and learning (R&D) (Textbook Division, KPM, 2015). In this regard, KPM has teamed up with the Malaysian Innovation Agency (under the Prime Minister's Department) to implement the I-THINK program by piloting 10 schools in Malaysia. The program was expanded to 1,000 schools in 2013 and then all schools in 2014. In this study, I-Think maps were used as a think-tank to stimulate students' thoughts in nationalism.

2. Literature Review

In the literature, thinking skills using the I-Think mapping in the last five years have shown that there is writing on various subjects such as Malay, Malay Literature, Science and Mathematics. A study led by Malik Sabri (2015) argues that thinking skills involve a

number of important components such as mental operation, knowledge and attitude. Thinking operations can be divided into two types: cognitive and metacognitive. Specifically, cognitive operations firstly, are used to explore concepts that include basic and simple skills such as interpretation and comprehension, logical and imaginative reasoning and thinking, and secondly, complicated mechanisms or techniques such as decision-making and problem-solving. While metacognitive surgery involves processes that move and control cognitive skills and processes. Metacognition is also known as thinking about thinking.

In addition, there are studies on Higher-Order thinking skills (HOTS) in teaching and learning the Malay language. One of the studies was carried out by Anisah and Ruslin (2016) through a paper presented at the International Conference on Education and Regional Development 2016 (ICERD). In the study, they discussed the compatibility of the application of learning styles and Higher Order Thinking Skills (HOTS) in teaching and learning the Malay language. The findings showed that the achievements of the Malay Language subject in the examination were not satisfactory, especially in the form of written questions that require thinking skills among students (Anisah & Ruslin, 2016). In the context of learning styles, this current study focuses on Grasha's learning style which consists of six main learning styles namely i) avoidance, ii) cooperation, iii) competitiveness, iv) dependability, v) freedom and vi) participation (Grasha,1994). Each student has his or her own learning style in which the learning style may be effective or compatible for some students but may not work for other students. In conclusion, factors towards learning style are important in determining a student's success because each student has different characteristics in terms of their abilities and how the individual's understanding leads to different learning styles.

In another study, Azlizi Murad and Norazilawati Abdullah, (2016) came out with the I-Think map module which was evaluated by Science teachers, i-Think coaches and lecturers, and went through several stages of correction where all weaknesses have been corrected and improved to optimize the effectiveness of this module. This module has been through 5 phases of ADDIE which allows it to be successfully developed and meets the characteristics of a module that also uses the theory of constructivism in teaching. The Daily Study Plan (RPH) met the national curriculum requirements of KSSR in line with the 5 phases to the core of the RPH development (Azlizi Murad & Norazilawati Abdullah, 2016). In addition, the explanation of i-Think which has been described in detail in the module can help teachers to understand all 8 i-Think thinking maps and how to use them correctly. The worksheet also meets the criteria for Higher Order Thinking Skills (HOTS) and is easy for students to use.

In fact, there is another similar study by Nurhafizah Zaidi, Roslinda Rosli, and Mohamed Yusoff Mohd Nor (2013) which focuses more on the discussion of issues related to i-Think concepts in the teaching and learning of Mathematics in schools. *Kemahiran Berfikir Aras Tinggi* (KBAT) or Higher Order Thinking Skills (HOTS) were also explored to see its relevance to the i-Think program. In addition, this study summarized the advantages and challenges of implementing i-Think thinking maps in the teaching and learning process in schools in order to give the best exposure to various parties on the importance of applying i-Think thinking maps to create more fun and engaging learning process in the 21st century.

From the crux of previous literature reviews, the thinking skills that used i-Think maps in producing poems were not the focus of earlier researchers, especially nationalistic poems were written by Chinese students. Therefore, this study is very important to be carried out to fill the literature gap.

3. Problem Statement

To date, several studies have been conducted by Malaysian researchers on writing skills (See for example, Abdul Rasid Jamian, Shamsudin Othman, Nor Zila Md. Yusof (2011); Chew Fong Peng & Rusdaini Mohamed (2013); and Yahya Othman & Dayangku Suzanawaty PG. Osman (2014). However, these studies do not focus on poetry as their purpose in writing.

In this regard, the need to carry out the thinking skills should be implemented in any genre of Malay literature. Poetry is often considered difficult to understand among the literary genres, even though it has its own merits and significant historical location. The question may be due to the form of the poem itself, as well as the different style of speech from the prose. Poetry is often found to have its own secrets of strength that are both appealing and capable of capturing the reader's soul. This usually contains metaphors, pictures, and symbols in a poem. The complexity in understanding these elements makes the poem less interesting, so the reader cannot fully appreciate the thoughts and meanings that the poet wants to convey.

This study uses the medium of rhyme as an appropriate material for use in teaching and learning (Fawziyah Ali, 2016). The problem is that the skills of writing poetry and the relationships in teaching and learning are not well studied where studies on both of these aspects are often made in isolation. The study was mainly nationalist poems such analysis is focused on the study of poetry in KOMSAS and Malay Literature.

This is in contrast to the current study's demands that focus more on the poetry of nationalism rather than on poetry analysis. As stated at the beginning of this section, aspects of thinking skills in previous studies also revolve around writing and composition skills (Zamri Mahamod, Nasyimah Ismail & Wan Muna Ruzanna Wan

Mohammad, 2015; Chew Fong Peng & Shashipriya Nadaraja, 2014; A.Rahman Haron, Jamaludin Badusah & Zamri Mahamod 2015). An understanding of the systematic thinking process according to Bloom's Taxonomy (2001) is essential in this study.

Therefore, the issue of thinking skills using the I-Think mapping tool is the main focus of this study. In the 2012 PISA study, the findings indicate significant problems in the reading domain among Malaysian students. In the literacy domain, students in rural schools fall far behind students in urban schools. The results also indicate that students are unable to answer questions that require high-level thinking skills, such as questions that require logic and justifying an answer. Malaysia is still in the lower third of the reading domain compared to ASEAN countries such as Singapore, Vietnam and Thailand (Ministry of Education Malaysia, 2012). As a result, in 2013, 13 out of 20 public universities were reported to have graduate market problems. Industry feedback on graduate marketability states that graduates do not meet employers' needs in terms of attitude, attributes, skills, motivation, out-of-the-box thinking skills, problem-solving skills, communication skills and ability to work as a team and be independent (10th Malaysia Plan, 2010). Gaps in thinking skills among the current generation of students have been the impetus for us to conduct this study. It is hoped that with the use of I-Think mapping, thinking skills in writing poetry can be implemented more effectively.

One of the students' aspirations is that each of them must have a national identity. It is impossible to achieve national identity if the issues with country love and student self-esteem is still an imbalance in the education system. This is evident when the theme of the previous year was "Teachers as Nation Builders" (Guru Pembina Negara Bangsa). This issue remains a national agenda despite independence for 62 years. One of the text quotes by former Minister of Education Dato' Mahadzir Khalid on May 16, 2016, was about the Student Integration Plan for Unity (RIMUP) which still needed injections so that the spirit of unity among the multiracial people could be nurtured from preschool to upper secondary.

It is expected, therefore, that this study will be able to provide exposure in writing the issues of nationalism that concern them. Its two-pronged could uphold the Malay language in its position as number one in the country. In conclusion, the objective of the study was to analyze the process of I-Think mapping and the level of bloom taxonomy produced by Chinese students in the application of poetry writing skills.

4. Methodology

A methodology is a method of conducting research selected by the researcher to answer the objectives and questions of the study. Therefore, the choice of methodology should be in accordance with the research.

The methodology of this study is to use a qualitative approach that contributes to literature in many fields by explaining, interpreting, and generating theories about social interaction and individual experiences as they occur naturally (Annum, 2017; O'Brien, Harris, Beckman, Reed, & Cook, 2014; Denzin, & Lincoln, 2011)

4.1. Research design

This study uses library and field research methods. Through library research, we have been able to collect literature on thinking tools such as I-Think mapping and Bloom's Taxonomy as well as operational definitions such as poetry writing skills, and nationalism). In addition, field studies are also chosen because researchers want to know in-depth the exact circumstances of a particular event or situation. In addition, researchers are free to approach study participants to answer questions in their research (Sulaiman Masri, 2015). In this study, we have obtained permission from the Ministry of Education Malaysia through the Education Policy Division to conduct this research in schools.

4.2. Participants of the study

The qualitative study samples have significant differences with the quantitative studies. This is because the sample in the qualitative study was selected that is in line with the research problem to be studied (Noraini Idris, 2013). Therefore, in this study, we selected a sample or Study Participant based on the study objectives and questions. The study participants were selected based on the criteria set according to the purpose of the study. The study participants in this study were Chinese students. The rationale for the selection of a non-Malay race is to identify issues of national identity that exist in their lives resulting in poems because they do not speak the Malay language at home and with their other compatriots. The study participants were 6 Chinese students under the age of 14. Participants in this study were selected based on interviews with Malay teachers. The characteristics of the study participants were selected based on their academic qualifications in the examination of the medium-scoring B in Malay monthly test in February. However, there are constraints in the selection of participants of the study. Students who already excel in Malay were not selected because we want to ensure that language skills gained by participants of the study are the result of research conducted instead as language skills and intellectual skills already existing within them. The principle of selection is in line with ethics in research.

4.3. Study location

In conducting this study, the selected study location is in Peninsular Malaysia where the study site is in a secondary school located in Slim River Perak.

4.4. The instrument of the Study

The instruments used in this study are the tools used to gather evidence-based research findings. These types of instruments include questionnaires, interview protocols, and observations. Basically, we need to make sure the instrument selected is valid and reliable. The validity and reliability of the research project depending on the suitability of the instrument.

4.5. Observations - According to the Role of the Researcher

In this study, the researchers have been the participant observer (Noraini Idris, 2013), in which all study participants were aware of the research conducted. We have also participated in all I-think mapping activities designed to answer the research questions. The advantage of this method is that it reduces the disadvantages of other observation methods. As such, we have acted as a research instrument. We've been to school three times.

The first visit was to collect preliminary data to identify participants. The process of identifying PK through interviews with Senior Administrative Assistant teachers and Senior Assistant Student Affairs and Evening Supervisors. Then, the Senior Administrative Assistant has provided a list of names and scores of Chinese students to the subject of the Malay language to be selected.

The researchers selected the participants based on the study's relevance. Then, after the students' names were selected, the school issued a consent letter to parents to give their children permission to participate in the study. The observations made are intended to look at aspects of the thinking process used by the study participants. The study participants used thinking tools such as Bloom's taxonomy and i-think mapping in the process of producing poems of nationalism. The list of observations used in this study is shown in Table 1.

Table 1: The Use of Thinking Tools (i-Think and Bloom Mapping)

PETA I THINK BLOOM	PETA BULATAN	PETA BUIH	PETA BUIH BERGANDA	PETA POKOK	PETA DAKAP	PETA ALIR	PETA PELBAGAI ALIR	PETA TITIAN
MENGINGAT								
MEMAHAMI								
MENGAPLIKASI								
MENGANALISIS								
MENILAI								
MENCIPTA								

After identifying the use of I-Think mapping and Bloom's taxonomic selection, this study made observations of the thinking process based on the checklist provided. Therefore, each thought process is marked using a checklist of creative thinking processes outlined by the Ministry of Education Malaysia (2012).

4.6. Validity and Reliability

Aspects of validity and reliability in qualitative data start at the beginning of research, implementation, data collection, data analysis and data reporting. This aspect has to do with ethics as a researcher. In order to enhance the validity of this study, the data collection period has been around for a long time. This study took several days and took two hours each day. In addition, the validity is also enhanced with the use of local languages, namely Bahasa Malaysia when surveyed. Furthermore, this validity has been achieved as this research has been conducted in the form of field studies. This is because the observations have been conducted naturally so that the information obtained reflects the reality of life and real-life experience. This aspect of validity has also been demonstrated through triangulation. This study used the document analysis method, interview method and observation method. External validity has been enhanced through detailed descriptions of the events or processes being investigated. Therefore, the procedure of analyzing the data is done in detail and in stages.

This aspect of reliability is also linked to the way in which a researcher provides an explanation of the changing research context. Researchers are responsible for explaining any changes that occur and how they affect their research approach. One of the strategies used in this study to increase reliability was that all interviews were properly transcribed without adding new ideas to the data. Therefore, the reliability aspect has been improved (Noraini Idris, 2013).

5. Findings

5.1 Study Participants and the Use of Thinking Tools

Based on the analysis, participants used only four types of I-Think Mapping namely Circle Map, Bubble Map, Tree Map and Brace map. Bloom's taxonomy of knowledge

involves a level of understanding and application. In Circle Map, participants write words based on the level of knowledge they understand because they define issues based on aspects they already understand. They answered the following questions:

What does it mean to be independent?

List some ways to maintain independence?

During the I-Think Mapping process, participants chose based on written issues and not on discussions with friends. Observations while writing words in I-Think Mapping show that they have used their cognitive abilities. They used problem-solving in their own way and sometimes asked researchers when choosing words to write in I-Think Mapping. Figure 1 shows one of the participants who defined the terms using I-Think Circle Map:
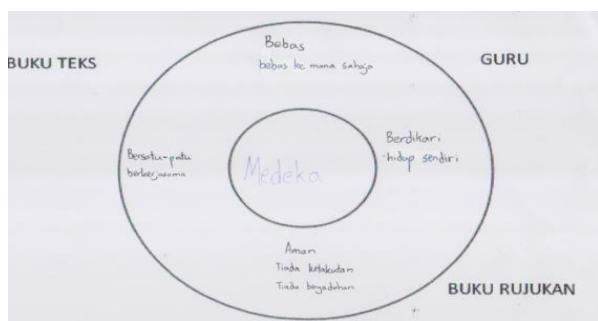

Figure 1: Circle Map used by participants

The use of Bubble Map was chosen by three participants and all of them applied it at the level of understanding for the Bloom taxonomy. The result of the interviews found that among the reasons that I-Think map (bubble map) was chosen because they always use bubble map especially for Malay language essay writing in school (Figure 2). The next reason was that the Bubble Map I-Think Mapping was preferred because the sequence of ideas can be written one at a time and has no fragmentation of ideas (Figure 3). This has made it easier for them to map their national identity issues. Figure 4 shows a participant's I-Think Mapping.

I always use foam maps to write essays.
The teacher always told me to write the contents of the essay with a foam map.

Figure 2: An excerpted interview with a participant using bubble maps (PKC 1 / A / 6)

It is easy to use a bubble map because
I can write only one thing.

Figure 3: An excerpted interview for writing ideas using bubble maps (PKC 1/A/7)
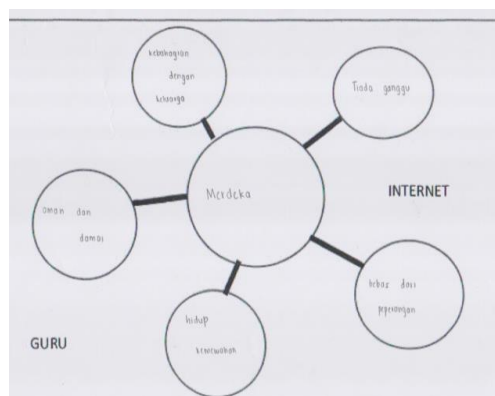

Figure 4: Bubble map used by participants

In another I-think mapping, the Tree Map, two participants used it at the level of comprehension. The Tree Map was chosen because it makes things easier for the participants to categorize ideas. In addition, it also facilitated them to write aspects related to national identity. Word writing represents a level of understanding because they do not apply it and do not elaborate on the issue of national identity in detail. Although they have chosen the Tree Map, the words that support the issue of national identity are merely indicative of a level of knowledge. For example, when I-Think mapping is used for a Malaysian country, narrowed to the aspects of traditional food, multiculturalism, and languages, and they were asked questions related to the following:

Why is traditional food important in Malaysia?

What is the nature of the various races in Malaysia?

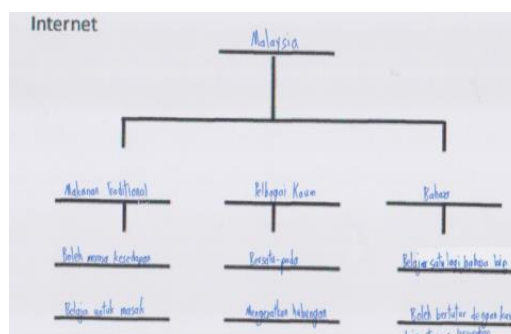Figure 5 showing one of the respondents used the Tree map.

Figure 5: A tree map used by one of the respondents

The next use of i-think Maps is the brace map. The level of knowledge used by the respondents through this map is the application of the knowledge level. Only one respondent used the I-Think brace map. The respondent has written based on existing knowledge of selected aspects of national identity. In addition, the respondent also wrote words based on his understanding of the purpose of the selected national identity issue. Subsequently, the respondent has broken into smaller

sections to write more specific information. The results of the interview found that the respondent had never used a brace map during teaching and learning. The respondent found that the brace map helped to write the idea more specifically because the main idea and the small idea could be easily explained. Figure 6 shows the use of the brace map of a student respondent.
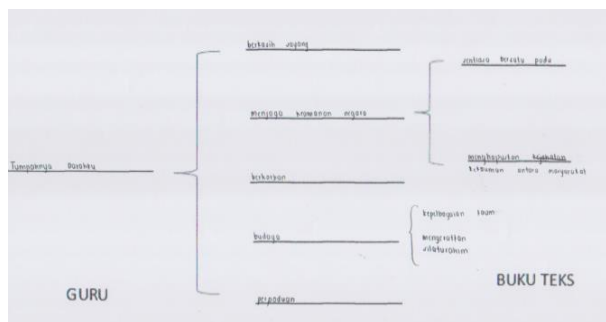

Figure 6: A brace map used by one respondent

All respondents produced poems and used the design level in preparing nationalistic poems. There were three respondents who produced poems based on I-Think Mapping and Bloom's Taxonomy. They were motivated to write a poem of nationalism, although previously they were not interested in the subject KOMSAS (Component of Literature in Malay). Surprisingly, most respondents were interested in grammatical aspects. They have found it very easy to come up with ideas when using I-Think Mapping because ideas can be written according to the rules of writing and there was no mixing of ideas. In addition, they said they had never been taught to write poems and as a result, they admitted that writing poetry was not as difficult as they thought. Refer to Figure 7 for interview findings. In conclusion, the use of I -think mapping helps them write more creatively.

> *I don't like KOMSAS,*
> *I like grammar,*
> *..... I've never learned to write poems.*
> *It's easy too. But I have to write on the map first.*

> *I don't like KOMSAS because it's so much.*
> *For grammar, teachers do a lot of exercises.*
> *I already know how to write a poem. Thank you, teacher.*

Figure 7: Interview excerpts with participants (PKC 2&3/A/3&4)

6. Discussions

The most widely used I-Think Mapping is the Bubble Map, followed by the use of the Circle Map, Tree Map, and brace map. The findings of this study concur with the previous findings that the use of I-Think mapping is capable of producing high-level learners (CITs) (Rohaida Yusop & Zamri Mahamod, 2015) to help students make sense of writing national identity issues. This frequency is influenced by their existing knowledge of the use of I-Think Mapping during the teaching and learning process.

There is no denying that existing knowledge and learning styles are very influential as they use I-Think mapping. Existing knowledge is disseminated through a joint question-and-answer session with other colleagues on the issue of nationalism. Through this activity, participants were able to identify the connection between existing knowledge and national issues written. This mastery of association has helped participants to make sense of their nationalistic poem writing. As a result, participants have been able to perform I-Think mapping more systematically (Ahmad Ariffin Sapar, Nazirah Radin Salim, Ahmad Fikri Hj. Husin, & Mat Taib Pa, 2013).

According to Noor Hidayu Mohd Rahim & Yahya Othman (2016), they suggested that one of the reasons students are not prepared for teaching and learning is because students are not exposed to techniques that aid their learning process. I-Think mapping tools can be used as an alternative to help students learn. In addition, mind mapping is a vehicle for assessing aspects of student mastery in the classroom. This is because I-Think thinking maps can be used more systematically and systematically than any other thinking tool because each I-Think thinking map has its own functional differences. The implication is that students will be more focused on teaching and learning.

The application of Bloom's taxonomic knowledge has shown that all respondents used knowledge, at the level of 'creating' as they produced poems of nationalism. It is therefore important for teachers to apply Bloom's taxonomy into teaching and learning. Through the activities, the students have been asked a lot of questions involving a high level of knowledge. For example, they use questions such as Why and How, and at the same time, they are able to explain and provide insights. This question-and-answer activity should be ongoing as teachers carry out the teaching and learning activities (Ministry of Education Malaysia, 2012).

The Malaysian Education and Development Plan 2013-2025 have undergone a Transformational education curriculum that emphasizes the Higher Order Thinking Skills (HOTS) that aim to create a generation with critical and creative thinking (Zarina Abdul Rashid, 2016 & Mohd Syaubari Othman & Ahmad Yunus Kassim, 2017). Therefore, this study helps students in implementing the transformation of the Malaysian government in education.

The Thinking Skills Process that most respondents have mastered is the preparation of their main skill, which is Observation. The main skills of observation emphasize

the focus of attention on the selection of words, sentences or texts and for the purpose of finding the right meaning. This process is the ability of researchers to guide study participants in writing the right words. This reflects on us as researchers, as the guidance process requires researchers to have high levels of content knowledge (Norhana Mohamad Saad, Juliana Baharuddin, & Siti Noor Ismail, 2016).

The most underrated phase of the respondents was the imaginary phase with the main skills of idea synthesis. An indicator of idea synthesis is to draw conclusions; build the title; producing a poem; determining sufficient information is available and determining whether additional information is required; make the final synthesis; discuss the advantages or disadvantages of the results; evaluating new information gained whether it requires follow-up and ongoing reflection. Therefore, it is important that each of these phases is emphasized as participants write poems of nationalism or any process that involves critical thinking skills. In addition, Critical Thinking Skills are a necessary skill in human capital building and are also one of the elements of 21st Century Skills. Therefore, this study is worth conducting to determine the extent to which students have mastered the thinking skills resulting from the formation of the current education system (Wan Norehan Wan Mamat, 2013).

During this process of thinking skills, the findings show that there are different learning strategies for each participant. The most widely used learning strategy of participants in the learning strategy is constructivism (Fawziyah Ali, 2016; Habibah @ Artini Ramlie et al., 2016). This is because participants have come up with ideas based on existing knowledge. The next step is to structure the idea. During the writing process, participants applied ideas by comparing them to the environment. The use of flora, fauna and family elements is reflected in the poetry of national identity issues.

Therefore, an attempt to write poems of nationalism among non-native speakers has been an effective way of raising awareness of issues of national identity among Malaysians. According to Kamarul Baharin A. Kasim and Asyaari Muhamad (2015), the patriotic spirit is something of a spiritual nature. This effort should be nurtured from time to time.

7. Conclusion

This study may provide several implications on teaching and learning if it is implemented in the teaching of Malay language and Malay literature in improving students' higher-order thinking skills. In addition, the implication is that pupils can improve their language skills - writing skills. At the same time, the implications of awareness of nationalism can be nurtured as students are given the opportunity to express their love for the country through nationalistic poetry writing. Therefore, when this aspect is achieved, student aspirations can also be enhanced in

PPPM (2013-2025), which is the aspiration of knowledge, thinking skills and national identity.

In addition, this study could have an impact on teachers in providing them guidance on how to write nationalism or other poems. Critical and creative thinking in writing poetry can be done using thinking tools such as I-Think Maps and questioning using knowledge levels in Bloom's Taxonomy.

The implications of this study are also beneficial to the Curriculum Development Center. Curriculum Development Centers can add elements of thinking skills with well-planned I-Think mapping in the Learning and Content Standard. Thus, this aspect can be appreciated more deeply by the community especially the parents who are very concerned about their children's development. If this is achieved, Malaysia's goals in PPPM 2013-2025 towards realizing student aspirations with thinking skills will also be accomplished.

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