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Developing critical thinking through Socratic Questioning: An Action Research Study

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Abstract

An action research study was conducted among 24 Form 4 level Malaysian students, aged 16. The duration of the study was five months and constituted 16 one-hour literature lessons (short stories from the secondary level Malaysian English Language Upper Secondary Level school syllabus). This paper describes my experience as a teacher-as-researcher to assist students to respond to teacher questions through Paul's (1993) model of Socratic Questioning which claims to develop students' critical thinking. Data was collected through researcher's field notes, students' writing tasks and student interviews which were analysed after each cycle of the action research study. Changes and adaptations were consequently made based on the data collected and upon teacher reflection to improve practice. The results of this study indicate that repeated practice of Socratic Questioning had a positive effect on student responses and writing tasks. Some of the factors affecting students' performance included students' language proficiency, weak reading ability and students' anxiety towards the questioning method. These issues had to be addressed and dealt with, before Socratic Questioning could be properly implemented in the classroom.

Keywords: Socratic questioning, teacher questioning, critical thinking, action research

1. Introduction

The most frequent factors cited for unemployment of Malaysian graduates are lack of communication and critical thinking skills (Ambigapathy & Aniswal, 2005, Nurita, Ainon & Shahrudin, 2007). The rapid advancement of information and technology has brought with it new demands and challenges, so much so, possessing and exercising these skills is a necessity at the workplace. These changes which are occurring have directly affected teaching and teacher's role (Paul, 1993). Standardised tests cannot be the sole measure of success of students anymore (Huitt, 1998). Students now need to be equipped with critical thinking skills to adapt to the new complexities and the demands of a challenging world. The classroom, as a place of learning, therefore, must also function as a place for the preparation of students for the outside world.

The Ministry of Education, in the National Education Blueprint (2015-2025), highlighted the importance of critical thinking ability in the nation's education agenda for the next decade. Both teachers and students should learn and practice how to think critically (Khojasteh & Smith, 2010). The teacher must ensure that the "classroom climate is open, stimulating, and supportive" so students may engage in critical thinking discussions or activities; students may not take the risk to engage with critical thinking processes unless the environment is right. (Black, 2005, p. 4).

1.1 Socratic questioning to develop critical thinking

The characteristic of critical thinking is the ability to think logically and abstractly, and to reason theoretically (Paul, 1993; Paul and Elder, 2007). Socratic questioning is one of the most powerful methods to promote critical through dialogue from questioning between students and the teacher (Jones & Safrit, 1994; King, 1994; Paul 1993). A person who trains and disciplines his mind to think in a prescribed manner, consistently using the same set of procedures to guide that thinking, would be able to raise his standard of thinking. In the context of learning, this implies that students' critical thinking can be developed if teachers have the skill to conduct questioning and to ask appropriate questions.

There is no written doctrine or manual as to how Socratic questioning could be specifically conducted, and there is no one 'Socratic method' in which one can strictly and systematically follow. There are different adaptations of Socratic questioning just as there are a number of ways to which it is referred (Paul, 1993).The Socratic questioning method is traditionally used with individuals, but has been adapted successfully for use in large groups as in regular classrooms or lecture halls (Holme, 1992). Tredway (2000) reports that at an Annual Conference in Washington D.C, twenty-five conferees were trained in the Socratic dialogue and then instructed to read a text. Twenty students were instructed to read the same text. It was found that the students demonstrated intellectual and emotional insights that the conferees, as adults, had overlooked. Students who were used to the practice of Socratic seminar were able to conduct a more thoughtful and insightful discussion than their adult counterparts. Studies on the use of the different variations of the Socratic method

have, by and large, been rather positive. A study conducted on the Socratic seminar on a group of sixth and seventh graders (age 11 and 12) at a school in Chattanooga, Tennessee (Polite & Adams, 1996) yielded positive results. It was found that approximately 80% of the student-sample, were functioning at the level of formal operations, a level associated with critical thinking. In another study, three methods of instruction were employed and compared: the Socratic dialogue method, the traditional lecture, and personalised systems of instruction (PSI). The PSI was viewed more positively by students but the performance outcomes were shown to be higher for students who learned with the Socratic dialogue method (Smith, 1987).

Paul, currently the one of the most well-known advocate of critical thinking in schools, has set up the Centre for Critical Thinking at Sonoma State University to develop materials such as books and video-tapes, on how to foster critical thinking and Socratic questioning in the classroom. Paul (1999) has created a complete "system" in his attempt to bring the method into the classroom with a model of Socratic Questioning to develop critical thinking in students. Workshops and conferences are also conducted by the centre. A study investigating the effect of integrating Richard Paul's model for critical thinking into a U.S. history course on community college students found students' abilities to think critically improved in a single course (Reed, 1998). In a writing skills class, a study on 12th grade students incorporating Richard Paul's "Elements and Standards of Reasoning" in Socratic Questioning found that students improved their critical thinking skills in their writing composition. Students improved dramatically in all key areas of writing, among all groups comprising high range, mid-range and low range achievers (Scanlan, 2006).

1.2 Critical Thinking and Paul's model of Socratic Questioning (SQ)

Socratic questioning is linked closely to the concept of critical thinking since both share a common end (Paul & Elder, 2001). The goal of critical thinking is to establish a disciplined manner of thinking while Socratic questioning seeks to cultivate an inner voice which, through a model and strategy of questioning, discipline the mind (Paul & Elder, 2001). Asking the right questions is important since good thinking is derived from asking questions that stimulate thought. Critical thinking is developed through a system of process used to form and shape a person's thinking, focusing on reasoning (Paul & Elder, 2001). Paul uses the word "system" and states that by working through an organised procedure; the mind can be disciplined and trained according to a standard.

Effective teacher questioning actually requires a well-developed system for questioning to develop critical thinking in students. Paul provides for this logic to reasoning and disciplining of the mind through a "structure" (Paul, 1993, p.114) that teachers can easily adopt in the classroom. The structure gives a clear procedure to discipline their minds into providing reasoned responses when questioned, and the ability to do so displays critical thinking. For this reason I chose to employ Paul's model of Socratic Questioning (SQ) in my study. The Elements of Reasoning' (Figure 1) provides the structure needed when used with SQ.

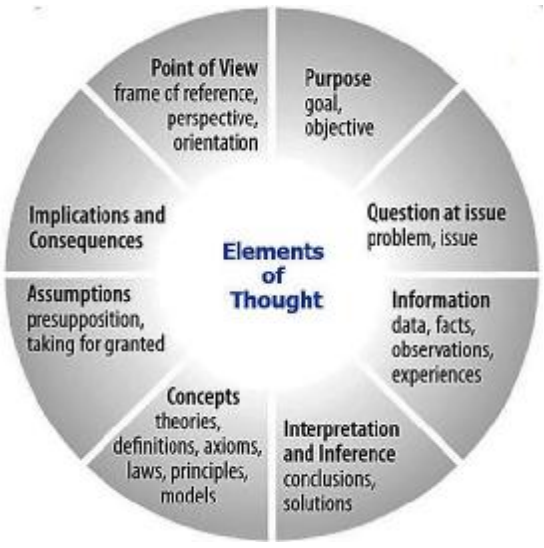

Figure 1. The Elements of Reasoning (Source: Paul and Elder 2001)

The eight 'Elements of Reasoning' are: Purpose, Question, Assumptions, Inference, Implications, Point of View, Concepts and Information. These elements form the central focus of all reasoning, and are used to assess students' thinking and writing. The questions from the Elements of Reasoning give direction and focus to thinking:

- Questions of Purpose force us to define our task.
- Questions of Information force us to look at the sources of information as well as the quality of the information.
- Questions of Interpretation force us to examine how we are organising or giving meaning to information and to consider alternative ways of giving meaning.
- Questions of Assumption force us to examine what we are taking for granted.

- Questions of Implication force us to follow where our thinking is leading us.
- Questions of Point of View force us to examine our point of view and to consider other relevant points of view.
- Questions of Concepts force us to look at models, theories and help us define our ideas
- Questions of the Question itself forces us to focus on what is the problem or issue that we are working at.

Adapted from Paul and Elder (2001, p.114)

2. Action Research

Elliot (1985) defines action research as that which is concerned with addressing the practical problems practitioners face and the strategies they could employ to resolve them. In the implementation of a new policy for instance, a teacher may be uncertain how best to teach a subject given the new changes. Action research makes for a deliberate reflection on teaching, while allowing for systematic collecting of data so that informed decisions can be made about how best to adapt to the changes directed. Action research is a process of reflecting, and making improvements to teaching practice.

Human behaviour has been described as messy and non-linear; it involves the understanding of qualities, which cannot be achieved through the use of numbers (Kincheloe, 1991). The principle justification for the use of action research in the context of the school is the improvement of practice; it is defined as a small-scale intervention in the functioning of the real world and a close examination of the effects of such intervention (Cohen & Manion, 1985). Action research is flexible and adaptable; the teacher-researcher makes changes and adjustments as she proceeds with the class. It is a learning process for the teacher as she attempts to come to a real understanding of the situation in her classroom. Implicit in this form of research is the power that the teacher has, to put theory into action and experience directly the result of that action. This leads to reflection and to a further development of 'practical theory', which is developed and refined as it goes through several 'cycles' of action research (Altrichter, 1993). Altrichter (1993) defines action research as research which is characterised by the integration of various methods in a methodologically consistent strategy and ensured that the data came from various sources.

3. The Study

My 16 year old secondary level students were not demonstrating analytical and critical thinking skills in either their verbal or written responses in my English literature classes. At the Form Four level students are required to do literature (upper secondary Literature Component, English Language syllabus) which included doing critical analysis of short stories. I saw action research as the best way to address this issue that I was facing in my classroom. I wanted to understand if SQ works within the context of my literature classroom. I wanted to note for any development of critical thinking in the use of the SQ in my teaching of the short stories. Action research was therefore employed to look into my practice within my particular context so I could then integrate it with change in a consistent and systematic strategy (Altrichter, 1993).

The purpose of the study therefore was to investigate the effectiveness of Paul's model of SQ using the 'Elements of Reasoning' as a classroom strategy to develop students' critical thinking. (Paul, 1993, 1999; Paul & Elder, 2001). The strategy focused on helping students provide reasoned responses through the use of the 'Elements of Reasoning' during SQ. Students' skills of reasoning and analysis and consequently the development of critical thinking would then be assessed in their written tasks.

Action research was employed to seek understanding and gain insight into the processes at work; to observe and note which aspects of the strategy are effective and which are not, and subsequently making changes based on that understanding, through a continuous process of acting and reflecting. The study was driven by the following research questions:

3.1 Research questions

1. Are students able to provide reasoned responses with consistent practice in Socratic Questioning (SQ) and the Elements of Reasoning?
2. Is there a development of students' critical thinking with consistent practice in Socratic Questioning (SQ) and the Elements of Reasoning?
3. What actions can be taken to improve student reasoned responses using Socratic Questioning (SQ) and the Elements of Reasoning in the teaching of the short stories?

3.2 Participants of the study

There were 24 participants in this action research study; these were students doing their secondary level Form Four, aged 16. The school is a co-ed residential Science-stream secondary school. Students were enrolled based on their academic achievement in a recent national examination, especially for subjects in Mathematics and Sciences. Students comprised a mix of English language proficiencies: 25% were in the high proficiency (HP), 54% were in the middle proficiency (MP) and 21% in the low proficiency (LP) level. This was their first time doing short stories (Literature Component, upper secondary English Language syllabus) for literary analysis.

3.3 Schedule of study: the action research cycles

The class schedule clearly marks the three cycles of the action research: Cycle 1, Cycle 2 and Cycle 3. The schedule was planned for the duration of five months, constituting 16 one-hour literature lessons (Table 1). Three writing tasks were

assigned, and three interviews conducted during the study. Data such as students' journals, Researchers' field notes were also compiled according to the three cycles.

Table 1. Schedule of Lessons and Data collection, Reflection and Intervention

	Lesson	Topic	Writing Tasks	Interview
CYCLE 1 (4 hours)	Lesson 1	Introduction to short story	Writing Task 1	Interview 1
	Lesson 2 -3	Short Story 1		
	Lesson 4	Socratic Questioning		
REFLECTION AND INTERVENTION				
CYCLE 2 (6 hours)	Lesson 5	Short Story 2	Writing Task 2	Interview 2
	Lesson 6-7	Reading activities, Socratic Questioning		
	Lesson 8	Short Story 3		
	Lesson 9-10	Reading activities, Socratic Questioning,		
REFLECTION AND INTERVENTION				
CYCLE 3 (6 hours)	Lesson 11	Short Story 4	Writing Task 3	Interview 3
	Lesson 12-13	Reading activities, Questioning		
	Lesson 14	Short Story 5		
	Lesson 15-16	Reading activities, Socratic Questioning		
OVERALL ANALYSIS				

3.4 Data Collection and analysis

This is an action research qualitative study. The short stories from the Literature Component (Upper secondary level English syllabus) was used as a subject base. Data comprised student writing tasks, student interviews, student journals, researcher's field notes as well as factual based sources, such as student records and documents. The researcher's field notes was one of the main sources of data in the study. In action research, this data is considered valuable as it has many advantages over other forms of data (Piantanida & Garman, 1999).

Data was collected from three participants (one for each proficiency level) for the student interviews and the assessment of the writing tasks for development of critical thinking. Students' development was evaluated through three in-class writing tasks over the duration of study. A progressive analysis of students' writing tasks through Paul's rubric assessment (Grade Profile) was used for this purpose. The study looked for improved reasoning and analysis, using Paul's model of SQ and the Elements of Reasoning in the duration of 16 weeks.. Data analysis in this study was an on-going process at each cycle, and changes to the teaching strategy were made and implemented into the next cycle after data was collected, analysed and upon teacher reflection

Student interviews were transcribed and read after which they were read and analysed separately. Analysis involved looking out for information given in their direct response to my questions, comparing them with responses from the other informants for differences and similarities, and also for general patterns and recurrent themes that emerged. The same was done for other sources of data (journals, field notes) to obtain a preliminary analysis of general themes and ideas. The different categories were then laid out and checked for a definite pattern that emerged consistently across the various sources of data. These were then examined for clustering of units. Analytic coding was employed to develop themes as categories and subtopics emerged. A comparison was done with the findings of the data sources to confirm the findings and to answer the research questions. Member checks were conducted to provide feedback on my interpretations of their responses, and to check for inconsistencies.

3.5 Assessment of critical thinking using Paul's 'Grade Profile'

Students' development of critical thinking was assessed through the writing tasks assigned to them at each cycle of the study. This was to gain insight into their reasoning and quality of thinking rather than the quantity of the information (Nobori, 2011). Students' assessment of students' critical thinking was based on an adapted Grade Profile (Paul, 1993)

which assesses how well students reason under each of the eight Elements of Reasoning: Question or Issue, Purpose, Information, Concept, Implications, Assumptions, Inference and Conclusions. Paul provides the Grade Profile for assessment of critical thinking in different subject areas but teachers are encouraged to adapt them for their own classrooms to develop thinking standards in students according to their subject requirements.

Table 2. Grade Profile for the assessment of student's Writing Tasks 1-3

GRADE	DESCRIPTION
The Grade of F: *a pattern of uncritical thinking.*	Student does not does not display literary thinking skill and ability. Essay is vague, imprecise and unreasoned. Essay **does not display any significant effort into thinking** his/her way through the issues.
The Grade of D*: minimal level of understanding and skill in critical thinking.*	Student shows only a minimal level of little literary thinking skills or abilities. Essay is poorly done. There is little evidence that the student is reasoning' through the essay. **Thinking lacks discipline and clarity**
The Grade of C*: some level of skill but highly inconsistent, with as many weaknesses as strengths.*	Student shows the development of modest literary thinking skills or abilities. Essay is reasonably well done, however, some parts are **mediocre**. There are more than **occasional lapses in reasoning**.
The Grade of B: *more strengths than weaknesses. It has some distinctive weaknesses though no major ones*	Student shows demonstration of a range of specific literary thinking skills or abilities. Essay is, on the whole **clear, precise and well-reasoned, with occasional lapses into weak reasoning.**
The Grade of A: *excellent overall, with no major weakness*	Student shows a clear development of a range of specific literary thinking skills or abilities. Essay is, on the whole, **clear, precise and well-reasoned**.

(Adapted from Paul & Linda, (2001, pp. 175-177)

4. The Cycles of the study

4.1. Cycle 1

As the Socratic questioner and teacher, questions were prepared in accordance with the 'Elements of Reasoning'; the questions are not necessarily sequential. I began by modeling the thinking I wanted students to do by thinking aloud to make students aware of the procedures involved in thinking. The role modeling exercise was necessarily slow and deliberate to demonstrate the thinking process. Later, they were guided to provide illustrations, examples, analogies and evidences to bring thinking to a 'standard' of reasoning through questions covering aspects of *Purpose, Information, Interpretation, Assumption, Implication, Point of view, Concepts and Question.* In addition to the main questions, probing or follow-up questions were prepared to assist students to provide illustrations, examples, analogies and evidences to give depth and breadth to their reasons. These were used to check for accuracy, clarity, depth, breadth, precision, relevance and fairness in their reasoning (Paul, 1999).

The majority of students either did not or could not respond to the questions posed. Through a show of hands, I found out that most students did not read or did not complete their assigned reading text. This was subsequently confirmed through the student journals, and cross-checked in the student interviews.

> *I was taken aback. Many were unable to elaborate on their responses. Through a show of hands, I found out that most students did not read or complete their assigned reading text.*
>
> Researcher's field notes

There were other reasons for students not responding to the questions and attempted to understand the situation from the students' perspective. Several MP and LP students, in particular, could not express their thoughts and did not respond to questions posed because they did "not have the sentences in English" due to a lack of proficiency. The following is an excerpt of the transcription of the interview with a LP student:

Researcher: *You're rather quiet [in class]…when I question you, you don't respond much. Why is that?*

Student: *I don't know.*

Researcher: *Do you understand my questions in class? (silence) When I ask the questions, do you understand?*

Student: *Faham tapi nak keluarkan tu, tak da ayat dalam Bahasa Inggeris*. ([I] understand but I can't express it, I don't have [the] sentences in English)

In addition to this, students displayed anxiety towards the questioning strategy. Anxiety showed notably in the students'journals. Clusters of words and phrases pointed to feelings of nervousness or fear. Out of the 24 journal entries 11 mentioned or alluded to feelings of 'nervousness' or 'fear'. The following is a typical journal entry:

> *I understand what did you taught me last week but teacher, don't and never ask me any questions because I can't speak English very well. But I can understand what did you say [sic] in the class.*

Students, especially the LP students, could not go beyond simple, single phrase responses and were unable to express their opinions. Socratic questioning was temporarily shelved, to address the immediate issue of students' poor proficiency and poor reading ability.

4.2 Cycle 2

Based on what was discovered in Cycle 1 several measures were taken and implemented in Cycle 2. The following 'actions' and changes were made to the strategy:

1. New lesson plans incorporating different support reading activities were devised to assist students in their reading and understanding of the short stories. These included the use of graphic organisers, pictures, storyboards, jigsaw reading to help with the understanding of text.
2. Conduct of primarily low order questioning to check for a thorough understanding of content. Despite their anxiety I continued with questioning, to get students used to the idea of being routinely questioned in class.
3. Measures were put into place to address students' anxiety towards Socratic questioning:
    i. Pair work discussions: Students were allowed to get help from their friends through pair work before responding to questions. This gave them time to practice their responses before responding to the teacher.
    ii. Increased wait time: Students were given more wait time after each question. They were also allowed time to write down their answers first before responding to my questions. In this way, they were able to formulate their responses properly and the stress of having to respond spontaneously was taken away.
    iii. Allowance for shorter responses: I did not press as much for elaboration in responding to the different questions under the Elements of Reasoning. My primary focus was on getting students to respond beyond their monosyllabic answers.

One of the problems was a lack of understanding of content of the assigned text. The less-skilled LP readers were generally less able to choose the appropriate strategy for the problem they face in reading (Walter 2002), and so they also had to be assisted to read and comprehend the texts assigned. Much has been talked about the importance of schemata in reading and comprehension. Barnett (1988) claims with reading in the second language, an important part of the process is the "schemata": the reader's pre-existing concepts about the world and about the text to be read. Having been mainly exposed to the language of textbooks, and language primarily scientific in nature, students were struggling with the literary style of the writer in their literature text.

> *If only the teacher can make I understand literature more and I can explain the whole story to the class because if I can do that I means I have understand [sic] everything*
>
> Student journal

Towards the end of Cycle 2 the data revealed that students were less anxious about giving the 'wrong' answers as they understood the texts better and became more familiar with questioning. SQ was re-introduced in the second week of Cycle 2 with simpler questions from aspects of the EOR (*Information, Purpose, Question*) to familiarise students with the strategy. This time, there was a notable absence of words or phrases associated with anxiety in students' journals. They liked that they were given more time to respond and that they could work in pairs before responding. The reactions of three students were recorded in their journals as follows:

Student 1: *I liked it when there was work in a pair. Working in a pair was a great. I didn't need to do it alone.*

Student 2: *You were asking us so many tough questions about the necklace story (but) you gave us a period of time to find out the answer and not asked us to answer spontaneously.*

Student 3: *I can answer the quiz very easy (sic) with the help of my partner Hamid, the question seems to be so easy.*

In my field notes too, I had noted on the quality of student responses that I was getting. In addition, I had developed a familiarity towards Socratic questioning and was more aware as to which kinds of questions needed to be asked at particular times. This contributed to students ease with being questioned. The HP and MP students were progressing steadily and their responses were comparatively longer but still faced a dilemma with my LP students.

4.3 Cycle 3

In Cycle 3 I covered questions under all eight aspects of the EOR. In SQ the main idea is to elicit reasoned responses to develop students' critical thinking. The disciplined would then also be reflected in students' writing tasks since they are guided into the same manner of thinking when they write. In this cycle, the measures taken were comfortably in place and SQ ran more smoothly. I observed the effect of the changes I had taken to my teaching strategy in Cycle 2.

The LP students were lagging behind; they were not able to respond as well as HP and MP students. Responses were slow and stilted due to their lack of proficiency in the language. In an interview with an LP student:

> *If only I can speak whatever I have in my mind out loud and it make sense.*

LP students' responses were also affected by the lack of confidence to respond to questions:

Student:	*Everybody is so afraid and all my friends say that too.*
Researcher:	*Why is that?*
Student:	*They still…they feel that what they answer might be wrong*
Researcher:	*But then when it is wrong what happens then?*
Student:	*They feel ashamed and stuff…* (mumbles)

Being perceived as stupid by their peer is a large deterrent and consequently students would rather play safe then risk the attempt (Irvin, 1998, p.49). Developmental factors affect adolescent students' interest in academic tasks and one of these is the fear of failure especially among peers (Irvin, 1998, p.49). At this stage of development especially, there is a strong need to be liked and included (Hargreaves, Earl & Ryan, 1996). Taking these factors into consideration as well, more measures were put in place to elicit reasoned responses.

1. Improve teacher questioning technique

   I used prompts, to rephrase questions, and broke up the main questions into simpler manageable questions when responses were not forthcoming, to assist students with reasoned responses.

2. Focus on meaningful, reasoned responses

   I paid more attention to LP students who were noticeably lagging behind. At this point, less than grammatically correct responses were accepted and the focus was on students' reasoning and thinking. Students were systematically guided using the EOR.

4. Findings

4.1 Students' reasoned responses and development of critical thinking

The study revealed students' ability to provide reasoned responses and consequently there was a development of critical thinking to a certain extent, at all levels of proficiency (Research Question 1 and 2). The development in students' critical thinking was assessed through students' ability to provide reasoned responses in their writing tasks, over consistent verbal classroom practice in SQ. Using the Grade Profile for assessment of critical thinking, overall, students were able to provide better reasoned responses in their writing tasks under the aspects of the Elements of Reasoning. Students, however, had difficulties providing reasoned response under the elements of *Assumptions, Inference* and *Conclusion.*

In Cycle 1 of the study students were not assessed for critical thinking since SQ was postponed due to problem of reading and students anxiety towards SQ. In Cycle 2 of the study, Both the MP and LP students did not display any significant effort in reasoning. The writing task did not answer the *Question,* they did not write to the *Purpose;* they re-told the story instead of analyzing the story. The HP student showed more than occasional lapses in reasoning and could not provide appropriate reasons under the aspect of Information (did not cite appropriately or sufficiently from the text), *Assumptions* were not addressed and there was no clear link between the *Conclusion* and the points raised in the writing task.

In Cycle 3 of the study both the HP and MP student fared much better in reasoning and showed only slight lapses in reasoning. The *Conclusion* while present, was weak. Students showed weakness in tying up the points raised in their concluding paragraphs. The LP students only fared well in the aspect of *Information* and could cite the right evidences from the text. Some concepts were used but not explained sufficiently; the reasons put forward for LP students' *Point of View* showed bias and was not substantiated. *Conclusion* was also weak.

The development and the pace of development of critical thinking for each proficiency level differed as shown in Table 3.

Table 3. Students' development based on Writing Task 1-3 over the three Phases of study

CYCLE/ TASK	PROFICIENCY LEVEL / DESCRIPTION OF WRITING TASK ACCORDING TO ELEMENTS OF REASONING	GRADE PROFILE: ASSESMENT OF CRITICAL THINKING
CYCLE 1 Writing Task 1	HP Completed the task. Language is clear, writing is organized.	Not given a grade
	MP Completed the task; language is clear but writing is somewhat disorganized	Not given a grade
	LP Did not complete reading text; did not attempt task.	Not given a grade
CYCLE 2 Writing Task 2	HP Answers the *Question* and writes to *the Purpose.* Traces *Implications* of character; clarifies *Concepts.* Discussion of different *Points of view.* *Information* provided is relevant but shows a **lapse at the end.** *Assumptions* not addressed. *Conclusion* is not relevant.	Grade C Essay is reasonably well done, however, some parts are mediocre. There are **more than occasional lapses in reasoning**
	MP Does not answer the *Question*; Does not write to the *Purpose.* As a result, the whole written task is considered irrelevant.	Grade F Essay **does not display any significant effort into thinking** his/her way through the issues.
	LP: Does not answer the *Question* Does not write to the *Purpose*.Written task is not relevant. Student merely re-tells the story, no analysis done.	Grade F Essay **does not display any significant effort into thinking** his/her way through the issues
CYCLE 3 Writing Task 3	HP: Answers the *Question* accurately and to the *Purpose*. Cites clear *Information* from text. *Point of view* clearly stated, and relevant. Clarifies *Concepts* used. No discussion of *Assumptions.* Absence of a clear *Conclusion.*	Grade B Essay is, on the whole clear, precise and well-reasoned, with **occasional lapses into weak reasoning.**
	MP: Answers the *Question* correctly and to the *Purpose.* Cites clear and relevant *Information* from text. Clarification of *Concepts* present. Able to trace *Implications Point of View* is relevant to task. No discussion of *Assumptions, Conclusion* present but weak	Grade B Essay is, on the whole clear, precise and well-reasoned, with **occasional lapses into weak reasoning.**
	LP: Relevant *Information.* Some explanation of *Concepts* used. *Point of View* shows bias in reasoning. *Implications* not mentioned. No discussion of *Assumptions. Conclusion* present but very weak.	Grade D Essay is poorly done. There is **little evidence that the student is reasoning** through the essay. Thinking lacks discipline and clarity

Source: Paul and Elder (2001, pp. 175-177)

Overall, MP students showed the best development (Grade F to grade B), compared to HP (Grade C to B) and LP (Grade F to D). The HP student improved from a grade C to B, The MP student from F to B, and the LP student from F to D. (Table 3). Table 4 briefly summarizes students' development in critical thinking based on the Grade Profile over the three cycles of the study. There was a development in reasoning, and consequently critical thinking, for all the three different proficiency levels.

Table 4. Students' development over the three phases of the study

Proficiency Level	Cycle 1	Cycle 2	Cycle 3
High	No grade	C	B
Middle	No grade	F	B
Low	No grade	F	D

LP students, scored comparatively lower than their MP and HP counterparts, primarily due to their low language proficiency. LP students' inability to respond to questions based on the text, stemmed from their genuine problems with reading and comprehension. LP and lower level MP students may be able to read and decode almost all the words but they did not understand what was going on in the story. Tovani (2000) calls this "fake reading" where the right sounds are made and each individual word pronounced correctly; meaning, however, is not achieved. Students were not able to make connections. As a result, they could not even recount the story. Alderson (1984) states the lack of reading competence in a foreign language may rather be a problem of the foreign language than a problem of reading. Before students become competent readers in the foreign language they need to reach a "threshold level of competence" (Alderson 1984, p: 19). By disciplining their minds to provide reasons for their statement using the EOR, it not only helped students to give reasoned responses when questioned orally, but also helped them to elaborate on their responses when doing their writing tasks which resulted in better production in their writing.

4.2 Actions taken to improve the teaching strategy

The actions taken to improve the teaching strategy incorporating the Elements of Reasoning in SQ were formulated based on the analysis and teacher reflection over the three cycles of the study as discussed (Research Question 3). In action research, the data collected after each cycle of the study is what drives the next action research cycle. The following describes the actions taken to improve the teaching strategy.

1. Assess students' needs and weaknesses in reading

Most important was assisting students to read and comprehend literary texts through incorporating support reading activities in the lessons. My assumptions that all students were able to read and comprehend the prescribed short stories led to difficulties in conducting Socratic Questioning. Hence, I learnt that prior to engaging any teaching strategy, an investigation of students needs and weaknesses is crucial. Holme (1992, p.975) in conducting Socratic questioning in his Science lecture courses indicated that student preparation in the form of completing textbook reading assignment before lectures was vital for the success of Socratic Questioning. In Adler's (1982) Paedia program too, students were given lectures on content before proceeding with Socratic seminar. The pre-requisites to Socratic questioning is a firm understanding of content (Adler, 1982; Holme, 1992; Overholser, 1992; Paul, 1993).

I learnt that as a teacher I have to be prepared to help students with the reading of literary texts, which is different from reading the usual comprehension passages they are more familiar with in their regular English language classes. Only when meaning is achieved can there be critical analysis and only then can Socratic questioning be conducted effectively. Students only managed to complete their reading texts and achieved meaning with the support reading activities conducted in class

2. Develop teacher questioning skills and technique

Next was the actions taken to improve students' responses by improving my own questioning technique when conducting Socratic questioning. Various adaptations to Socratic questioning had to be made: constructing simpler questions, rephrasing and breaking up the main question into simpler questions - these changes had to be made to adapt to students' capabilities at the spur of the moment

I also learnt that the teacher, as Questioner, must also develop skills of questioning to elicit appropriate responses especially from weaker LP students who suffer from low self-esteem. I had to learn how to question so that students did not feel intimidated by the way I was questioning them. The way a teacher listens to a question or comment communicates her attitude toward the students. Non-verbal gestures of encouragement such as looking at students when they are talking, nodding and checking for understanding by repeating students'' responses are only some examples. Consequently, the attitude of the teacher as Questioner plays a significant role in the success of Socratic Questioning (Paul, 1993). I had to strive to achieve at creating a warm supportive atmosphere in the classroom so as to provide students the appropriate environment to respond and experience success at responding critically to questioning.

3. Diligent practice and consistency in questioning and eliciting reasoning

Lastly, thinking needs diligent practice and consistency. Although thinking is as natural to humans as breathing, the mind needs to be trained and disciplined to think in a critical manner (Paul, 1990); I have to work consistently and diligently at students thinking if I am to develop critical thinking in my students. I found that it was actually hard work doing this consistently in class. In Cycle 1 my questions were stilted and I had to constantly look at the guidelines to make sure that I was covering the essentials, but by Phase 3 I became more familiar with the processes and this communicated with students and they in turn, became more comfortable with the questioning procedure.

5. Towards the improvement of practice

I learnt that as a teacher I have to be prepared to help students with the reading of literary texts, which is different from reading the usual comprehension passages they are more familiar with in their regular English language classes. Students only managed to complete their reading texts and achieved meaning with the support reading activities conducted in class. Only when meaning is achieved can there be critical analysis and only then can Socratic questioning be conducted effectively.

I felt encouraged and empowered by the improvement in students' verbal and written work despite the fact that I was behind schedule. I continued my lessons at the same pace incorporating Socratic questioning. Many students still struggled with problems addressing the aspect of Assumption and Inference, and their written tasks often had weak Conclusions. This was to be my next task: to discover why these two elements posed problems and how I could help students to write effective conclusions.

In the end, I learnt more about myself in the process of doing action research; it became less about how students performed during Socratic questioning and more about what I needed to do with my students to become a better and more responsive teacher. By conducting action research, I was able to test out my assumptions and see the real problems my students were facing and then find a way to help them to become better learners

References

Adler, J. M. (1982). *The Paidea proposal*. New York: Macmillan.

Alderson, J. C. & Urquhart, A. H. (Ed.) (1984). *Reading in a foreign language*. London: Longman.

Altrichter H. (1993). *Teachers investigate their work: An introduction to the methods of Action Research*. London: Routledge.

Ambigapathy, P. and Aniswal, A.G (2005) University Curriculum: An Evaluation on Preparing Graduates for Employment, University Sains Malaysia: National Higher Education Research Institute).

Black, S. (2005). Teaching students to think critically. *Education Digest*, 70(6), 42-47.

Brumfit, C. J. (1985). Literature teaching as an educational process. *Language and literature teaching from Practice to Principle*. Oxford: Pergamon.

Burroughs, R. (1993). Breaking the mold of literature instruction. Recent findings from the National Research Center on Literature Teaching and Learning. Microfiche ED 35384.

Chang, Kuo-Eng, Lin, Pin-Chieh, Sung, Yao Ting & Chen, Sei-Wang. (2000). Socratic-Dialectic learning system of recursion programming. *Journal of Educational Computing Research, 23(*2), 133-50.

Cohen, L. and L. Manion. (1985). *Research methods in education* (2nd. ed.). London: Croom Helm.

Elder, L. & Paul, R. (2008*). Intellectual standards: The words that name them and the criteria that define them.* Dillon Beach, CA: Foundation for Critical Thinking.

Ennis, R.H. (1985). A logical basis for measuring critical thinking skills. *Educational Leadership*, 43 (2), 44-48.

Hargreaves A., Earl L. & Ryan J. (1996). Schooling for change. London: Falmer.

Holme, T. (1992). Using the Socratic method in large lecture courses: Increasing student interest and involvement by forming instantaneous groups. *Journal of Chemical Education,* 69(12), 974.

Hong, K. S. & Jacob, S.M. (2012). Critical Thinking and Socratic Questioning in Asynchronous Mathematics Discussion Forums. Malaysian Journal of Educational Technology, 12(3), pp. 17-26.

Huitt, W. (1998). Critical thinking. Retrieved July 17, 2002, from http://chiron.valsota.edu/whuitt/col/cogsys/critthnk.html

Jones, J.M., & Safrit, R.D. (1994). Developing critical thinking in adult learners through innovative distance learning. Paper presented at the International Conference on the Practice of Adult Education and Social Development, Jinan, China.

Reed, J. (1998) Effect of a Model for Critical Thinking on Student Achievement in Primary Source Document Analysis and Interpretation, Argumentative Reasoning, Critical Thinking Dispositions and History Content in a Community College History Course. PhD dissertation, unpublished. University of South Florida

Khojasteh, M., & Smith, J. W. (2010). Using technology to teach critical thinking in higher education: Look at an undergraduate business course. *Issues in Information System*, 11(2), 54-65.

Kinchloe, J. (1991). *Teachers as researchers: Qualitative inquiry as a path to empowerment*. London: Falmer.

King, A. (1994). Guiding knowledge construction in the classroom: Effects of teaching children how to question and how to explain. *American Educational Research Journal,* 31(2):338–368.

Irvin J. L. (1998). *Reading and the middle school students: Strategies to enhance literacy*. Boston: Allyn & Bacon.

Langer, J. A. (1995). Literature and learning to think. *Journal of Curriculum and Supervision*, 10(3), 207 –226.

Lipman, M. (1988). Critical thinking – what can it be? *Educational Leadership*, 46(1), 38- 3.

Ministry of Education Malaysia. (2012). Preliminary report of the educational blueprint 2013-2025. Putrajaya: Ministry of Education, Malaysia.

Nurita, J., Ainon, J. and Shahrudin, Y. (2007). A study on employability skills of university graduates. *The Business Wallpaper*, 2(1), 1-6.

Nobori, M. (2011).Ten takeaway tips for teaching critical thinking. Retrieved from http://www.edutopia.org/stw-kipp-critical-thinking-10-tips-for-teaching

Overholser, J.C. (1992). Socrates in the classroom. *The Social Studies*, 83 (2) 77-83.

Paul, R. (1993). *Critical thinking: What every person needs to survive in a rapidly changing world*. Rohnert Park, CA: Center for Critical Thinking and Moral Critique, Sonoma State University.

Paul, R. (1999). *Critical thinking: Basic theory and instructional structures.* Rohnert Park, CA: Center for Critical Thinking and Moral Critique, Sonoma State University.

Paul, R. & Elder, L. (2001). *Critical thinking: Tools for taking charge of your learning and your life*. Upper Saddle River, NJ: Prentice-Hall.

Paul, R., & Elder, L. (2007). Critical thinking: The art of Socratic questioning. *Journal of Developmental Education,* 31(1), 34-37.

Paul, R., & Elder, L. (2007). *The Thinker's Guide to the Art of Socratic Questioning.* Dillon Beach, CA: The Foundation for Critical Thinking.

Paul, R. & Elder, L. (2009). *The miniature guide to critical thinking: Concepts and tools.* Dillon Beach, CA: The Foundation for Critical Thinking.

Peterson, P.L. (1994). Creating powerful thinking in teachers and students – diverse perspectives. In N. Mangieri, J. Black and C. Black. *Knowledge transforming: Teachers, students and researchers as learners in a community*, Fort Worth: Harcourt Brace College Publishers.

Piantanida, M., & Garman, N. M. (1999). *A qualitative dissertation: A guide for students and faculty*. Thousand Oaks, CA: Corwin.

Polite, V., & Adams, A. (1996). Improving critical thinking through Socratic seminars. *Spotlight on student success,* No. 110.

Rosenblatt, L. M. (1968). *Literature as exploration*. London: Heineman.

Sahamid, Husniah. (2014). Fostering Critical Thinking in the Classroom. *Advances in Language and Literary Studies.* 5(6), 166-172.

Scanlan J. S. (2006) The Effect of Richard Paul's Universal Elements and Standards of Reasoning on Twelfth Grade Composition. PhD dissertation, unpublished, San Diego: Alliant International University.

Sedigheh A.Sardareh, Mohd Rashid Mohd Saad, Abdul Jalil Othman & Rosalam Che Me. (2014) ESL Teachers' Questioning Technique in an Assessment for Learning Context: Promising or Problematic? *International Education Studies*; Vol. 7, No. 9; 2014 ISSN 1913-9020 E-ISSN 1913-9039

Smith, H.W. (1987). Comparative Evaluation of Three Teaching Methods of Quantitative Techniques: Traditional Lecture, Socratic Dialogue, and Psi Format. *Journal of Experimental Education*. 55, 3. 149-155.

Tovani, C. (2000). *I read it, but I don't get it: comprehension strategies for adolescent readers*. Portland, Maine: Stenhouse Publishers.

Walter H. C. (2002). Reading in a second language. Retrieved May 15, 2006 from http://www.lang.ltsn.ac.uk/resources /goodpractice.