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ENGLISH LANGUAGE TEACHERS' PERCEPTIONS AND PRACTICES IN THE TEACHING OF THINKING: A CASE STUDY

K. EVELYN BENJAMIN

UNIVERSITI PENDIDIKAN SULTAN IDRIS

2007

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PROJECT PAPER SUBMITTED IN PARTIAL FULFILMENT OF
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DECLARATION

I hereby declare that the writing in this thesis is my own except for quotations and summaries which have been duly acknowledged.

Date: 6 APRIL 2007

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ABSTRACT

Teaching of thinking skills has increasingly gained attention from educators in general in the last few decades. It is now seen as a vital component which needs to be incorporated into the teaching of school subjects with the aim of producing citizens who are able to conduct complex thinking process on their own to solve problems and make good decisions. This attempt to teach thinking skills at the school level obviously brings implications on educational planning and implementation at all level to accommodate this change. Preparing teachers to teach thinking skills is an important aspect to be dealt with. This case study which investigated ESL teachers' perceptions and practices on the teaching of thinking utilized a survey research design. The findings of the study indicated that English Language teachers valued the teaching of thinking skills and had a high sense of efficacy in teaching thinking skills to their students. The study has shown that teachers' practice of teaching thinking skills is related to their level of knowledge and course attendance. Teachers in the study also preferred infusion approaches to the teaching of thinking in their language classrooms. The results also indicated teachers' practice of infusing lower order and higher order thinking skills were satisfactory. Teachers were also found to exhibit behaviours that promote thinking skills in students. The study also revealed that there were no significant relationship between English teachers' perceptions and practices in the teaching of thinking skills in their ESL classrooms. Thus, in this study it can be said that teachers' perceptions and practices were not dependent on each other in teaching thinking skills.

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ABSTRAK

Pengajaran kemahiran berfikir telah mendapat perhatian para pendidik secara amnya sejak beberapa dekad yang lepas. Kemahiran berfikir telah menjadi satu komponen utama yang perlu diintegrasikan merentasi kurikulum dalam pengajaran dan pembelajaran semua mata pelajaran. Tujuan pengajaran kemahiran berfikir adalah bertujuan untuk melahirkan warganegara yang berkebolehan untuk melakukan proses berfikir yang kompleks agar mempunyai kemahiran untuk menyelesaikan masalah dan membuat keputusan yang baik. Langkah untuk mengajar kemahiran berfikir di peringkat sekolah telah membawa implikasi terhadap perancangan pendidikan dan perlaksanaan di semua peringkat untuk menghadapi perubahan ini. Kesediaan guru untuk mengajar kemahiran berfikir ini adalah satu aspek penting yang perlu diberi perhatian. Tujuan kajian kes ini adalah untuk mendapat persepsi dan strategi pengajaran guru-guru Bahasa Inggeris dalam pengajaran kemahiran berfikir. Kajian ini menggunakan kaedah soal selidik. Dapatan kajian menunjukkan yang guru-guru Bahasa Inggeris menghargai pengajaran kemahiran berfikir dan mempunyai 'sense of efficacy' yang tinggi terhadap pengajaran kemahiran berfikir. Dapatan kajian juga menunjukkan yang kemahiran guru dalam mengajar kemahiran berfikir dikaitkan dengan tahap pengetahuan dan kursus kemahiran berfikir yang pernah dihadiri. Guru-guru dalam kajian ini juga lebih berminat untuk mengintegrasikan kemahiran berfikir dalam pengajaran dan pembelajaran mereka di dalam kelas Bahasa Inggeris mereka. Guru –guru juga telah menunjukkan perlakuan yang dapat mencungkil kemahiran berfikir di kalangan pelajar. Dapatan kajian juga menunjukkan yang tidak terdapat sebarang hubungan di antara persepsi guru dan amalan guru dalam mengajar kemahiran berfikir. Kesimpulannya, persepsi guru dan amalan guru dalam mengajar kemahiran berfikir tidak saling bergantung antara satu sama lain.

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CHAPTER ONE

INTRODUCTION

1.0 Introduction

The development of a good person, one who has moral, intellectual, and spiritual excellences, has been the mark of a successful education. This personality is the fruit of knowledge, the wisdom and intelligence that are cultivated through education that is both formal and informal. Essentially, the highest faculty of man that would enable him to possess knowledge, wisdom and intelligence is his mind, which has been endowed by the Creator for the purpose of thinking. Therefore, one of the goals of education is to develop the human mind to become morally righteous, intelligent, wise and thoughtful, as much as the education of his soul and his heart and the development of his physical body.

One of the aims of schooling in the early 1900s was to develop what was known as mental discipline by which the mind is given exercise in thinking. In fact

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Plato's Academy and during the Medieval Age, logic was included as one of the quadrivium of music, grammar and rhetoric. Logical thinking was emphasized and Mathematics was a prerequisite for it to the extent that it was written on the entrance of the Academy, "Nobody shall enter this place without a knowledge of mathematics" (cited in Rosnani Hashim & Suhailah Hussein, 2003, pg. 1).

This important landmark of an educated person is again raised today as a major issue in education after many studies have begun to reveal symptoms of decline in students' ability to think well, especially when schools began to focus on the mastery of subject content rather than the processes of deriving the products. The ability to think well is critical to an individual's success in life. At one point of time, thinking was very closely associated with analytical intelligence, and consequently, the Intelligence Quotient (IQ) was considered as the criterion of success. However, in recent years psychologists like Sternberg (1996) have begun to discover that success is not wholly determined by IQ but also by what are termed as creative intelligence and practical intelligence. Thus, today thinking is analyzed to be much broader, than logical thinking alone, as it includes creativity and practical-contextual thinking. The ability to think critically and creatively becomes more crucial in the Age of Information and Globalization whereby individuals have to sieve through tons of information which is not necessarily relevant.

At this juncture, some would be tempted to ask these questions: Do we really need to teach students to think? Isn't thinking a natural consequence of teaching and learning in general? Do not people think spontaneously without being

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taught? These are some of the important questions which need to be addressed in the area of teaching thinking. We, indeed, do think without being taught how to think. We classify, analyse, generalize, analogize, deduce, induce, form and test hypotheses, make decisions, and solve problems. We do these things long before we encounter organized efforts to teach us how to think effectively.

However, the evidence regarding our limitations as thinkers and the various ways in which our thinking commonly goes astray is well documented (Goleman, 1995). When we say we want to teach students to think, what we really mean is that we want to improve the quality of their thinking. We want to teach them to think more deeply, more consistently, more productively, and more effectively than they otherwise might (Rajendran, N. 1999).

It is true that the last three decades have seen a growing educational interest in thinking and the ways it can be enhanced in the classroom (Rajendran, N. 1998; Marzano, 1991). The current interest in teaching thinking skills has also been intensified by the onset of the information Era, duly supported by recent advances in cognitive theory (Adams, 1989), and international comparisons of students' higher-order cognitive skills. However, the teaching of thinking has been in different forms in schools for a long time. The cultivation of critical reasoning ability has been an objective of teachers of philosophy, logic and rhetoric, among other subjects, for centuries. Aiding students to use their minds more effectively is presumably a major reason for teaching literacy, numeracy and other basic skills (Rajendran, N. 1999).

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In addition to these, thinking is also needed in our practical daily lives. The basic practical things that we do will become efficient and effective if good thinking precedes those activities. This statement can be understood better with an example of Baker and Baker (1994). Let us say Joan was doing her ironing when she realized that she ran out of skirt hangers. She thought for a moment, looked around and then attached two clothes' pegs with rubber bands to an ordinary hanger. Her action showed that she had thought well. On the surface it may not be so remarkable but when analyzed this can be considered as good thinking. This shows that thinking is an important everyday necessity be it at work or at play, and it therefore, should be given emphasis in the school system.

1.1 Need for the study

Little attention has been given to teachers' own understanding and conception of what the teaching of thinking is all about. This is evident from the fact that only a few studies have been conducted on teachers' perceptions and attitudes towards the teaching of thinking in the context of the ESL classroom. Their beliefs, attitudes and teaching methods in developing students' thinking have been ignored (Yildrim, 1994). Studies on the teaching of thinking should help to improve the practice of the teaching of thinking in ESL classrooms in schools. Thus, one of the ways to achieve this goal is to examine the teachers' own perspectives and practices about the teaching of thinking in the ESL classroom.

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Teaching students to think would mean to improve the quality of their thinking so that they would be able to adapt to any future adversities. Their thinking should be consistent, productive, meaningful and effective. What makes good thinking is when the mental activity is purposeful, or is experiences via a problem or a task one has set upon oneself. The mental activity is also experienced in relation to some difficulties one has been worrying about. What we know of good thinking can actually be derived from two separate disciplines: philosophy and psychology. According to Ruggiero (1988) (cited in Rosnani Hashim & Suhailah Hussein, 2003) the two disciplines mentioned above developed two very different models of teaching thinking, namely the creative thinking model and the critical thinking model. Both models have remained insulated from each other. The creative thinking model focuses on the production of ideas and treats thinking as a skill. It teaches thinking very methodologically consists of sequences or organized lessons. The critical thinking model is the most referred model by business, the professionals, and the education when they argue that schools should teach students to think.

Both the disciplines may have developed different models of teaching thinking, but they share the same concern that thinking should be taught in schools. Previously, the focus of education was to provide students with basic knowledge and skills on the three R's: reading writing and arithmetic. This is essential at the elementary level, but at the secondary level students should be taught more than the three R's. However, the focus of education at the secondary level centered on the acquisition of content rather than improving student's thinking. Thus, poor writing, reading and mathematical skills at the secondary level are actually caused by

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students' poor performance in "higher-order skills" (Beyer, 1987b). Hence, educational research in the early 1980's claimed that schools were not giving enough attention to teaching of thinking and improving higher-order skills among students (Boyer, 1983).

There has been a lot of discussion on education about thinking skills such as critical thinking skills, creative thinking skills, problem-solving skills and decision-making skills. Many studies (Onosko, 1989; Yildirim, 1994a, 1994b; Howarth, 1996) were conducted to investigate the teaching and application of these thinking skills in classrooms. The thinking movement has also gained prominence and support from various sectors as they try to equip individuals with the skills needed to deal constructively with any kinds of information and conditions that may typify the future.

The goals of teaching thinking are not just for students to become proficient in thinking, making decisions and solving problems in the classroom. Rather, the teaching of thinking should develop the acumen to acquire the ability to know and understand and the ability to make wise judgement. Students must be taught to think about when, why, why not and how else. Students must be able to make use of these abilities outside their classroom, in their daily lives according to the context of their situations. Thus, the current task of a teacher includes helping students make sense of their world and opening up new worlds of knowledge and experience. In doing this, the teacher needs to bridge the larger world of ideas and public knowledge with the students' private world. Information and experience offered to the students

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remain meaningless if they do not connect and become a part of the students' world. To do this, the teacher must do more than impart information or leave students to find out for themselves. Teachers need to be concerned with the reasons and principles behind the facts rather than just the facts themselves. Teachers should not be cowed or motivated by standardized tests that call for a regurgitation of isolated, trivial, contextless bits of information. Instead, teachers must teach students to always evaluate the credibility of sources, ask for evidence and insist upon rigorous examination of claims. Rather than depending on ready-made simplistic sound bites, we must allow our students the time to consider all points of view. Teachers should no longer rely on teachers' editions and publishers' guides when teaching but instead we must encourage our students to figure things out for themselves. Teachers must be prepared not to have answers for our students and, instead, support their forays into confusion and contradiction. The focus must be on the journey rather than the destination, on students learning rather than on teachers on teachers teaching. When teachers emphasize thinking rather than facts, students not only learn more, but also perform better on standardized tests (Hirsch, 1987) (cited in Kincheloe, J.L. & Weil, D. 2004).

The issue of developing good thinking among students has also captured the attention of Malaysia, a country that aspires to attain the status of an industrial country and a world centre of educational excellence. Malaysia has also begun to emphasize the importance of promoting and developing students' thinking skills in its schools as a move towards the development of effective manpower and human resources for national development.

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The Ministry of Education in Malaysia formulated the National Education Philosophy with the aim of producing a good and balanced individual. The Integrated Curriculum for Secondary Schools (KBSM), being the mechanism to realize the National Education Philosophy, emphasizes the development of the self. Its curriculum content includes knowledge, skills, attitudes, and values which are necessary to develop the potentials of a student in a holistic and integrated manner so that he will become a balanced person intellectually, spiritually, emotionally and physically.

1.2 Statement of the Problem

It has been observed that through the traditional education system, students in Malaysia mainly absorb and memorize large quantities of rote-learned materials. For example, when asked to write about 'Pollution' students merely list out facts from published sources or write down everything they know about the topic. Little or no effort is made to think that is to understand what the arguments are and whether there are other possible ways of resolving the problem of 'Pollution' specific to the Malaysian scenario (Yogini Yogarajah, 1991).

The increasing emphasis on creative and critical thinking skills in educational circles reflects the growing concern that traditional education is no longer sufficient - that it does not provide the right platform in producing citizens who are not just knowledgeable or skillful but actually better able to learn new information of all kinds. The study was undertaken as the need to teach thinking lies

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in the hands of the teachers themselves. The problem at hand was that little attention has been given to teachers' own understanding and conception of what the teaching of thinking is all about. This is evident from the fact that only a few studies have been conducted on teachers' perceptions and practices toward the teaching of thinking. Their beliefs, attitudes and teaching methods have been ignored (Yildrim, 1994). Studies on the teaching of thinking should help to improve the practice of the teaching of thinking in schools.

Thus, to address the problem at hand, the study to examine teachers' perceptions and practices in the teaching of thinking was undertaken.

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1.3 Purpose of the Study

The main concern of this study is to examine English Language teachers' perceptions of teaching of thinking and their actual practices in the scenario of the Malaysian ESL Classroom. The study is conducted among English Language teachers in secondary schools in Tapah, Sungkai, Slim River and Tanjong Malim, Perak which represent the Batang Padang District. The study attempts to identify the teaching approaches and strategies that teachers claim they have used in promoting students' thinking. This study is also interested in investigating the thinking skills and levels of critical thinking skills that teachers claimed they emphasized. In particular, this study sought answers to the following questions:

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1.4 Research questions

1. How did English Language teachers perceive the teaching of thinking with respect to approaches, school and curricular support, sense of efficacy and values of teaching thinking?
2. What were their practices in teaching thinking in terms of the type of skills, lower and higher order thinking skills, teaching strategies, and teachers' behaviour conducive to thinking?
3. Were there any significant differences in English Language teachers' perceptions toward the teaching of thinking with respect to age, gender, academic qualification, teaching experience, course attendance and teaching periods?
4. Were there any significant differences in English Language teachers' practices toward the teaching of thinking with respect to age, gender, academic qualification, teaching experience, course attendance and teaching periods?
5. Was there any statistically significant relationship between English Language teachers' perceptions and teachers' practices?

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1.5 Definition of Terms

The definitions of the following terms are necessary to the understanding of the study. Below are the terms that would be clarified.

(i) Thinking

An active purposeful cognitive process that we use to make sense of our world (Chaffee, J, 2000).

(ii) Thinking Skills

A competency that contributes to some kind of thinking (Swartz and Perkins, 1990).

(iii) Infusion approach

Thinking skill identified and taught with the content through complete infusion and partial infusion (Maclure, 1991).

(iv) Perceptions

The way one thinks of something or the impression one has of it (Collins Cobuild English Dictionary, 2001).

(v) Practice

Habitual action or carrying on a repeated exercise (Oxford Dictionary of Current English, 2004).

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(vi) Teaching strategies for teaching thinking

Techniques and methods employed to promote thinking skills and processes (Swartz and Parks, 1994).

(vii) Teachers' behaviour for teaching thinking

Physical, mental action**,** activities and responses that encourage thinking (Swartz and Parks, 1994).

(viii) Teachers' sense of efficacy

Teachers' situation-specific expectation that can help students learn (Ashton and Webb, 1986).

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CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The purpose of this study is to examine Malaysian English language teachers' perceptions and practices in the teaching of thinking in the ESL classroom. Thus topics that will be discussed in this chapter include current views on thinking, the different approaches to teaching thinking, issues in the teaching of thinking, the teaching of thinking, teachers' perceptions on the teaching of thinking and teachers' practices of the teaching of thinking.

2.1 Current Views on Thinking

Much of the current discussion in today's information age centers around on improving the quality of student thinking and this has become a fundamental goal of education in the 90's and above.

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The teaching of thinking skills has been a major focus for education for over 2500 years. However, the rationale and methods used have varied considerably in that time. Over the last twenty years a renewed focus on the direct teaching of thinking skills has emerged (de Bono, 1969; Feuerstein, 1980). Early research results suggest that such approaches show great promise for improving student thinking. Opinions vary considerably as to the best way to teach thinking, and already the market is flooded with a bewildering array of programmes claiming to teach thinking (Evans, 1991).

Randal C. Archibald (1987) (cited in Yogini Yogarajah, 1991) in his article entitled 'Debate over what is good education' mentions that there seem to be a combination of basic factual knowledge along with some ability to think critically is emerging as a compromise of sorts among traditional educators and those who want to experiment with new ideas. Randal C. Archibald (1987) further highlights a statement made by Gerald Graff (1984) an education professor at the University of Illinois at Chicago, "*We still have a long way to go to get across to people in the schools and citizens that the kinds of testing we are doing and the standards we are applying emphasize the ability to think and argue rather than cramming minds with a lot of facts."* (New Straits Times January 24, 2001: 15)

The thinking culture among students in higher learning institutions is much debated over in this information age. According to Molly N.N. Lee, an Associate Professor with the Centre for Educational Studies, University Sains Malaysia in her article entitled 'Nurturing the right kind of graduate' states that

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> "The mission of the university is to stretch the student's mind. They need to be challenged on how to think, reason, question and analyze. Our universities have failed miserably in these respects. Feedback from employers shows that our graduates are not very expressive with their opinions and ideas. They may have good analytical abilities and can reason logically but they are not strong on creative and critical thinking. Thinking skills should not be taught as a separate critical-thinking course in the university, because what is learned in this kind of course may not be transferable. Instead all courses should give due attention to the acquisition of thinking skills such as analyzing, synthesizing, evaluating, as well as creative and innovative thinking."
>
> (New Straits Times, March 8, 2001: 27)

In 2006, the Education Ministry announced that it was working on a blueprint to set standards and criteria for assessing student performance. According to National Union of the Teaching Profession adviser Datuk N. Siva Subramaniam, in an interview with Chok Suat Ling of the New Straits Times, who commented in an article on "A new answer to questions of quality" that

> " The Primary School Assessment Test, or UPSR, especially has clearly overstayed its welcome. To answer one chooses A, B, C or D. It does not test a pupil's thinking skills in any way."
>
> (New Sunday Times, October 1st, 2006: 20)

University Malaya's vice-chancellor Datuk Rafiah Salim in an interview with Chok Suat Ling of the New Straits Times, who commented in an article on "A new answer to questions of quality" that

> "If we are trying to create Malaysians who can think and analyse, we have to teach them how to do so from a young age."
>
> (New Sunday Times, October 1st, 2006: 20)

The literature review would go on to discuss the teaching of thinking and the different approaches that could be dealt with.

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2.2 The Different Approaches to Teaching Thinking

There are many programmes that have incorporated higher order thinking. These thinking programmes differ from one another in dimensions such as scope, specific skills required, amount of special training given to teachers, type of programme materials, extent of documentation, degree of integration with other courses, amount of emphasis on evaluation, evaluation instruments used and evidence of effectiveness.

Research studies (Brumby, 1982; Gunstone & White, 1980) showed that even the best products of our secondary schools have impoverished thinking skills. Other studies (Edwards & Maraland, 1982, 1984a, 1984b) showed that what students are thinking about during classroom instruction is far removed from the type of thinking teachers expect and want. This body of research is supported by calls from students, parents, employers, politicians, and increasingly, teachers for changes to traditional approaches to schooling, and to the way thinking skills are transmitted.

This dissatisfaction with traditional approaches has led to a resurgence of interest in the inclusion of direct teaching of thinking in the curriculum. Consequently, a large number of programmes claiming to improve students' thinking skills have been developed. However, independent researchers have not carefully evaluated the effectiveness of most of these programmes. Any teacher or researcher interested in the evaluation of thinking skills programmes and their

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underlying theory is faced with a complex task for which there are few valid performance measures (Evans, 1991). Brandt (1985) suggested that there are at least nine general approaches to teaching thinking as shown in Table 2.1

Table 2.1: Selected Approaches to Teaching Thinking

(Brandt, 1985, p, 245)

Authority	**Approach**	**Materials**	**Type of thinking**
Whimbey	'precise processing'	(several)	problem solving
Feuerstein **Authority**	'mediated learning experiences' **Approach**	Instrumental Enrichment **Materials**	mental operations **Type of thinking**
Meeker (Guilford)	Assessment, practice	SOI	intelligence
Glade (Upton)	Teaching	Strategic Reasoning	thinking skills
Beyer	'direct'	_____	thinking skills
Paul (Ennis)	'dialectical'	_____	critical thinking
Lipman	Discussion	Philosophy for children	reasoning
de Bono	Heuristics	CoRT	perception
Perkins	'design'	Odyssey	creative thinking

The range of approaches taken to teaching of thinking is broad, as can been seen from Table 2.1. Some approaches involve the use of specially published

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materials for the teaching of thinking others involve strategies to be used with existing materials. Some approaches involve the direct teaching of thinking strategies while others involve stimulating students to develop their thinking skills over time through engaging in activities such as dialectical discussions. Some approaches involve the teaching of thinking as a discrete activity, others teach thinking through the academic disciplines. From the approaches shown in Table 2.1, both de Bono (1976) and Feuerstein et al. (1985) are producers of the two thinking skills programmes most widely used around the world.

According to Maclure et al. (1991: x) there are three schools of thought about thinking in the context of education:

i) Those who adopt a 'skills; approach or 'direct method'. Those who favour a skills approach believe it is possible to teach the skills of thinking explicitly, by means of activities and exercises designed to improve thinking techniques or basic thinking ability which is independent of the subject matter that makes up the rest of the school curriculum. Dr. Edward de Bono who developed the CoRT method and Professor Reuven Feuerstein, the originator of Instrumental Enrichment (IE), come within this category.

ii) Those who favour an 'infusion' model. This approach is about devising strategies which will transform the teaching of ordinary school disciplines in such a way as to focus on thinking and strengthen students' powers of thought. Examples of 'infusion' strategies can be drawn from mathematics, the sciences, the humanities, and information technology. Among those who

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have pioneered such strategies across the curriculum are Professor Antoine de la Garanderie in France and the FACE project team in Finland.

iii) Those who are interested in the application of cognitive knowledge to the teaching of thinking but see thinking as a by-product of traditional disciplines and pedagogy, and who remain agnostic about particular methods.

Although there are varied approaches in teaching thinking in classrooms, teacher's role can never be denied. As Wiebert (1994) in his book on "Teaching Tips" mentions that thinking like other skills requires practice and thus teachers need to give students opportunities to talk, write, do laboratory or field projects, or carry out other activities that stimulate and reveal their thinking. Although many people once believed that we are born either with or without creative and critical thinking abilities, research has shown that these skills are teachable and learnable. In an article in the Educational Leadership Journal (1987) entitled "On Teaching Thinking Skills: A Conversation with B. Othanel Smith" he points out that student learning materials alone will not be sufficient in promoting thinking in the classroom but teachers performance is more important than anything else in the process of teaching students to think more skillfully. Teacher's role is further stated in another article in the Educational Leadership Journal (1988: 4-5) entitled "Teaching Thinking Throughout the Curriculum ---- Where Else?" which reads like this *"We need good teachers who can make children think in the particular discipline the teacher is teaching" and "Teachers who are knowledgeable about their subject,*

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who understand how it differs from other disciplines, and who can convey this to their students are already teaching thinking skills."

In discussing this research, the role of teachers needs to be scrutinized as they have an enormous amount of responsibilities in the classrooms. They determine and dictate the content, activities and processes of teaching and learning in classrooms. It is the teachers who decide on the aims, goals, and strategies of teaching to be implemented in classrooms. If teachers decide to produce learners who would obtain good results in their examinations, their contents, activities and strategies of teaching would vastly differ from the ones who resolved to nurture creative and critical language learners. Therefore, it can be said that the only element needed to address this issue is the change of teachers' attitudes towards students, pedagogy, and themselves as teachers.

Teachers sometimes do regard learners as empty vessels, which need to be filled with knowledge and experiences regarding the subject matter that is going to be taught in classrooms. As a result teachers ignore knowingly or unknowingly, the individuality of students. By this they fail to understand and appreciate the learners' own unique experiences, and concepts, notions and views of the world. Teachers who do not acknowledge learners individuality will often lead a boring and unimaginative language classroom because of the minimal participation and involvement of the learners. They will feel left out and assume their opinions and beliefs as not relevant or important enough to be heard in the classroom. Eventually,

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this would pave the way to a moulding process of passive language learners, and be a cause to the detriment of creative and critical thinking.

Teachers' beliefs and attitudes about themselves, and their functions in language classrooms have momentous implications for learners' ability to think creatively and critically. If teachers think that their primary roles are to teach and provide answers and information, then the learners are exposed to the culture of *"spoon-feeding"*. Eventually, the learners' ability to look for answers and solutions, and to inquire, to decide, to question, to reject and to accept ideas will greatly diminish. Littlewood (2000:34) (cited in English Language Journal, 2005) found that *"Asian students do not in fact, wish to be spoon-fed with facts from an all-knowing "fount of knowledge"* they want to explore knowledge themselves and find their own answers. Therefore, teachers need to believe that their roles are to think, guide, initiate, facilitate and encourage the learners. This will put them in a right frame of mind and lead the learners into becoming a community of collaborative inquirers.

In addition to teacher's role, classroom climate is another important factor to be considered in enhancing thinking skills in the classroom. Research shows that positive classroom climates characterized by high expectations, teacher warmth and encouragement, pleasant physical surroundings, and so on, enhances all kinds of learning and in the thinking skills literature, there is an especially strong emphasis on the importance of climate (Orr and Kllien, 1991). Gough (1991) lists twelve recommended teacher behaviors, all of which will be familiar to good teachers, for

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fostering a climate conducive to the development of thinking skills which are as follows:

1) Setting ground rules well in advance
2) Providing well-planned activities
3) Showing respect for each student
4) Providing non-threatening activities
5) Being flexible
6) Accepting individual differences
7) Exhibiting a positive attitude
8) Modeling thinking skills
9) Acknowledging every response
10) Allowing students to be active participants
11) Creating experiences that will ensure at least part of the time for each student.
12) Using a wide variety of teaching modalities

Therefore, teachers could emulate the above recommendations to establish and maintain a positive, stimulating, encouraging classroom climate for thinking skills instruction so that students will feel free to experiment with new ideas and approaches.

This literature review would go on further to discuss several models of teaching thinking skills.

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2.3 Models of Teaching Thinking – The Malaysian Scenario

The Malaysian Ministry of Education was similarly affected by the wave of reform in the United States and had begun to slowly inject the idea of critical and creative thinking in the school system as early as the 1980's, concurrent with the introduction of the Integrated Curriculum for Secondary Schools (KBSM). The Ministry realized that the old curriculum was not balanced and over-emphasized the intellectual aspect more than the spiritual, emotional and physical aspects. The Integrated Curriculum for Secondary Schools (KBSM), being the mechanism to realize the National Education Philosophy, emphasizes the development of the self. Its curriculum content includes knowledge, skills, attitudes, and values which are necessary to develop the potentials of a student in a holistic and integrated manner so that he or she will become a balanced person intellectually, spiritually, emotionally and physically. These four aspects are not disparate. Each is related to the other. A balanced person should be able to think, feel and do "good" intellectually, spiritually, emotionally and physically. For the purpose of this study the intellectual aspect would be highlighted. The objectives of the intellectual aspect helps to receive valuable and useful knowledge; to develop thinking abilities, arithmetic skills, problem solving skills; reasoning and communication and interaction skills (Pusat Perkembangan Kurikulum 1990, pg. 106, translation).

The Ministry of Education in Malaysia has outlined clearly in the KBSM, the intellectual aspect which teachers need to develop in their students. This particular aspect requires teachers to teach thinking and develop thinking skills among their students. However, besides the principles of the National Philosophy of Education,

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reform efforts in the 1990's were focused on the demands of the Vision 2020 of the government. The goal of Vision 2020 is to make Malaysia a 'Developed Country', not only in the economic sense, but a nation that is fully developed along the dimensions: economically, politically, socially, spiritually, psychologically and culturally (Mohamed, 1991) (cited in Rajendran Nagappan, 2001: 44).

One of the outcomes of these reform efforts was the introduction of a more serious and explicit attempt to teach thinking skills in schools. A more explicit attempt to teach thinking skills was started in schools in 1993 and in teacher education colleges in 1994. However, it has to be noted that various attempts to improve students' thinking abilities had taken place even before this period. In order to prepare teachers and teachers' college lecturers to teach thinking skills, there were numerous short courses and workshops on teaching thinking skills. Such courses and workshops have been conducted on 'Accelerated Learning', 'Optimal Learning', 'Critical and Creative Thinking' and DeBono's 'CoRT Thinking Tools' since the 1980's in Malaysia.

To implement the thinking skills programme in schools in a more systematic manner and to streamline the existing thinking skills programme, the Ministry of Education in 1993, identified four models which could be used in the classrooms (Curriculum Development Centre, 1993). The Curriculum Development Centre (Lim, 1999) later decided to base its critical and creative thinking skills (CCTS) effort on six models as follows.

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- Swartz and Parks model which features critical and creative thinking, and thinking for clarifying and understanding;
- CoRT 1 and CoRT 4 by de Bono for sense of perception and lateral and creative thinking respectively;
- The CDC 1993 model by the CDC and professor Jack Zevin, which has critical thinking, creative thinking, problem solving and decision making components;
- Questions and tasks which are based on Bloom's taxonomy of the cognitive domain and Krathwohl's taxonomy of the affective domain;
- KWHL (Knowledge, What, How, Learnt) model, whereby information is presumed to be acquired through critical and creative thinking;
- PILTS model by J.A. Phillips and Fatimah Hashim, which encompasses thinking conceptually, analytical thinking, critical thinking, creative thinking and problem solving.

Selected teachers from various districts who are called 'key personnel' were exposed to the new curriculum for teaching thinking, as is usually done in other curriculum implementation processes, and to all six models. These key-personnel were required to impart their knowledge and experience to at least one teacher selected from each school in their districts. These teachers are in turn supposed to share their knowledge and experiences with all teachers in their respective schools.

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The Ministry of Education seems to have a specific aim of teaching thinking skills in schools. In order to fulfill the principles of the National Philosophy of Education and to meet the demands of the challenges of Vision 2020, the Ministry of Education announced a policy in 1994 that by the year 2000, a minimum of 60 per cent of the public examination questions will test the creative and analytical thinking skills of the students (Rajendran Nagappan, 2001).

These developments brought to fore the prominence of teaching thinking skills within the Malaysian school system and teachers were expected to be the agents of this change. Were the teachers adequately prepared for this paradigm shift? What were their attitudes towards value of good thinking among their students and hence teaching for thinking? Is there any relationship between teachers' attitudes and practices. Have they imbued teaching strategies and behaviours that foster the disposition to critical thinking? These are some of the questions that this study attempts to answer.

This literature review would go on further to discuss the critical thinking model.

2.3.1 The Critical Thinking Model

Critical thinking has become an important issue in the field of education today and is an important attribute for success in the 21st century. The movement to the information age has focused attention on good thinking as an important element of

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life success (Huitt, 1993; Thomas & Smoot, 1994). These changing conditions require new outcomes, such as critical thinking, to be included as a focus of schooling. Old standards of simply being able to score well on a standardized test of basic skills, though still appropriate, cannot be the sole means by which we judge the academic success or failure of our students.

Critical thinking is a common "buzz phrase" in educational, psychological, and philosophical, circles today. Much work has been completed in the name of critical thinking in education to date that not only leaves one wondering how it is measured, but also leaves one groping for a cognizant definition of critical thinking. Halpern (1996:5) defines critical thinking as *"…the use of cognitive skills or strategies that increase the probability of a desirable outcome."* Other definitions include: the formation of logical inferences (Simon & Kaplan, 1989), developing careful and logical reasoning (Stahl & Stahl, 1991), deciding what action to take or what to believe through reasonable reflective thinking (Ennis, 1991), purposeful determination of whether to accept, reject, or suspend judgment (Moore & Parker, 1994) and the ability to analyze facts, generate and organize ideas, defend opinions, make comparisons, draw inferences, evaluate arguments and solve problems (Chance, 1986) (cited in Baker, M, 2001).

This study would focus on the Bloom's Taxonomy of the Cognitive domain in relation to critical thinking. The Bloom's Taxonomy was chosen as it is one of the six models decided upon by the Curriculum Development Centre (Lim, 1999) to implement the thinking skills programmes in schools in Malaysia. Critical thinking

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involves logical thinking and reasoning including skills such as comparison, classification, sequencing, cause/effect, patterning, webbing, analogies, deductive and inductive reasoning, forecasting, planning, hyphothesizing, and critquing. Critical thinking requires, among other things, discipline, structure and depth. Bloom's Taxonomy provides us with a tool for getting all of those things. Bloom's Taxonomy of the Cognitive Domain is a tool that organizes critical thinking skills. Bloom's Taxonomy provides a very concrete structure that helps to foster the development of critical thinking skills in the classroom in such a way that students should be able to apply critical thinking to any subject at hand and most importantly, to their own lives. Benjamin Bloom (1956) developed a classification of levels of intellectual behavior in learning. This taxonomy contained three overlapping domains: the cognitive, psychomotor, and affective. Within the cognitive domain, he identified six levels: knowledge, comprehension, application, analysis, synthesis, and evaluation. These domains and levels are still useful today as teachers develop the critical thinking skills of their students.

Bloom's Taxonomy organizes the functions of the cognitive domain, which is concerned with the knowledge and understanding of facts, into a sort of a pyramid. The outcome is a thinking hierarchy. Utilization of this taxonomy should result in a classroom of thinkers that are capable of establishing clarity and accuracy of assessing relevance, and accuracy, and logic: skills that are fundamental to critical thinking. The fact it is a taxonomy, implies there are natural, successive relationships between each level and that this classification represents the natural way that learners develop from one stage to the next. The taxonomy has six different

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levels; knowledge, comprehension, application, analysis, synthesis and evaluation. The first three levels are viewed, relatively, as lower order skills, whereas, the next three levels are seen, relatively, as higher order skills. Table 2.2 below shows the six different levels and the skills demonstrated.

Table 2.2 – Bloom's Taxonomy

Level / competence	**Skills Demonstrated**
Knowledge	• observation and recall of information • knowledge of dates, events, places • knowledge of major ideas • mastery of Subject: matter *Question Cues:* list, define, tell, describe, identify, show, label, collect, examine, tabulate, quote, name, who, when, where, etc.
Comprehension	• understanding information • grasp meaning • translate knowledge into new context • interpret facts, compare, contrast • order, group, infer causes • predict consequences • *Question Cues:* summarize, describe, interpret, contrast, predict, associate, distinguish, estimate, differentiate, discuss, extend
Application	• use information • use methods, concepts, theories in new situations • solve problems using required skills or knowledge • *Questions Cues:* apply, demonstrate, calculate, complete, illustrate, show, solve, examine, modify, relate, change, classify, experiment, discover

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Level/ competence	Skills Demonstrated
Analysis	• seeing patterns • organization of parts • recognition of hidden meanings • identification of components • *Question Cues:* analyze, separate, order, explain, connect, classify, arrange, divide, compare, select, explain, infer
Synthesis	• use old ideas to create new ones • generalize from given facts • relate knowledge from several areas • predict, draw conclusions • *Question Cues:* combine, integrate, modify, rearrange, substitute, plan, create, design, invent, what if?, compose, formulate, prepare, generalize, rewrite
Evaluation	• compare and discriminate between ideas • assess value of theories, presentations • make choices based on reasoned argument • verify value of evidence • recognize subjectivity • *Question Cues* assess, decide, rank, grade, test, measure, recommend, convince, select, judge, explain, discriminate, support, conclude, compare, summarize

(Source : Benjamin S. Bloom Taxonomy of Educational Objectives)

Bloom's Taxonomy aids teachers as they plan their lessons. An awareness of the six levels of the Bloom's Taxonomy can be helpful in designing activities involving both the lower and higher order thinking skills. Some things are to be

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taught with a clear set of learning objectives in mind. Bloom's taxonomy can give structure and direction to those learning objectives, acting as kind of road map that gets the learner to the prearranged destination. If teachers use the Bloom's Taxonomy with an open mind, then it can provide a structured and organized way to promote critical thinking in our classroom. The outcomes of this domain cannot be assessed or measured with simplistic, reductionist methods like multiple-choice tests. Instead we must rely on the intrinsic concerns and motivations of the students to push them in the directions they choose. Learning really is about the learner (Kincheloe, J.L. & Weil, D, 2004).

This literature review would go on further to discuss the creative thinking model.

2.3.2 Creative Thinking Model

A simple definition of creativity is that creativity is the ability to imagine or invent something new. As we will see below, creativity is not the ability to create out of nothing (only God can do that), but the ability to generate new ideas by combining, changing, or reapplying existing ideas. Some creative ideas are astonishing and brilliant, while others are just simple, good, practical ideas that no one seems to have thought of yet (Harris, 1998).

Creativity is a complex construct and is most commonly expressed through a broad range of intelligences including linguistic, musical, mathematical, spatial, kinesthetic, interpersonal, and perhaps even intrapersonal (Gardner, 1985). While

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Torrance (1966) defined creativity as a process of becoming sensitive to a problem, deficiencies, gaps in knowledge, missing elements, disharmonies, and so on; identifying the difficulty; searching for solutions, making guesses, or formulating hypothesis about these deficiencies; testing and retesting these hypotheses and possibly modifying and retesting them; and finally communicating the results.

According to Ruggiero (2004) in his book – 'The Art of Thinking' has viewed the creative process as having four stages. They are (1) searching for challenges (2) expressing the problem or issue (3) investigating the problem or issue and (4) producing ideas. Like critical thinking, creativity is viewed as a process rather than a product. According to Smith & Paradice et al. (2000) there are four behaviors that prepare the mind for creativity: 1) learn something new every day, 2) seek out constructive criticism, 3) incubate, or leave a problem alone for a while to allow the brain to work on it, and 4) put knowledge to work. Sometimes creativity is about letting go of existing ideas to come up with something new (Marrapodi, 2003).

For the purpose of this study, the emphasis is on critical thinking skills. In Malaysian schools the teaching of thinking skills involves both the critical and creative thinking skills which is referred to as CCTS skills. Both the skills are essential and are inter related to one another. Creative and critical thinking skills are considered essential for students (Crane, 1983). She expressed the importance of both of these skills when she wrote: *"When reasoning fails, Imagination saves you! When Intuition fails, reason saves you!"*(p. 7). Scriven (1979) stated: *"Critical skills go hand in hand with creative ones"* (p. 37). Only by understanding if there is a

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relationship between these two essential constructs will educators be able to enhance the capacity of their students to utilize both creative and critical thinking. Table 2.3 below shows the differences between the two thinking skills.

Table 2.3 – Critical and Creative thinking

Critical Thinking	**Creative Thinking**
analytic	generative
convergent	divergent
vertical	lateral
probability	Possibility
judgment	suspended judgment
focused	diffuse
objective	subjective
answer	an answer
left brain	right brain
verbal	Visual
linear	associative
reasoning	richness, novelty
yes but	yes and

(Source: Robert Harris, 1998)

In an activity like problem solving, both kinds of thinking are important to us. First, we must analyze the problem; then we must generate possible solutions; next we must choose and implement the best solution; and finally, we must evaluate the

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effectiveness of the solution. As you can see, this process reveals an alternation between the two kinds of thinking, critical and creative. In practice, both kinds of thinking operate together much of the time and are not really independent of each other (Harris, 1998).

In teaching thinking skills, be it the critical or creative thinking skills, teachers ought to be critical and creative thinkers themselves before they infuse the thinking skills in their classrooms. Teachers can learn to reframe the curriculum so that classrooms focus on the learner's experience rather than on what the teacher knows or what the textbook says. As hard as it is to do, *it is far more important that students explain their thinking to us than we explain our thinking to them* (pg.422*)*. Students who construct knowledge for themselves are in a much more powerful position than those who simply go through school memorizing what their teachers say, trusting that it is correct. This is our pedagogical challenge. As teachers shift from the traditional didactic paradigm of instruction to a more constructivist approach, they must pique our students' interest and then support their intellectual exploration (Kincheloe, J.L. & Weil, D, 2004).

This literature review would go on further to discuss issues pertaining to the teaching of thinking.

2.4 Issues in the Teaching of Thinking

Three major issues have been highlighted by various experts in the field in order to shed some light on the dilemmas of the teaching of thinking. Basically there has

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been vigorous discussion on the definition of thinking and significant debates in the different approaches to the teaching of thinking, introduced by different experts in the field. The first issue is related to the definition of thinking and no consensus has been reached as yet among experts in the field. The second issue is related to approaches in the teaching of thinking and questions on whether thinking is best taught by introducing a separate course on general aspects of thinking, which is the 'stand-alone' approach, or integrated in the course by the infusion approach. The third issues is related to transferability, that is which of these two approaches can transfer effectively the thinking skills and processes to other separate courses or subjects. These issues will be discussed in detail in the subsequent paragraphs.

Most people would agree that developing thinking ability among students should be an important goal of the education system. However, theoreticians, researchers and practitioners were unable to arrive at an agreed upon definition of thinking which makes the task of teaching it even more difficult. Various terms have been coined to describe the different types of thinking involved such as reflective thinking, critical thinking, creative thinking, deductive thinking, logical thinking, inductive thinking, lateral thinking, analytical thinking, caring thinking and analogical thinking. Nonetheless, according to Swartz and Perkins (1990) the current thinking skill movement talks widely of four categories of thinking skills: critical thinking skills, creative thinking skills, problem solving skills and decision making skills.

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Various other researchers and scholars have attempted to define thinking (Bartlett 1958; Nickerson, Perkins and Smith 1985). According to Phillip (1996), a synthesis of these definitions reveals five characteristics of thinking: (a) it is a mental process requiring knowledge; (b) it involves the manipulation of mental skills; (c) it aims at the solution of problems; (d) it is manifested in an overt behaviour or ability; (e) it is reflected in certain attitudes that are indicative of good or poor thinking. These discrepancies in defining what thinking is and how it should be taught led to dilemmas in making decision concerning the teaching of thinking in schools.

The next issue is of concern to researchers who defined thinking as a skill. They disagreed on how thinking should be taught. There are two views on the approaches to the teaching of thinking skills. One view is to teach thinking by infusing thinking skills in the curriculum. The other view is to introduce a separate course on thinking skills. The former is called the infusion approach while the latter is the 'stand-alone' approach.

Edward De Bono, Reuven Feuerstein and Matthew Lipman are three of the experts in this field who had developed programmes of their own as Lateral Thinking, Instrumental Enrichment Programme and Philosophy for Children Programme respectively; each teaches thinking as a separate course in the school curriculum. Their course and materials are designed to focus attention on the processes of thinking and to empower students in the wider application of thinking skills, to apply it to other aspects of learning in the world outside the classroom. The

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stand-alone approach is considered as a better approach as it helps teachers to teach thinking skills. It provides practitioners with the materials and instructions for the teaching of thinking. As for the problem of transfer, experts believe that it does not only exist in the stand-alone approach but also in the infusion approach. That is why teachers have to teach the same thinking skill differently for different subjects (Swartz and Perkins, 1990) the infusion approach has not been widely successful in transferring thinking skills across the curriculum (Resnick, 1987) and imposes the burden of redesigning accordingly as different courses are taught (Parker, 1987).

In contrast to the proponents of the stand-alone approach, experts like McPeck (1981) and Chambers (1988) who are considered as representatives of the infusionists, believe that there is no room in the crowded curriculum for a thinking skill course independent of subject content. Moreover, it is undesirable to divorce thought from content especially since thinking is not content-free and thinking is always thinking of something. The infusion approach requires a different way of teaching thinking skills in different subjects though the skills taught may be the same. For instance, teaching problem solving in Mathematics is not the same as teaching problem solving in History. Some researchers view that the infusion approach is the only approach for the teaching of thinking and that the stand-alone approach does not serve the purpose of thinking teaching thinking (Chambers, 1988). Transferring thinking skills that are learnt in a subject to a separate subject: might pose a problem to students. Students may not be able to use the skills that they have learnt outside the classroom as the independent course may not necessarily facilitate

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the application of thinking skills to content-areas studies or real life situations (Resnick, 1987).

A crucial question that needs to be answered by both approaches adopted to teach thinking is, whether the competence acquired can be applied in a context different from that in which it was learned. There are assumptions implicit in both approaches. On the one hand, the separate course or stand-alone approach assumed that there are identifiable thinking skills or procedures which can be learned, taught separately and applied generally. The other assumption is the transfer of thinking skills from specific exercises to other field will occur spontaneously. On the other hand, although infusionists like McPeck (1981) may claim that all thinking is not content-free, there are arguments that say students can learn to recognize assumptions made in a political debate. Yet there is still a common element in knowing, understanding and identifying what an assumption is.

Both approaches face the problem of transfer to some extent. One needs to be aware that separate courses focus attention on thinking skills, but the application of these skills later into the content is not guaranteed if they are taught out of context. On the other hand, teaching thinking skills within context may be effective only in that context, but transferring it to other contexts may be limited. Nickerson (1988) neatly sums up the problem when he asserts that *"any efforts to teach thinking is unlikely to be as effective as it could be unless it combines these two approaches to some degree"* (pg. 33 -34).

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This literature review would go on further to discuss the teaching of thinking.

2.5 The Teaching of Thinking

The teaching of thinking in school is important as it enables students to solve problems and make decisions in their daily lives. Developing higher order thinking enables students to apply and make use of what they have learned beyond the classroom. Many studies conducted (Barbieri, 1989; Lipman, 1988; 1991; Stenberg & Spear-Swerling, 1996; Valerie, 1991) in recent years show the growing concern for the teaching of thinking.

There is a surge of interest in the teaching of thinking and learning skills in schools. In fact it is one of the main emphasis in the Kurikulum Bersepadu Sekolah Menengah (KBSM). The quotations above reflect the concern with teaching such skills especially in the light of rapid socio-economic changes the Malaysian society is experiencing. Citizens are called upon to make numerous decisions whether they be in the market-place, place of work or the home. The problem becomes even more complicated with the increasing range of choices and options made available. The decisions people may make range from simple issues like deciding which brand of coffee to buy to deciding which candidate to vote for in the next elections.

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In the United States and parts of Europe, the renewed interest in teaching thinking skills began in the 1980's with the publication of `A Nation at Risk' in 1983 and the report by The Carnegie Task Force on Teaching as a Profession in 1986. The concern expressed was the lack of higher-order thinking ability among students and the need for students to be independent thinkers. Similar concern has been expressed in Malaysia by certain sections of the corporate sector regarding the inability of university graduates to make decisions independently, think analytically and be responsible for their thinking in the workplace. Effective thinking and learning skills become even more pertinent as Malaysia moves towards becoming an industralised state as envisioned in the 2020 Vision. An essential pre-requisite for achieving the status of an industrialised nation is a highly educated and versatile workforce that is able to adapt to changing needs and conditions. As the nation moves towards the information age, its workforce will have to be one that is highly trainable amidst the unprecedented changes taking place as technology creeps into the workplace (Phillips, 1993).

However, the greatest impetus to emphasize the teaching of thinking in the education system came after the former Prime Minister, Dr. Mahathir Mohamad, unveiled his Vision 2020 for the nation in 1991. Malaysia's Vision 2020 describes the nation's aspiration to develop holistically in nine spheres, which include economics, social, politics, psychology, spiritual and cultural aspects. These are also referred as the nine challenges. Interestingly, one of the major challenges lies in fostering and developing a mature democratic society, practicing a form of mature

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consensual, community-oriented Malaysian democracy. To meet this challenge would require Malaysians to think positively, critically and creatively.

In the effort to produce a progressive society, consequently a progressive nation, it is essential to build and develop human abilities and resources. During the presentation of the Vision 2020, the Prime Minister had mentioned in his working paper titled, *Malaysia: The Way Forward, "that the most important resource of any nation must be the talents, skills, creativity and will of its people….. Without a doubt, in the 1990's and beyond, Malaysians must give the fullest emphasis possible to the development of its resources, in particular its human resources"* (pg.23). The vision 2020 calls for culture of thinking and the promotion of thinking skills among students so as to produce a progressive society by the year 2020. (Mahathir Mohamad, 1991) (cited in Rosnani Hashim & Suhailah Hussein, 2003).

The awareness of a need to teach thinking seriously in schools gained momentum when in 1993, Tan Sri Dr. Wan Zahid Mohamad Noordin the then Director-General of Education made it the responsibility of the teaching profession to develop thinking skills in society through reflective inquiry. He asserts that *"teachers must engage in reflective enquiry, transmit knowledge, attitude, skills……They should develop thinking skills. The student should not only be taught to answer questions, but also to question answers and to question questions".* (W.M. Zahid, 1993, pg.115). A year later, he announced that the main target of the Ministry of Education by the year 2000 is to have sixty per cent of the examination questions to be of the "critical thinking" nature.

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Subsequently, in 1996 the Teacher Education Division (TED), of the Ministry Of Education, introduced a course entitled "Critical and Creative Thinking Skills" in all its Post-Degree Teaching Programme (KPLI). This course was an effort to educate future teachers on how to teach thinking skills across the curriculum. The TED also introduced this subject for its in-service courses.

The most significant move made by the Ministry after the KBSM was the introduction of the concept of the 'smart school' in 1997, whereby creative and critical thinking would become on of its two landmarks, the other being the emphasis on the application of information and communication technologies in teaching and learning.

Teachers were expected to be the agents of change in the teaching of thinking skills. Teachers' perceptions, attitudes, and behaviour toward the teaching of thinking and their teaching methods and activities may influence students' success in developing their thinking skills. It is possible that many factors will determine the success of the teaching of thinking in the classroom, but undeniably. the teacher factor seems to be the most responsible.

The literature review would discuss further on the teacher factor in teaching thinking in relation to teachers' strategies in the teaching of thinking. .

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2.5.1 Strategies for Teaching Thinking

Several techniques and methods are employed by teachers to promote thinking skills and processes among students. This include among others using structured questioning, applying Bloom's taxonomy of educational objectives in levels of questioning, using open questions more frequently than closed questions which require only one right answer, using graphical organizers, using mind mapping, organizing small-group work, varying between individual work, small-group work and whole class discussion during instruction, engaging students in retrospective writing and story telling (Swartz and Parks, 1994).

Kincheloe, J.L. & Weil, D, (2004) in their book entitled 'Critical Thinking and Learning- An Encyclopedia for Parents and Teachers listed teaching strategies designed to help teachers promote critical thinking. The strategies are as follow:

- Ask more questions; answer fewer
- Use alternative textbook sources
- Give students more responsibility
- Provide a safe environment
- Let your imagination go; brainstorm
- Encourage group collaboration
- Teach students, not concepts
- Don't have ready answers
- Focus on process not product
- Give students tools, not answers
- Encourage inquiry

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- Support student exploration
- Listen to students
- Respect all points of view
- Focus on learning, not teaching

Teachers can move towards making their classrooms more thoughtful places by making judgments and decisions from a base of empathy and understanding, by valuing originality and authenticity, and by using differences of opinion as teaching situations which invite thoughtful analyses. What is needed are teachers who engage their students in meaningful activities - ones which incorporate students' unique interests, abilities, backgrounds and community needs (Klenz, 1987).

The literature review would go on to discuss on thinking skills activities in the ESL classroom that English Language teachers can employ. Since this study attempts to investigate ESL teachers' perceptions and practices in the teaching of thinking, it seems important to relate thinking skills to language learning.

2.5.2 Thinking Skills Activities in the ESL Classroom

Developing students' ability to reflect on their own learning or metacognition can help them to progress. As Vygotsky claims, it is by means of language that culture is transmitted, thinking develops and learning occurs. English language teachers need to be trained, first of all, to be able to teach thinking / cognitive skills and strategies through English language tasks. Teaching thinking in the English language class can

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provide a real purpose for using the language as well as developing the language itself. Such an approach provides real educational value to the tasks used in the language classroom because the skills involved in critical and creative thinking, as well as in solving problems are necessary for effective functioning in the world, in general.

For the purpose of this study the critical thinking model that was discussed was the Bloom's Taxonomy which consists of six level of learning objectives. English language teachers could pose critical thinking questions from all levels of Bloom's Taxonomy to language learners. Some of the tasks on the taxonomy are difficult for English language learners because they lack the language and vocabulary to work in English. However, teachers need to ask questions from all levels of the taxonomy that are age appropriate and at the English language level of the English language learners (Haynes, 2005).

In an ESL classroom, language teachers could employ various thinking strategies and thinking skills that could be used to accomplish a variety of language learning tasks. Thinking skills encompass a broad range of major and sub skills. For the purpose of English teaching there are various major skills that could be included such as information processing, inquiry, reasoning, creative thinking, and evaluation skills all of which are crucial for academic success. Although there is nothing new about the above skills, the emphasis in this methodology is to teach the skills explicitly by making them tangible activity objectives. Having such objectives clarifies for the teacher and students what they are doing, why, and if the objectives are reached. The above skills should be practiced on a regular basis in class, the goal

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being to turn these thinking strategies into habits which will help students throughout their academic career.

The Malaysian government is very much aware of the need to produce Malaysians who can think skillfully in order to achieve the goals of Vision 2020. The aim is to produce thinking citizens who are also able to communicate effectively be it orally or in written form. Hence the communicative approach was introduced to both the lower and upper secondary schools. Language teachers need to apply the teaching of thinking skills be it critical or creative thinking into the present approach used in all the schools and teacher training college which is the Communicative Language Teaching. According to Sam (1990), some of the characteristics of the communicative approach in language learning are that activities are to be purposeful, interactive involving some form of discussion and authentic materials to be used. The situations in which the learners have to use the language should also be as realistic as possible. Thompson (1996) (cited in Maley, A, 1998) states that communicative language teaching involves encouraging learners to take part in and reflect on communication in as many different contexts as possible. Language teachers need to set up tasks and activities and adjust their teaching programs and materials to teach thinking skills which can be applied to the Communicative Approach in their ESL classrooms.

The literature review would discuss further on the teacher factor in teaching thinking in relation to teachers' behaviour and sense of efficacy in teaching thinking.

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2.6 Teachers' Behaviour for Teaching Thinking

Teachers' behaviours, that is, teachers' physical and mental action, activities and responses during teaching encourage thinking. This includes using sufficient waiting time, asking several questions to clarify and extending a student's responses, prompt reconsideration, using precision in language and promoting precision of expression, requesting evidence, being open to "unusual" ideas expressed by students and using only relevant information in discussion and communication (Swartz and Parks, 1994).

A summary of the literature on the role of "wait time," (the time a teacher allows for a student to respond as well as the time an instructor waits after a student replies) found that it had an impact on students' thinking (Tobin, 1987). In this review of studies, Tobin found that those teachers who allowed a 3-5 second pause between the question and response permitted students to produce cognitively complex discourse. Teachers who consciously managed the duration of pauses after their questioning and provided regular intervals of silence during explanation created an environment where thinking was expected and practiced. However, Tobin concludes that "wait time" in and of itself does not insure critical thinking. A curriculum which provides students with the opportunity to develop thinking skills must be in place. Interestingly, Tobin found that high achievers consistently were permitted more wait time than were less skilled students, indicating that teachers need to monitor and evaluate their own behavior while using such strategies (Carrol, 1986, 1989).

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Teachers need to become more tolerant of "conflict," or confrontation, in the classroom. They need to raise issues which create dissonance and refrain from expressing their own bias, letting the students debate and resolve problems. Authors like Frager (1984) and Johnson and Johnson (1979) claim that to really engage in critical thinking, students must encounter the dissonance of conflicting ideas. Matthew Lipman (1988) (cited in Tama, 1989) writes, "*The improvement of student thinking--from ordinary thinking to good thinking--depends heavily upon students' ability to identify and cite good reasons for their opinions"* (pg.51). Therefore teachers need to monitor their behaviour and their functions in their classrooms to enhance and stimulate their students thinking abilities.

2.6.1 Teachers' Sense of Efficacy

Teachers' sense of efficacy refers to *"teachers' situation-specific expectation that they can help students learn. That expectation rests on assumptions of how much students are capable of learning what schools have to teach"* (Ashton and Webb 1986, pg.3). *"Teachers' efficacy expectations influence their thoughts and feelings, their choice of activities, the amount of efforts they expand, and the extent of their persistence in the face of obstacles"* (Bandura 1981) (cited in Ashton and Webb (1986, pg.4). Teachers' sense of efficacy consists of two independent dimensions: sense of teaching efficacy and sense of personal teaching efficacy. Sense of teaching efficacy refers to teachers' expectations that teaching can influence student learning, whereas sense of personal teaching efficacy refers to teachers' assessment of their

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own teaching competence. This study focuses on the sense of personal teaching efficacy.

The literature review would go on to discuss studies related to teachers' perceptions and practices in the teaching of thinking.

2.6.2 Teachers' Perceptions of the Teaching of Thinking.

Little attention has been given to teachers' own understanding and conception of what the teaching of thinking is all about. This is evident from the fact that only a few studies have been conducted on teachers' perceptions and attitudes toward the teaching of thinking (Rosnani Hashim & Suhailah Hussein, 2003). Studies on the teaching of thinking should help to improve the practice of the teaching of thinking in schools. Thus, one of the ways to achieve this goal is to examine the teachers' own perspectives and practices about the teaching of thinking. This study would look into the perceptions and practices of the secondary school English language teachers in the teaching of thinking.

In Onosko's study (1989), the beliefs of two groups of teachers were compared in terms of their instructional goals, definitions of effective thinking and the issue of content coverage. The two groups consisted of the outstanding and less outstanding teachers. It was based on their high or low scores in promoting students' thinking that they were divided into these two groups. Onosko gave the scores based on six observational scales which were designed to capture central elements of

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thoughtful classroom discourse. A sample of 10 teachers was selected from a total of 15 teachers from five secondary schools as part of the Higher Order Thinking in the Humanities Project at the National Centre on Effective Secondary Schools. The methodologies involved in this study were classroom observations, a survey, and interviews.

The results showed that the outstanding teachers had more positive beliefs and attitudes toward the teaching of thinking than the less outstanding teachers. The former emphasized more on developing students' thinking using content as a vehicle rather than being concerned with the acquisition of the content itself. Meanwhile, the latter viewed content acquisition as their primary goal. The outstanding teachers also gave a more detailed conception of thinking than the less outstanding teachers. In the issue of content coverage, the outstanding teachers preferred to expose students to ideas and issues. In the final analysis, Onosko's study suggested that teachers may have different beliefs, which can influence their practices in teaching thinking.

Teachers' attitudes may also influence their practices. In Yildrim's (1994) study, teachers' attitudes toward the teaching of thinking were examined. His study also tried to identify whether there was a relationship between teachers' gender, experience, subject matter, and type of school and the teaching of thinking. The sample of this study consisted of teachers from the elementary, middle and high school. The method used in this study was a three-part survey questionnaire which investigated theoretical orientations toward thinking, attitudes toward the teaching of thinking and activities used to improve students' thinking in classrooms. Teachers

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who were content-oriented emphasized on the content of thinking while teachers who were skill-oriented emphasized on the thinking skills.

The result showed that almost all the teachers viewed the teaching of thinking as an essential responsibility both for schools and teachers. However, a majority of them perceived certain student-related constraints on the students' part rather than teacher-related barriers that hindered their efforts in teaching thinking. The study reported that teachers displayed significant differences in their attitudes by school level and training in the teaching of thinking. There were also significant differences in teachers' orientations toward the teaching of thinking based on subject areas and gender. A clear skill orientation was more likely to be found among mathematics, science and general elementary teachers, while a clear content orientation was most common among English and arts teachers. Almost all social studies teachers had a mixed orientation toward the teaching of thinking. Female teachers were more likely to be skill-oriented than male teachers were.

Both studies (Onosko, 1989; Yildrim, 1994) mentioned did not deal directly with teachers' perceptions. There was one study (Howell, 1987) that looked into teachers' perceptions but only on the inhibiting factors of teaching thinking. Howell analyzed elementary school teachers' perceptions on role relations and organizational management in the social structure of the school as a social institution. He interviewed 100 classroom teachers in five schools and found that lack of stated goal priority, absence of adequate training, socialization, and perceived bureaucratic constraints were the inhibiting factors for the teaching of thinking.

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Asmah (1994) conducted a survey to test the knowledge, skills and attitudes of secondary school teachers in Kuching, Sarawak toward teaching critical thinking across the curriculum. A total of 203 secondary school teachers from 10 schools responded to a 25-item questionnaire. The findings showed that the majority of the teachers had minimal knowledge of basic skills and tasks emphasized in critical thinking. Graduate teachers obtained higher mean scores than non-graduate teachers in terms of skills or instructional practices. Attending at least a course on critical thinking improved teachers' skills and attitudes toward critical thinking. Teachers who had one to ten years of teaching experience infused more thinking skills in their lessons compared to teachers with more than ten years of teaching experience. On the other hand, those who taught more than ten years tended to include critical thinking in their lessons indirectly. Teachers with less than 20 teaching periods per week showed more inclination to include practices that foster critical thinking in their instruction. Teachers suggested that critical thinking is best achieved through infusion in their subjects.

Chia (1995) conducted a preliminary study on the effects of de Bono's CoRT1 thinking tools on teachers' perception. The effects of CoRT 1 thinking tools were measured using the pre and post scores on the Self Concept of a Thinker Scale (SCAT), Thinking Approach Questionnaire (TAQ) and Hemispheric Mode Indicator. The study was carried out by using a quasi-experimental method on a group of 19 teachers who were attending a Computer in Education in-service course. These teachers were exposed to 16 hours of CoRT1. The findings showed there is a significant difference in the pre and post scores on the Hemispheric Mode Indicator.

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A qualitative analysis of the data strongly indicates that the teaching of CoRT1 thinking tools can influence the perception of the subjects, particularly in widening their perception.

A recent study by Rajendran (1999) investigated whether Form Two Malay and English Language teachers were prepared to infuse higher order thinking skills in their subjects. This study involved two main aspects: firstly, whether teachers perceived that they were prepared in terms of their knowledge, skills and attitudes to teach higher order thinking skills. Secondly, how they actually taught higher order thinking skills in their classrooms. The study employed the survey method, participant observations and interviews. Questionnaires were distributed to 112 teachers, 62 teaching Malay and 50 teaching English. The interviews involved 2 Malay and English language teachers, four groups of students and four ministry officials.

The findings of the study showed that teachers were not prepared to teach thinking through infusion in their own classrooms. Teachers also lacked the attributes to construct the pedagogical content knowledge. The number of years teachers had been teaching significantly influenced their perceptions of their knowledge and skills. Many factors such as the teachers' own orientation towards teaching, curricular requirements, and myths about teaching of thinking inhibit the teaching of higher order thinking skills. There was a dissonance between what teachers believed and practiced and the kind of teaching recommended by education reformers. Their own orientations toward teaching were often not changed by their

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pre-service and in-service training. All four language components were underutilized in promoting higher order thinking skills. Teachers did not seem to understand the importance of active student participation and to encourage it in their classrooms. The Malay and English language teachers did not utilize strategies such as the problem solving strategies.

Busrah (1999) studied teachers' perception of the implementation of the teaching of Critical Thinking Skills (CTS) in KBSM history with respect to lesson planning, lesson execution and the problems faced in its teaching. The sample consisted of teachers from the Hulu Langat district in Selangor. The instruments consisted of a checklist of items on lesson planning, teaching observation, and teachers' interview. The results showed that CTS was emphasized in lesson planning. However, in lesson execution it was found that the questions posed by the teachers did not encourage higher order thinking skills. About 30.67 percent of teaching period involved attempted to teach CTS. Thirteen problems in implementing CTS were identified, among them: students' disciplinary problems, need to complete the syllabus, lack of teaching aids, inadequate planning time, inadequate knowledge and skills of critical thinking, too many students in a class, lack of reference materials, heavy teaching and non-teaching load, short teaching period, lack of text books, and the difficulty of having a "floating" class.

More recently, Suhailah (2000) conducted a study to examine teachers' perceptions on the teaching of thinking skills and their practices. Her sample consisted of 127 secondary school teachers from the Klang district. The study

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employed a self-constructed survey questionnaire. The findings of this study revealed that generally teachers have positive perceptions of teaching thinking and that they practiced it in their classrooms. Most agreed that partial infusion was a better approach than the indirect, complete fusion and stand-alone approaches. However, in practice, the indirect approach was more frequently employed. Almost half of the teachers felt that the curriculum did not encourage them to teach thinking to their students. Most of them possessed a low sense of efficacy in teaching thinking. Most teachers tend to emphasize the teaching of lower levels of thinking more frequently than the higher levels of thinking. The study also found the existence of positive relationships between teachers' perceptions and practices, and teachers' perceptions and the number of courses attended.

2.6.3 Teachers' Practices in the Teaching of Thinking

There are some studies (Stuart, 1987; Jaworski, 1992; Howarth, 1996) that explored teachers' practices in teaching thinking in classroom. Several studies had been carried out to investigate the different approaches and teaching methods that teachers employed to develop students' thinking skills. Most of these studies concentrated on the subjects because different subjects entail different kinds of thinking and methods of teaching of thinking.

Howarth (1996) conducted a study that looked into the teaching of thinking skills in Physical Education in middle school. He was interested in finding out teachers' perceptions, extent of practices, planning and implementation of the

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teaching of thinking skills in Physical Education and the context in which the teaching of thinking skills had developed in Physical Education. The study involved interviews and classroom observations. The results indicated that thinking skills were taught but with unequal emphasis. For instance, problem solving and group decision-making skills received more emphasis than critical and creative thinking skills. Teachers did not consider at all metacognition, or thinking about thinking, in their views of the purposes of Physical Education. Teachers facilitated the use of thinking skills by adapting the teaching style, manipulating the learning environments and providing a variety of sources of information. Teachers planned and implemented the teaching of thinking skills depending on one or more of the following factors: perceived role in teaching thinking skills, view of the child, view of the nature of knowledge and learning in Physical Education, and context. The finding of the final research question revealed that context, including teachers' background, colleagues' values, and school culture interacted with teachers' decisions and commitment to the teaching of thinking skills.

Jaworski (1992) conducted an ethnographic study on the teaching of Mathematics. The study examined six teachers' classroom teaching of Mathematics associated beliefs, and motivation. According to Jaworski, all the six were selected because they gave evidence of employing an investigative approach to mathematics. The method employed in this study was participant-observation and informal interviewing for data collection, and triangulation and respondent validation for verification of analysis. The results showed that teachers who could be seen to operate from a constructivist philosophy regularly made high level cognitive

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demands, which resulted in the incidence of high level mathematical processes and thinking skills in their pupils. Levels of interpretations within the study led to the identification of investigative teaching both as style of teaching and as a form of reflective practice in the teaching of Mathematics.

In another study by Stuart (1987), it was found that a change in classroom methods from teacher-centred resulted in an increase in students' participation. Stuart's study was an action research that examined the effects of different teaching methods of thinking on students' performance. Aspects of teaching and learning Developmental Studies (social studies) in Lesotho, mainly in lower secondary school were explored. Five teachers were chosen and they selected aspects of their own teaching for investigation, experimenting with new classroom methods and evaluating their effects. In the beginning of the study, The Developmental Studies lessons were commonly teacher-centred and didactic. But when the teachers introduced pupil–centred and activity-based methods, they managed to increase the participation, encouraged an open view of knowledge and made the pupils more independent. The level of cognitive skills could be raised by deliberate challenges and by instruction in study skills.

A study conducted by Gilbert (1994) tried to examine the relationship between teachers' practices of teaching critical thinking skills with academic subjects taught, participation in thinking skills with academic subjects taught, participation in thinking skills workshop, and additional demographic attributes of teachers. The methods employed in this study were a survey and a series of

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interviews. The survey described the demographic background of the teachers, tested the teachers' critical thinking skills, and reported their behaviours that stimulate learning. It was found that the teachers' behaviours that stimulate thinking such as demonstrating inquisitiveness were frequently exhibited, followed by direct teaching of thinking skills and, lastly use of metacognition. The lower levels of thinking were more frequently taught than the higher levels of thinking.

Gilbert's (1994) study found that there was a negative relationship between teachers' critical thinking skills and their practices. There was a significant difference between the number of thinking skills and the academic subjects that teachers taught. There were also significant differences between the different academic subjects and the lower and higher levels of thinking. The mean for teachers' current practices for those who attended the 20 hour thinking skills workshop were higher than those who did not, although no significant differences were noted between the two groups. Of the demographic attributes of teachers explored, grade 5 teachers reported more teaching of thinking skills than grade 7 teachers.

Gilbert (1994) also found that teachers with at least 4 hours of training in teaching thinking skills had significantly more positive practices in the teaching of thinking than teachers who had less than 4 hours of training. Gilbert interviewed teachers on factors that influenced their teaching of thinking skills and found that some of the factors were related to the needs and interest level of the students, the

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crowded curriculum, the demand of teaching standardized tests, and the need for more training and materials on teaching thinking.

Gilbert's (1994) study is one of the few that looked into teachers' own practices in the teaching of thinking. Such studies are important as they shed some information and highlighted problems that teachers actually face in their effort to teach thinking. There are also not many studies that examine the relationship between different variables such as the study by Gilbert. It is also important to examine the relationship that may exist between the different variables toward the teaching of thinking so as to allow policy makers to understand problems affecting teachers in their efforts to teach thinking.

Kartini (1998) conducted a study on critical thinking skills in smart learning and the teaching of History. She explored the extent to which critical thinking skills were emphasized in the classroom practice of upper secondary school teachers with respect to teaching strategies, classroom organization and interactions. She also attempted to measure teachers' skills and dispositions. The methods employed in this study included a survey, guided interviews and classroom observations. Questionnaires were distributed to 127 teachers; 23 of the teachers were interviewed and 4 were observed. The 'Teachers Self-reflection on Teaching Critical Thinking Skills' questionnaire was employed in the study.

The findings revealed that out of 20 critical thinking strategies only four were frequently used by one-third of the respondents. These four strategies were (a)

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allowing 'wait time' for response, (b) encouraging clarification, (c) relating to other subjects or life experiences, and (d) identifying strengths and weaknesses in arguments. Three critical thinking strategies: (a) identifying and analyzing value judgments, (b) developing inductive reasoning, and (c) explaining and modeling skills explicitly, were hardly used. There was a significant difference in seven strategies that were used with regard to teachers' teaching experience. Teachers who had four to six years and seven to nine years of teaching experience used most of the 20 strategies compared to teachers who taught less than 4 years. Meanwhile, the classroom observations showed that teaching activities were teacher-centred. Based on the interviews, several factors were identified as inhibiting teachers' teaching of thinking. These were emphasis on students' examination, lack of time, lack of suitable teaching materials, the burden of other responsibilities such as administration and co-curricular activities, students' limited abilities and weaknesses in language and reading.

More recently, Rosnani (2001) examined teachers' perceptions and practices in the teaching of thinking in secondary schools in Selangor. She attempted to find out how teachers felt about the value of teaching thinking and their sense of personal teaching efficacy. The study also examine teachers' appraisal of their practices with respect to four scales: (a) lower order thinking skills (LOTS), (b) higher order thinking skills (HOTS), (c) teaching strategies for thinking (TSTRAT) and (d) teachers' behaviour that promote thinking (TBEHAV). The study employed the survey research method with a self-constructed questionnaire as its major instrument

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and supplemented with interviews. The sample consisted of 337 teachers from all nine districts in Selangor.

The results showed that in general teachers valued highly the teaching of critical and creative thinking. However, a majority of them felt a low sense of personal teaching efficacy in teaching of thinking skills and processes. The results provided evidence of satisfactory practices in LOTS, HOTS and BEHAV but poor practice in TSTRAT. There were no significant differences in all the four scales across demographic variables with the exception of a conspicuous difference for sense of efficacy with respect to gender, course attendance, teaching experience and subject specialization. There existed a significant and moderate positive correlation between perception and practice.

2.7 Summary

In order to face new challenges, Malaysia needs an education system that teaches the people to think. No doubt claims have been made about teaching students how to think critically in the classrooms. These teachings by right should have been done but no one is able to make a claim as to how successful the teaching of thinking has been carried out. Teachers should create an atmosphere where students are encouraged to read deeply, questions, engage in divergent thinking, look for relationships among ideas and grapple with real life issues. Not only the atmosphere of the classroom has to change, the teacher themselves have to change. They need to be careful no to raise issues, which create disharmony and refrain from expressing their own bias - letting the students' debate and resolve problems. But training

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students to think critically is not an easy job to do because the success of the training depends on the students themselves. As Lipman (1988) (cited in Tama, 1989) said *"The improvement of student thinking from ordinary thinking to good thinking…. depends heavily upon student's ability to identify and cite good reasons for their own opinions"* (pg.51).

As well as teachers, the government must also play its part in promoting critical thinking in the education policy. In order to develop great thinkers in our nation both teachers and government have to work together to achieve this aim without which a failure to do so might resulted in the education system producing students who are not critical enough and in the long run, the nation will suffer. Therefore teaching thinking skills need to be taken very seriously if we want to produce citizens whose decisions and choices will be based on good and quality thinking.

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CHAPTER THREE

METHODOLOGY

3.0 Introduction

This research focused on teachers' perceptions and practices in their efforts to teach thinking in the ESL classroom. There were many studies (Barbieri, 1989; Valerie, 1991; Barnard, 1992) that attempted to understand and identify the methods, activities and procedures, which may be considered appropriate to teach thinking in classrooms, but the practitioners own point of view has been missing in these efforts. It is more important to know and understand what the teachers' think of teaching thinking and the efforts taken to develop thinking skills among students in the context of the ESL classroom.

In this study, the researcher was interested to find out what English Language teachers really think of teaching thinking in their ESL classrooms and their feelings toward it. The study also attempted to expose the approaches and strategies the teachers claimed they used in developing students' thinking. Answers to these questions should be of interest to the Ministry of Education of Malaysia and

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educational researchers in the area of thinking as they might provide an insight to the real state of the teaching of thinking in schools.

3.1 Research Design

The survey method was employed for this study. This method was chosen as it is the most efficient way of getting to a large number of teachers in collecting a large amount of information for the study of their perceptions and practices with respect to teaching thinking within the shortest time and least cost. However, triangulation was done through interviews with teachers to get their views on the teaching of thinking in their ESL classroom.

The design of the study was carried out following the phases below. (Refer figure 3.1)

Phase 1

In the phase 1 of the study the researcher went through the questionnaire items from the study on teacher's perceptions and practices in the teaching of thinking conducted by Rosnani Hashim and Suhailah Hussein of International Islamic University Malaysia (2001). The above study had four parts of the questionnaire items. Upon discussion with the supervisor, the researcher made use of the first three parts of the questionnaire which consists of teachers' general background information, teachers' perceptions toward teaching thinking skills and teachers' report of their practices in teaching thinking skills for the study. (Appendix A) The researcher then self-constructed ten interview items based on the questionnaire items to reconfirm certain items in the instrument. (Appendix B)

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Phase 2

In the second phase of the study, the questionnaire items were distributed and pilot tested on thirty teachers from a few schools which were not on the list of the selected schools to determine the clarity of the items in the instrument. Based on the pilot test some minor amendments were made to refine the instrument further. The results of the pilot study confirmed that the instruments were appropriate for the purpose of the study. (Appendix C)

Phase 3

During the phase 3 of the study, the researcher distributed the questionnaires to the English language teachers of the schools in Tapah, Sungkai, Slim River and Tanjong Malim. The questionnaires were later collected after a week. The researcher also conducted an interview session with two teachers at this stage of the study. The interview sessions were tape-recorded to facilitate the researcher in carrying out the analysis of the responses. (Appendix D)

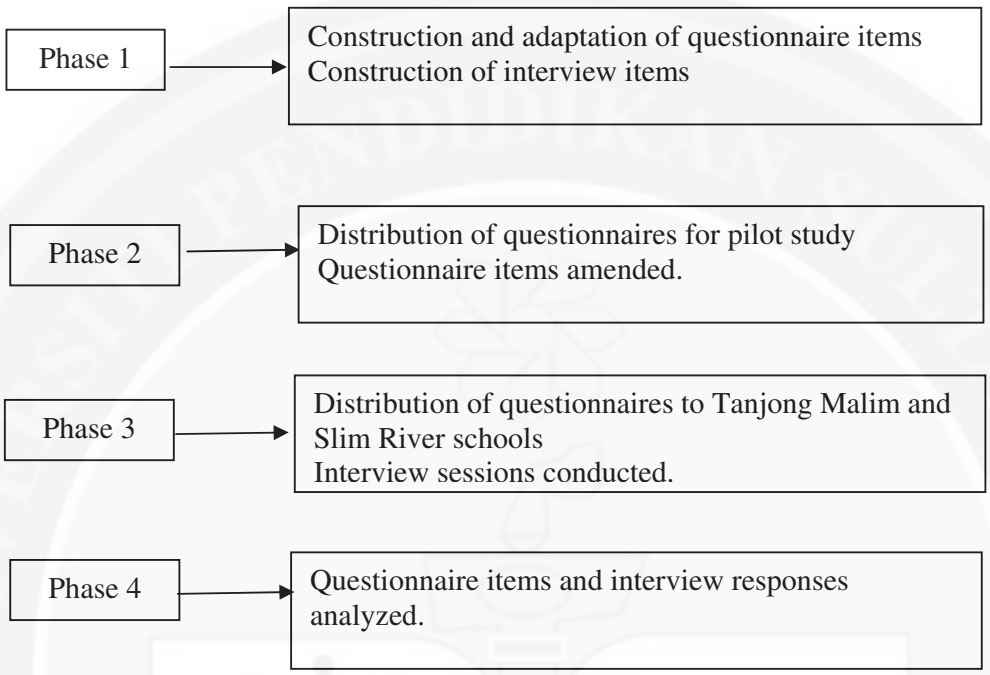
Phase 4

In this final phase of the study, the distributed questionnaires were collected and later analyzed in the following sequence a) demography b) descriptive statistics c) t-tests for differences of means d) analysis of variance e) correlation analysis. For the interview, responses were transcribed for analysis.

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Figure 3.1: Research Design



3.2 Sample and Sampling Procedures

The population for this study was made up of teachers who were teaching in national secondary schools in Tapah, Sungkai, Slim River and Tanjong Malim in the district of Batang Padang. All the secondary schools in Tapah, Sungkai, Slim River and Tanjong Malim were randomly selected for the purpose of this survey.

The questionnaires for the survey were distributed to English Language teachers in 12 secondary schools in Tapah, Sungkai, Slim River and Tanjong Malim. A total of twelve schools were involved in the survey and 115 questionnaires were distributed. The number of returned questionnaires was 103. The researcher distributed the questionnaires with the help of an English language teacher from each

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of the schools. The researcher obtained permission from the school principals to distribute the questionnaires to the teachers in these schools.

The population for the survey was made up of English Language teachers from the 12 secondary schools in Tapah, Sungkai, Slim River and Tanjong Malim. A total of 115 questionnaires were distributed and the returned rate of the questionnaires was about 90 percent. As the study included interview sessions apart from the questionnaires, 2 teachers were randomly selected to be interviewed. The teachers were from Slim River and Tanjong Malim respectively.

3.3 Instrumentation

The instrument for this survey consisted of a set of questionnaire that was adapted from the study conducted by Rosnani Hashim and Suhailah Hussein of International Islamic University Malaysia (2001). The above study had four parts of the questionnaire items. For the purpose of this study, three parts of the questionnaire were chosen for the survey. The instrument is divided into three parts:

i. Teacher's background (7 items)

ii. Teacher's perceptions of the teaching of thinking (18 items)

iii. Teacher's report of their practices in the teaching of thinking (38 items)

Part 1 of the instrument sought information on teachers' background namely gender, age, academic status, means of exposure to teaching skills and processes, teaching experience, weekly teaching period and duration of teaching thinking courses attended. Items were in the form of multiple choice questions.

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Part II measured teachers' perceptions toward the teaching of thinking. It sought to find out teachers' perceptions based on: (Refer to Figure 3.2)

i. teaching approaches and methods (4 items; no. 1 – 4)

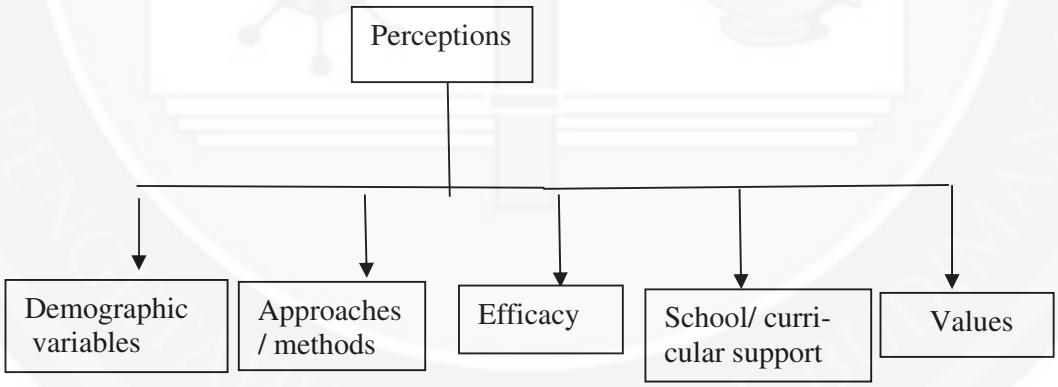
ii. the school and curricular support (6 items; no. 5 – 10)

iii. teachers' sense of efficacy (4 items; no. 11 – 14)

iv. teachers' value of teaching thinking (4 items; no. 15 – 18)

The response to each item is in the form of a four point Likert scale of "strongly agree", "agree", "disagree" and "strongly disagree". Two sub-scales, namely teachers' sense of efficacy (EFFICACY) and value of teaching thinking (VALUE), were measured from Part II. Items 6, 7 and 8 of the school and curricular support were presented in a negative form.

Figure 3.2 – Teachers' Perceptions



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Part III of the instrument examined teachers' practices on teaching thinking as reported by them. It intended to measure the following practices: (Refer to Figure 3.3)

i. Teaching of lower order thinking skills (7 items; no. 1 – 7)

ii. Teaching of higher order thinking skills (7 items; no. 8 – 14)

iii. Teaching of different type of thinking skills (4 items; no. 15 – 18)

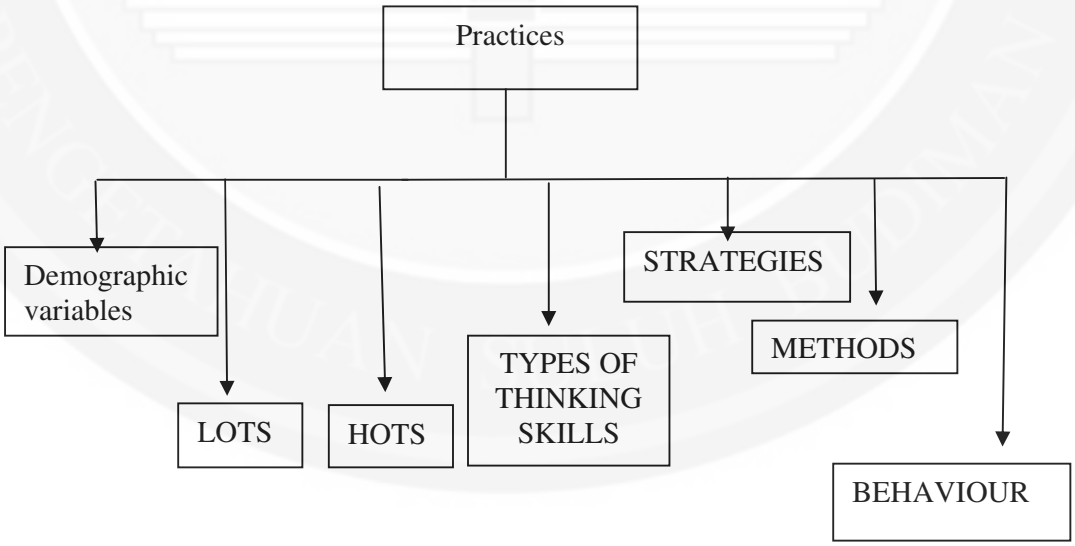
iv. Methods of teaching thinking (2 items; no. 19 – 20)

v. Teachers' teaching strategies for thinking (9 items; no. 21 – 29)

vi. Teachers' behaviour that models thinking disposition (9 items; no. 30 – 38)

The items were in the form of a four point Likert scale of "never", "sometimes", "often" and "always". Part III yielded four sub-scales of interest, namely, lower order thinking skills (LOTS), higher order thinking skills (HOTS), teaching strategies (TSTRAT) and teachers' behaviour (TBEHAV).

Figure 3.3 - Teachers' Practices



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The second instrument used for the purpose of this study were interview items which were self-constructed based on part II and part III of the questionnaire items. 10 interview items were constructed consisting of 4 items on teachers' perceptions and 6 items which consisted of teachers' practices of teaching thinking. The interview items were determined to reconfirm certain items in the questionnaire and sought additional information in terms of teachers' perceptions and practices in the teaching of thinking in the ESL classroom.

3.4 Pilot Study

The instrument was pilot tested on thirty teachers from a few schools that were not on the list of the selected schools to ensure the clarity of items. Based on the pilot test, some minor amendments were made in order to refine the instrument further. The results of the pilot study confirmed that the instruments were appropriate for the purpose of the study. The reliability of the instrument was established using the method of internal consistency and employing alpha Cronbach coefficients. The alpha coefficients ranged from 0.70 to 0.94 which indicated that the instrument was reliable. (Appendix C)

3.5 Data Collection Procedures

The questionnaires were administered with the cooperation of the English Language teachers in the respective schools with the approval of the various school principals. The questionnaire would be collected within one to two weeks of distribution.

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The two interview sessions were conducted through a tape-recorded session with the researcher and the respective teachers who agreed to be interviewed. The responses of the interview sessions which were transcribed are shown in APPENDIX D.

3.6 Data Analysis Procedures

To answer the first research question on teachers' perception of the various areas and the two sub-scales, frequencies, mean, and percentages were employed. For the second research question which examined the teachers' practices of the various areas of interest and the four sub-scales, frequencies, mean and percentages were also applied.

To find out if there were any statistically significant differences in teachers' perception and practices toward the teaching of thinking (as in research question five) with respect to gender, teaching experience, course attendance and teaching periods, the t-tests for independence of means and the ANOVA were employed appropriately. Finally, to find out if there were any correlations between teachers' perceptions and practices toward the teaching of thinking, the Pearson Product Moment correlation was conducted.

3.7 Limitations of the Study

This is a case study based study. The conclusion made in this study must be treated as tentative in view of several limitations.

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The first limitation is the small sample of the teachers who were involved in this study. This limits the generalisability of the results. In addition the study only focuses on English Language teachers who teach the subject. Thus, the findings of this study may be unique to the sample. The sample in this study is limited to English Language teachers in Tanjong Malim and Slim River in the Batang Padang District. Consequently the findings may not be applicable to English Language teachers in other states of east and west Malaysia. Although the results cannot be generalized, the study hopes that practicing teachers will be able to draw some relevant facts and pointers from the findings and apply them in their practices to improve students' thinking abilities.

The second limitation is the non-random sampling of the subjects. This suggests that the study should be seen as exploratory in nature.

The third limitation lies in the scope of the study which only focuses on English Language teachers' perceptions and practices in the teaching of thinking. Teachers' knowledge of thinking skills and processes were not considered in the study. This limits the generalisabilty of the results in terms of knowledge and exposure of teachers in the teaching of thinking in an ESL classroom in the Malaysian context.

Lastly the limitation lies in the inability to extend the study to teachers of different subjects across the curriculum. Thus the perceptions and practices of teachers who teach subjects like Bahasa Melayu, Mathematics, Science and the other subjects would not be seen as the findings and results are applicable to English Language teachers who teach the language in the ESL classrooms.

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CHAPTER FOUR

RESULTS

4.0 Introduction

The purpose of this study was to examine English Language teachers' perceptions towards the teaching of thinking skills and their actual practices in the scenario of the Malaysian ESL classroom. This study also attempted to answer the following research questions.

1. How did English Language teachers perceive the teaching of thinking with respect to approaches, school and curricular support, sense of efficacy and values of teaching thinking?

2. What were their practices in teaching thinking in terms of the type of skills, lower and higher order thinking skills, teaching strategies, and teachers' behaviour conducive to thinking?

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3. Were there any significant differences in English Language teachers' perceptions toward the teaching of thinking with respect to age, gender, academic qualification, teaching experience, course attendance and teaching periods?

4. Were there any significant differences in English Language teachers' practices toward the teaching of thinking with respect to age, gender, academic qualification, teaching experience, course attendance and teaching periods?

5. Was there any statistically significant relationship between English Language teachers' perceptions and teachers' practices?

4.1 Results

In this chapter the results and findings of the study are presented. The results are discussed in the following sequence: (a) demography (b) descriptive analysis (c) inferential analysis and (d) the analysis of interviews.

4.1.1 Demographic Variables

Table 4.1 shows that 103 of the 115 teachers responded to the question on gender and of these, 22 (21.4%) were males and 81 (78.6%) were females. Approximately, more than three quarters (89.1%) of the respondents were graduates possessing a Bachelor's degree. About 44.7% of the teachers were between 30 and 40 years of age, and the remaining 55.4% between the age group

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of younger than 30 and older than 40 (see Table 4.1.1). Approximately, less than a quarter (16.5%) of the teachers had five years or less of teaching experience, another 22.3 % of the teachers had between 6 to 10 years. About 39.8% of the teachers had between 11 to 20 years of teaching experience. Those having more than 20 years of teaching experience made up of 21.4%. In terms of teaching periods almost half of the teachers (42.7%) had between 23 – 25 teaching periods weekly and teachers with 20-22 teaching periods forming the next highest group (18.4%).

Most of the teachers (67.0%) were exposed to the teaching of thinking skills and processes through in-service courses attended by teachers, conducted by the Ministry of Education. (see Table 4.1) The next largest group (51.5%) was exposed through self-reading. For those who were exposed through attending courses, 67.0% of them attended courses that were conducted for a duration of less than one month while 20.4% attended courses which lasted from one to three months.

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Table 4.1
Respondents' Demography

Variables		N	Percent
1.	**Sex**		
	Male	22	21.4
	Female	81	78.6
2.	**Category**		
	Graduate Teacher	90	89.1
	Non-Graduate Teacher	11	10.9
3.	**Age**		
	25 and below	1	1.0
	26-30	15	14.6
	31-35	25	24.3
	36-40	21	20.4
	40 and above	41	39.8
4.	**Teaching Experience**		
	1-5	17	16.5
	6-10	23	22.3
	11-15	24	23.3
	16-20	17	16.5
	21 and above Table 4.1 (Continuation)	22	21.4
5.	**Teaching Periods Per Week**		
	Less Than 20	15	14.6
	20-22	19	18.4
	23-25	44	42.7
	26-28	18	17.5
	28 and above	7	6.8
6.	**Means Of Exposure To Thinking Skills**		
	A. Pre-Services Course	27	26.2
	B. Seminar Or Conference	35	34.0
	C. Never Been Exposed Before	14	13.6
	D. In-Services Course	69	67.0
	E. Self Reading	53	51.5
7.	**Duration Of The Course (In Month)**		
	< 1	69	67.0
	1-3	21	20.4
	4-6	2	1.9
	7-9	3	2.9
	> 9	8	7.8

N = 103

The second part of the discussion of the results would be based on the descriptive analysis to answer research questions 1 and 2.

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4.1.2 Approaches to the Teaching of Thinking

Table 4.2 shows that 90% of the respondents agreed to the teaching of thinking through the methods of complete infusion, partial infusion and indirect teaching and only 48.5% agreed for a separate and independent subject on the teaching of thinking. In fact, the biggest disagreement (51.5%) was for the teaching of thinking as a separate, independent subject.

Table 4.2
Teachers' Perception of the Various Teaching Approaches

Teaching Approaches		Strongly Disagree & Disagree		Strongly Agree & Agree	
		%	(N)	%	(N)
1.	Complete infusion	6.8	7	93.2	96
2.	Separate and independent	51.5	53	48.5	50
3.	Indirect	5.8	6	94.2	97
4.	Partial infusion	1.9	2	98.1	101

4.1.3 Curriculum and School Support for the Teaching of Thinking

Table 4.3 indicates that more than three quarter (80.6%) of the respondents agreed that the existing curriculum provided opportunities to teach thinking despite the fact that more than half (67.0%) agreed that there was too much content in the syllabus which did not allow the space for teaching thinking. More than half (58.3%) of the teachers were positive on their attitude for teaching thinking, as reflected in their disagreement that focusing on developing students' thinking hinders the progress of a lesson. However, this is still below the criterion of satisfaction as 41.7% of the teachers felt that focusing on students' thinking would hinder the progress of a lesson. The curriculum was seen as inadequate, as reflected by about 71.8% of the teachers who agreed that it did not provide adequate guide on teaching thinking skills through a particular subject. With

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respect to the role of the school leadership, more than half (57.4%) of the teachers felt that the school principal emphasized thinking skills as an important part of the school programme. This is still below the criterion of satisfaction. The textbooks were considered to be of great help in the teaching of thinking as expressed by nearly three quarter (73.8%) of the teachers. Thus, in general it can be said that the school curriculum, the development of students' thinking and school leadership were not very encouraging with respect to enhancing the teaching of thinking in schools.

Table 4.3

Teachers' Perception of School Support for the Teaching of Thinking

Statements of school and curricular support		Strongly Disagree & Disagree		Strongly Agree & Agree	
		%	(N)	%	(N)
5.	The existing curriculum provides opportunities to teach thinking..	19.4	20	80.6	83
6.	There is too much content in the syllabus that it does not allow the space for teaching thinking.	33.0	34	67.0	69
7.	The curriculum does not provide adequate guide on how thinking skills can be taught through a particular subject.	28.2	29	71.8	74
8.	Focusing on developing student's thinking hinders the progress of a lesson.	58.3	60	41.7	43
9.	The school principal emphasizes teaching thinking skills as an important part of the school programme.	42.7	44	57.3	59
10.	The textbook used helps in the teaching of thinking.	26.2	27	73.8	76

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4.1.4 Teachers' Sense of Efficacy in the Teaching of Thinking

From table 4.4 it can be inferred that in general, teachers have a high sense of efficacy in developing thinking skills in their students. More teachers agreed that they have adequate skills, knowledge and competence in developing and teaching of thinking skills. The mean percentage of agreement for possession of a sense of efficacy among the teachers was rather high as reflected by the mean percent of 72.8.

Table 4.4
Teachers' Perception of Their Sense of Efficacy in the Teaching of Thinking

Sense of efficacy statements		Strongly Disagree & Disagree		Strongly Agree & Agree	
		%	(N)	%	(N)
11.	I have adequate skills to develop student' thinking	29.1	30	70.9	73
12.	I have adequate knowledge about teaching thinking	34.0	35	66.0	68
13.	I feel competent in teaching my student how to thinking well	22.3	23	77.7	80
14.	Through my teaching, I have attained the objectives of developing my student's thinking skills as intended	23.3	24	76.7	79
Mean Percentage		27.2		72.8	

4.1.5 The Value and Importance of Thinking Skills

It is evident from Table 4.5 that almost all the respondents (more than 90%) agreed on the value and importance of developing thinking skills in students. The mean percentage of agreement for all these positive statements on the value and importance of the teaching of thinking was quite high at 94.9%. Teachers felt

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positive that thinking skill is important for students. It could enhance students' success in activities outside of school, help improve their academic achievement and is relevant for their future career.

Table 4.5
Teachers' Perception of the Values of Developing Thinking Skills in Students

Value statements		Strongly Disagree & Disagree		Strongly Agree & Agree	
		%	(N)	%	(N)
15.	Teaching thinking skills is useful for students' success in activities outside of school	2.0	2	98.0	100
16.	Teaching thinking skills is important to help improve students' achievement	3.9	4	96.1	98
17.	Teaching thinking skills is relevant for work success	2.9	3	97.1	99
18.	Developing students' thinking skills helps to improve their moral reasoning	11.8	12	88.2	90
Mean Percentage		5.1		94.9	

4.1.6 Teaching the Lower Order Thinking Skills (LOTS)

Table 4.6 shows that teachers frequently teach lower order thinking skills in the following order of frequency: (a) giving reasons (79.6%), (b) Sequencing (69.9%), (c) comparing and contrasting (66.0%), (d) determining parts and whole relationship (58.3%), (e) definition of terms and concepts (54.4%), (f) categorization and classification (52.4%), (g) reasoning by analogy (45.6%). The mean percentage for frequent practice of the LOTS is 60.9% and is rather satisfactory in comparison with the mean percentage of 37% for "sometimes". The

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mean percentage of 2.1% for "never" implies that some of the teachers never employed the LOTS in practice.

Table 4.6
Teachers' Practice in Teaching the Lower Order Thinking Skills (LOTS)

Lower order thinking skills (LOTS) statements		Never		Sometimes		Often & Always	
		%	(N)	%	(N)	%	(N)
1.	I ask my students to look for similarities and differences between two things or concepts	0	0	34.0	35	66.0	68
2.	I require my students to categorize things or subjects according to their common properties	1.0	1	46.6	48	52.4	54
3.	I arrange ideas or subjects according to sequence, chronology or importance to facilitate acquisition and storage of information efficiently and effectively	2.9	3	27.2	28	69.9	72
4.	I insist upon my students to define major terms and/or concepts used in class discussion	1.9	2	43.7	45	54.4	56
5.	I encourage my students to give reasons for their answers	0	0	20.4	21	79.6	82
6.	I encourage my students to reason by using analogy	6.8	7	47.6	49	45.6	47
7.	I encourage my students to determine the relationship between all the parts and the whole	1.9	2	39.8	41	58.3	60
Mean Percentage		2.1		37.0		60.9	

4.1.7 Teaching the Higher Order Thinking Skills (HOTS)

Table 4.7 shows that teachers did attempt to teach the higher order thinking skills (HOTS) as indicated by a mean percentage of 62.0% of frequent practice. Like the LOTS, the HOTS is also rather satisfactory in comparison with the mean

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percentage of 34.5% for "sometimes". The order of frequency is: (a) making predictions (76.7%), (b) seeking reasons (72.8%), (c) making generalization (67.0%), (d) uncovering assumption (64.1%), (e) reliability of sources (62.1%), (f) making inferences (58.3%) and (g) using analogy figuratively through metaphors (33.0%). The skill of using metaphors was the least frequently applied. It is probable that teachers were not familiar with the concept of metaphors and making analogies such that, this skill was not satisfactorily practiced.

Table 4.7
Teachers' Practice in Teaching the Higher Order Thinking Skills (HOTS)

Lower order thinking skills (LOTS) statements		Never		Sometimes		Often & Always	
		%	(N)	%	(N)	%	(N)
8.	I encourage my students to look at available information and evidence before making predictions	0	0	23.3	24	76.7	79
9.	I encourage my students to examine the truth of an assumption based on the validity of its evidence and assumption based on information	4.9	5	31.1	32	64.1	66
10.	I require my students to examine the reliability of the sources before accepting an argument	1.0	1	36.9	38	62.1	64
11.	I encourage my students to search for information and evidence before making a generalization	1.0	1	32.0	33	67.0	69
12.	I encourage my students to seek for all possible reasons before making conclusions	1.0	1	26.2	27	72.8	75
13.	I encourage my students to make inferences based on the available evidence and information	3.9	4	37.9	39	58.3	60
14.	I used metaphors in my explanation so that my students can learn how to use analogy figuratively	12.6	13	54.4	56	33.0	34
Mean Percentage		3.5		34.5		62.0	

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4.1.8 Teachers' Practices of the Various Forms of Thinking Skills

Table 4.8 shows that teachers encouraged the decision making skill more frequently (70.9%) as compared to creative thinking (69.9%), critical thinking skills (64.1%) and problem solving (55.4%). In general the teaching of creative thinking, critical thinking and problem solving skills were still not satisfactory. There could be two possible reasons. Probably the teachers were not familiar with these processes and skills, and therefore could not be expected to impart it to their students. Or, the teachers did not have much opportunity to exercise the teaching of these skills due to the shortage of time as a result of the emphasis on completing the school syllabus in preparation for public examinations.

Table 4.8
Frequency of Practising the Various Forms of Thinking Skills

Forms of thinking skills		Never		Sometimes		Often & Always	
		%	(N)	%	(N)	%	(N)
15.	I require my students to consider all possible solutions to a problem before deciding on the best way to solve it. (Problem solving)	1.0	1	43.7	45	55.4	57
16.	I encourage my students to explain how they arrive at a certain decision or conclusion. (Critical thinking)	1.9	2	34.0	35	64.1	66
17.	I encourage my students to come up with new ideas or solutions.(Creative thinking)	1.0	1	29.1	30	69.9	72
18.	I encourage my students consider all possible options and their consequences before making a decision. (Decision making)	-	-	29.1	30	70.9	73

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4.1.9 Teachers' Practices of the Various Approaches to Thinking Skills

Table 4.9 indicates that in practice, slightly more than half of the teachers frequently applied the partial infusion and indirect teaching approaches (51.5% and 57.2%) respectively. This concurs with their more positive perceptions of these approaches in comparison with the total diffusion or 'stand alone' approaches as shown earlier in Table 4.2

Table 4.9

Different Thinking Approaches Practiced by Teachers

Thinking approaches		Never		Sometimes		Often & Always	
		%	(N)	%	(N)	%	(N)
19.	I use thinking skills as strategies in one or few steps of my lesson development. (Partial Infusion)	1.0	1	47.6	49	51.5	53
20.	I use teaching methods that can trigger my students' thinking indirectly (Indirect)	1	1	40.8	42	57.2	59

4.1.10 Teaching Strategies that Promote Thinking

Table 4.10 indicates that teachers applied a wide range of teaching strategies to teach thinking skills. The most frequently applied skills were variation of instruction into individual, group and class discussion (58.3%), followed by structured questioning (56.3%), using mind-map (53.4%), open ended higher order questions (52.4%) and working in small groups (51.5%). The other remaining strategies namely, different levels of questioning (49.5%), discussing stories (45.6%), engaging students in reflective writing (35.9%) and using specialized graphic organizers (31.1%) were not quite satisfactory especially the last two strategies. It is evident that quite a number of teachers were not familiar

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with the concept of 'reflective writing' and 'specialized graphic organizers'. In general, the mean percentage of frequent practice of appropriate teaching strategies for thinking is still not satisfactory at 48.2% in comparison with the mean percentage of 46.6% for "sometimes". The difference in percentage for both the means was only 1.6% implies that some of the teachers do not frequently employ thinking strategies but apply them occasionally.

Table 4.10
Thinking Strategies Employed by Teachers

Teaching strategies		Never		Sometimes		Often & Always	
		%	(N)	%	(N)	%	(N)
21.	I apply Bloom's taxonomy of educational objectives as a guide in different level of questioning	1.9	2	48.5	50	49.5	51
22.	I used structured questioning in my questions to students	1.9	2	41.7	43	56.3	58
23.	I asked open-ended higher order questions which can be answered with a specific "correct" answer	1.0	1	46.6	48	52.4	54
24.	I used specialized graphic organizer to organize students' thinking skills and verbal communication	11.7	12	57.3	59	31.1	32
25.	I used thinking mind-map to prove visual reminder	6.8	7	39.8	41	53.4	55
26.	I encourage working on a thinking task in a small groups	5.8	6	42.7	44	51.5	53
27.	I vary in my instruction between individual, small group and class discussion	2.9	3	38.8	40	58.3	60
28.	I engage students in reflective writing	9.7	10	54.4	56	35.9	37
29.	I discuss stories to develop my students' reasoning skills	4.9	5	49.5	51	45.6	47
Mean Percentage		5.2		46.6		48.2	

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4.1.11 Teachers' Behaviours that Promote Thinking

Table 4.11 shows that teachers exhibited behaviours that promote thinking skills in students. This can be inferred from the mean percentage of 71.1 of "frequent" practice of appropriate teachers' behaviours for the teaching of thinking. The most frequent behaviour is seeking for further explanation to clarify (88.3%), followed by being open-minded (87.4%), allowing "wait" time (75.7%), questioning to clarify students' responses (74.8%), promptness in reconsidering students' responses (70.9%), using relevant information (69.9%) and accepting "odd" ideas (68.9%). Frequency in preciseness in language (55.3%) and providing "thinking" time (48.5) were less satisfactory. In conclusion, the mean percentage of 71.1 of "frequent" practice implies that teachers have exhibited positive behaviours that promote thinking skills in students.

Table 4.11
Teachers' Behaviours that Promote Thinking

Teachers' behaviour		Never		Sometimes		Often & Always	
		%	(N)	%	(N)	%	(N)
30.	I include 'thinking' time for formulation of responses from students working in a group	6.8	7	44.7	46	48.5	50
31.	I allow 'waiting' time before expecting a response from my student	1.0	1	23.3	24	75.7	78
32.	I ask several questions to clarify to extend a student's response	0	0	25.2	26	74.8	77
33.	I am particular about precision in language and encourage precision of expression	6.8	7	37.9	39	55.3	57
34.	I am prompt in reconsidering students' responses	1.9	2	27.2	28	70.9	73
35.	I consider and accept "odd" ideas expressed by students	1.0	1	30.1	31	68.9	71

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36.	I am open-minded and evaluate things based on good reason.	1.0	1	11.7	12	87.4	90
37.	I seek for further explanation if things are not clear	0	0	11.7	12	88.3	91
38.	I only use relevant information in discussions and interactions	2.9	3	27.2	28	69.9	72
Mean Percentage		2.4		26.5		71.1	

A summary of the means and mean percentages of the sub-scales on perceptions and reported practices are shown in Table 4.12. Clearly, almost all the teachers perceived the important value of the teaching of thinking (94.9%) but less than half indicated unsatisfactory practice in their employment of teaching thinking strategies (48.2%). Almost three quarter (72.8%) of the teachers perceived themselves to possess the teaching efficacy for delivering the thinking skills. They indicated almost satisfactory practices in teaching the lower order thinking (60.9%) and the higher order thinking (62.0%) skills, and satisfactory practice in behaviours conducive to teaching thinking (71.1%).

Table 4.12
Mean and Mean Percent of Sub-Scales on Perception and Practices

	N	# Items	Mean	S.D	Mean Percent
EFFICACY	103	4.00	2.7864	.46231	72.8
VALUE	102	4.00	3.2574	.43863	94.9
LOTS	103	7.00	2.7781	.48784	60.9
HOTS	103	6.00	2.8239	.60748	62.0
TSTRAT	103	9.00	2.5642	.52039	48.2
TBEHAV	103	9.00	2.9331	.50592	71.1

The third part of the discussion of the results would be based on the inferential analysis to answer research questions 3, 4 and 5.

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4.2 Results of Significant Differences Among English Language Teachers' Perceptions and Practices toward the Teaching of Thinking.

4.2.1 Significant differences in English Language Teachers' Perceptions toward the Teaching of Thinking with Respect to Age

Table 4.13

The ANOVA of English Language Teachers' Perceptions toward the Teaching Of Thinking With Respect To Age

Source	Sum of Squares	df	Mean Square	F	p
Between Groups	35.662	4	8.915	.598	.665
Within Groups	1461.756	98	14.916		
Total	1497.417	102			

p>0.05

Table 4.13 shows the results of the one-way ANOVA for mean score of the English Language teachers' perceptions toward the teaching of thinking with respect to age. The results show that there was no difference in the mean score of the English Language teachers' perceptions toward the teaching of thinking with respect to age. Table 4.11 indicates that the F statistics are significant ($F(4,98) = 0.598$, $p > .05$). In other words the mean score of English Language teachers' perceptions toward the teaching of thinking does not show any significant difference in the mean score with respect to the age variable. Thus, for research question 3 which asks : Were there any significant differences in English Language teachers' perceptions toward the teaching of thinking with respect to age?, the answer is negative. This is due to the p value that indicates $p = 0.665$ greater than $\alpha = 0.05$. In general, the results indicate that age has no infuence on English Language teachers' perceptions toward the teaching of thinking.

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4.2.2 Significant differences in English Language Teachers' Perceptions toward the Teaching of Thinking with Respect to Gender

Table 4.14

Independent-samples t-tests of English Language Teachers' Perceptions toward the Teaching of Thinking with Respect to Gender.

Gender	N	Mean	SD	t	p
Male	22	51.9545	2.33966	-.543	.588
Female	81	52.4568	4.15045		

p>0.05

Table 4.14 shows the analysis of the Independent Sample T-Test for the mean score of English language teachers' perceptions toward the teaching of thinking with respect to gender. Based on the analysis, it was found that the mean score of the English language teachers' perceptions toward the teaching of thinking with respect to gender does not indicate any significant difference as the value of ($t(101) = -0.543$, $p > 0.05$). Thus, the mean score of English language teachers' perceptions toward the teaching of thinking does not show any significant difference in the mean score in reation to the gender variable of male and female teachers. Therefore for the research question which asks : Were there any significant differences in English Language teachers' perceptions towards the teaching of thinking with respect to gender?, the answer is negative. This is because the value $p = 0.588$ greater than $\alpha = 0.05$. The results indicate that gender has no infuence on English Language teachers' perceptions toward the teaching of thinking.

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4.2.3 Significant differences in English Language teachers' Perceptions toward the Teaching of Thinking with Respect to Academic Qualification

Table 4.15

Independent-samples t-tests of English Language Teachers' Perceptions toward the Teaching of Thinking with Respect to Academic Qualification

Category	N	Mean	SD	t	p
Graduate Teacher	90	52.4778	3.83722	.173	.863
Non-Graduate Teacher	11	52.2727	2.37027		

p>0.05

Table 4.15 shows the analysis of the Independent Sample T-Test for the mean score of English language teachers' perceptions toward the teaching of thinking with respect to academic qualification . Based on the analysis, it was found that the mean score of the English language teachers' perceptions toward the teaching of thinking with respect to academic qualification does not indicate any significant difference as the value of ($t(99) = 0.173$, $p > 0.05$). Thus, the mean score of English language teachers' perceptions toward the teaching of thinking does not show any significant difference in the mean score in relation to the graduate and non-graduate variable. Therefore, for the research question that asks: Were there any significant differences in English Language teachers' perceptions toward the teaching of thinking with respect to academic qualification?, the answer is negative as the value of $p = 0.863$ greater than $\alpha = 0.05$. The results indicate that academic qualification has no infuence on English Language teachers' perceptions toward the teaching of thinking.

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4.2.4 Significant Differences in English Language Teachers' Perceptions toward the Teaching of Thinking with Respect to Teaching Experience

Table 4.16

The ANOVA of English Language Teachers' Perceptions toward The Teaching of Thinking with Respect to Teaching Experience

Source	Sum of Squares	df	Mean Square	F	p
Between Groups	37.846	4	9.462	.635	.639
Within Groups	1459.571	98	14.894		
Total	1497.417	102			

p>0.05

Table 4.16 shows the results of the one-way ANOVA for mean score of the English Language teachers' perceptions toward the teaching of thinking with respect to teaching experience. The results show that there was no difference in the mean score of the English Language teachers' perceptions toward the teaching of thinking with respect to teaching experience . Table 4.16 indicates that the F statistics are significant ($F(4,98) = 0.635$, $p > .05$). In other words the mean score of English Language teachers' perceptions toward the teaching of thinking does not show any significant difference in the mean score with respect to the teaching experience variable. Thus, for research question 3 which asks : Were there any significant differences in English Language teachers' perceptions toward the teaching of thinking with respect to teaching experience?, the answer is negative . This is due to the p value that indicates $p = 0.639$ greater than $\alpha = 0.05$. The results indicate that teaching experience has no infuence on English Language teachers' perceptions toward the teaching of thinking.

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4.2.5 Significant Differences in English Language Teachers' Perceptions toward the Teaching of Thinking with Respect to Course Attendance

Table 4.17

The ANOVA of English Language Teachers' Perceptions toward the Teaching of Thinking with Respect to Course Attendance

Source	Sum of Squares	df	Mean Square	F	p
Between Groups	65.087	4	16.272	1.113	.355
Within Groups	1432.330	98	14.616		
Total	1497.417	102			

p>0.05

Table 4.17 shows the results of the one-way ANOVA for mean score of the English Language teachers' perceptions toward the teaching of thinking with respect to course attendance. The results show that there was no difference in the mean score of the English Language teachers' perceptions toward the teaching of thinking with respect to course attendance. Table 4.17 indicates that the F statistics are significant ($F(4,98) = 1.113$, $p > 0.05$) In other words the mean score of English Language teachers' perceptions towards the teaching of thinking does not show any significant difference in the mean score with respect to the course attendance variable. Thus, for research question 3 which asks : Were there any significant differences in English Language teachers' perceptions toward the teaching of thinking with respect to course attendance?, the answer is negative. This is beacuse $p = 0.355$ greater than $\alpha = 0.05$. The results indicate course attendance has no infuence on English Language teachers' perceptions toward the teaching of thinking.

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4.2.6 Significant Differences in English Language Teachers' Perceptions toward the Teaching of Thinking with Respect to Teaching Periods

Table 4.18

The ANOVA of English Language Teachers' Perceptions toward the Teaching of Thinking with Respect to Teaching Periods

Source	Sum of Squares	df	Mean Square	F	p
Between Groups	107.286	4	26.821	1.891	.118
Within Groups	1390.132	98	14.185		
Total	1497.417	102			

p>0.05

Table 4.18 shows the results of the one-way ANOVA for mean score of the English Language teachers' perceptions toward the teaching of thinking with respect to teaching periods. The results show that there was no difference in the mean score of the English Language teachers' perceptions toward the teaching of thinking with respect to teaching periods. Table 4.18 indicates that the F statistics are significant ($F(4,98) = 1.891$, $p > .05$). In other words the mean score of English Language teachers' perceptions toward the teaching of thinking does not show any significant difference in the mean score with respect to the teaching periods variable. Thus, for research question 3 which asks : Were there any significant differences in English Language teachers' perceptions toward the teaching of thinking with respect to teaching periods?, the answer is negative. This is beacuse $p = 0.118$l greater than $\alpha = 0.05$. The results indicate teaching periods has no infuence on English Language teachers' perceptions toward the teaching of thinking.

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4.2.7 Significant Differences in English Language Teachers' Practice toward the Teaching of Thinking with Respect to Age

Table 4.19

The ANOVA of English Language Teachers' Practices toward The Teaching Of Thinking With Respect to Age

Source	Sum of Squares	df	Mean Square	F	p
Between Groups	3200.303	4	800.076	2.882	.027
Within Groups	26925.549	97	277.583		
Total	30125.853	101			

$p<0.05$

Table 4.19 shows the results of the one-way ANOVA for mean score of the English Language teachers' practices toward the teaching of thinking with respect to age. The results show that there was difference in the mean score of the English Language teachers' practices toward the teaching of thinking with respect to age. Table 4.19 indicates that the F statistics are significant ($F(4,97) = 2.882$, $p < .05$). In other words, the mean score of English Language teachers' practices toward the teaching of thinking shows significant difference in the mean score with respect to the age variable. Thus, for research question 4 which asks : Were there any significant differences in English Language teachers' practices toward the teaching of thinking with respect to age?, the answer is positive. This is beacuse $p = .027$ less than $\alpha = 0.05$. The results indicate that age has infuence on English Language teachers' practices toward the teaching of thinking.

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4.2.8 Significant Differences in English Language Teachers' Practices toward the Teaching of Thinking with Respect to Gender

Table 4.20
Independent-samples t-tests of English Language Teachers' Practices toward the Teaching of Thinking with Respect to Gender.

Gender	N	Mean	SD	t	p
Male	21	105.1905	14.63085	-.022	.982
Female	81	105.2840	17.97375		

p>0.05

Table 4.20 shows the analysis of the Independent Sample T-Test for the mean score of English language teachers' practices toward the teaching of thinking with respect to gender. Based on the analysis, it was found that the mean score of the English language teachers' practices toward the teaching of thinking with respect to gender does not indicate any significant difference as the value of ($t(100) = -0.022$, $p > .05$).. Thus, the mean score of English language teachers' practices toward the teaching of thinking does not show any significant difference in the mean score in relation to the gender variable of male and female teachers. Therefore for the research question that asks : Were there any significant differences in English Language teachers' practices toward the teaching of thinking with respect to gender?, the answer is negative. This is because the value $p = 0.982$ greater than $\alpha = 0.05$. The results indicate that gender has no infuence on English Language teachers' practices toward the teaching of thinking.

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4.2.9 Significant Differences in English Language Teachers' Practices toward the Teaching of Thinking with Respect to Academic Qualification

Table 4.21
Independent-samples t-tests of English Language Teachers' Practices toward the Teaching of Thinking with Respect to Academic Qualification .

Category	N	Mean	SD	t	p
Graduate Teacher	89	106.4944	16.76246	2.329	.022
Non-Graduate Teacher	11	93.8182	19.20322		

p<0.05

Table 4.21 shows the analysis of the Independent Sample T-Test for the mean score of English language teachers' practices toward the teaching of thinking with respect to academic qualification. Based on the analysis, it was found that the mean score of the English language teachers' practices towards the teaching of thinking with respect to academic qualification indicates a significant difference as the value of (t (100) = -0.022, p > .05).. In other words, the mean score of English Language teachers' practices toward the teaching of thinking shows significant difference in the mean score with respect to the academic qualification variable. Thus, for research question 4 which asks : Were there any significant differences in English Language teachers' practices toward the teaching of thinking with respect to academic qualification?, the answer is positive. This is beacuse p = 0.022 less than α = 0.05. The results indicate that academic qualification has infuence on English Language teachers' practices toward the teaching of thinking.

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4.2.10 Significant Differences in English Language Teachers' Practices toward the Teaching of Thinking with Respect to Teaching Experience

Table 4.22

The ANOVA of English Language Teachers' Practices toward the Teaching of Thinking with Respect to Teaching Experience

Source	Sum of Squares	df	Mean Square	F	p
Between Groups	1949.941	4	487.485	1.678	.161
Within Groups	28175.912	97	290.473		
Total	30125.853	101			

p>0.05

Table 4.22 shows the results of the one-way ANOVA for mean score of the English Language teachers' practices toward the teaching of thinking with respect to teaching experience. The results show that there was no difference in the mean score of the English Language teachers' practices toward the teaching of thinking with respect to teaching experience. Table 4.22 indicates that the F statistics are significant ($F(4,97) = 1.678$, $p > .05$). In other words, the mean score of English Language teachers' practices toward the teaching of thinking shows no significant difference in the mean score with respect to the teaching experience variable. Thus, for research question 4 which asks : Were there any significant differences in English Language teachers' practices toward the teaching of thinking with respect to teaching experience?, the answer is negative. This is beacuse $p = 0.161$ greater than $\alpha = 0.05$ The results indicate that teaching experience has no infuence on English Language teachers' practices toward the teaching of thinking.

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4.2.11 Significant Differences in English Language Teachers' Practices toward the Teaching of Thinking with Respect to Course Attendance

Table 4.23
The ANOVA of English Language Teachers' Practices toward the Teaching of Thinking with Respect to Course Attendance

Source	Sum of Squares	df	Mean Square	F	p
Between Groups	5862.138	4	1465.535	5.859	.000
Within Groups	24263.715	97	250.141		
Total	30125.853	101			

$p<0.05$

Table 4.23 shows the results of the one-way ANOVA for mean score of the English Language teachers' practices toward the teaching of thinking with respec to course attendance. The results show that there was difference in the mean score of the English Language teachers' practices toward the teaching of thinking with respect to course attendance. Table 4.23 indicates that the F statistics are significant ($F(4,98) = 1.113$, $p < .05$). In other words, the mean score of English Language teachers' practices toward the teaching of thinking shows a significant difference in the mean score with respect to the course attendance variable. Thus, for research question 4 which asks : Were there any significant differences in English Language teachers' practices toward the teaching of thinking with respect to course attendance?, the answer is positive. This is beacuse $p = .000$ less than $\alpha = 0.05$. The results indicate that course attendance has infuence on English Language teachers' practices toward the teaching of thinking.

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4.2.12 Significant Differences in English Language Teachers' Practices toward the Teaching of Thinking with Respect to Teaching Periods

Table 4.24
The ANOVA of English Language Teachers' Practices toward the Teaching of Thinking with Respect to Teaching Periods

Source	Sum of Squares	df	Mean Square	F	p
Between Groups	1828.060	4	457.015	1.567	.189
Within Groups	28297.793	97	291.730		
Total	30125.853	101			

p>0.05

Table 4.24 shows the results of the one-way ANOVA for mean score of the English Language teachers' practices toward the teaching of thinking with respect to teaching periods . The results show that there was no difference in the mean score of the English Language teachers' practices toward the teaching of thinking with respect to teaching periods. Table 4.24 indicates that the F statistics are significant F (4,97 = 1.567, p > .05). In other words, the mean score of English Language teachers' practices toward the teaching of thinking shows no significant difference in the mean score with respect to the teaching period variable. Thus, for research question 4 which asks : Were there any significant differences in English Language teachers' practices toward the teaching of thinking with respect to teaching period?, the answer is negative . This is because p= 0.189 greater than α = 0.05. The results indicate that teaching periods has no infuence on English Language teachers' practices toward the teaching of thinking.

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4.2.13 Statistically Significant Relationship between English Language Teachers' Perceptions and Teachers' Practices toward the Teaching of Thinking

Table 4.25
The Correlation between the Scales of Perception and Practice

Variables	Perceptions	Practices	p
Perceptions	1	.192	0.053
Practices	.192	1	

p>0.05

Table 4.25 shows the correlation analysis between English language teachers' perceptions and teachers' practices. The analysis indicates that there is no relationship between English language teachers' perceptions and teachers' practices toward the teaching of thinking with the value of (r (103) = 0.192, p > .05). It can be said that, English language teachers' perceptions shows no relationship with the variable of English language teachers' practices. Thus, for the research question that asks: Was there any statistically significant relationship between English Language teachers' perceptions and teachers' practices?, the answer is negative . This is because p = 0.053 greater than α = 0.05. Therefore, it can be concluded that there is no significant relationship between English Language teachers' perceptions and teachers' practices toward the teaching of thinking.

The fourth part of the discussion of the results would be the analysis of the responses of the interviews.

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4.3 Analysis of the Interviews

(i) Teacher A

Two English Language teachers were interviewed to find out their views on the teaching of thinking. Teacher A felt that the teaching of thinking has been on the academic agenda for the past 30 years and he assumed that there seemed to be a lack in literature in the area of teaching thinking. He felt that there was no need to teach thinking skills as a separate subject but to incorporate them into the subject taught. On the other hand he also felt that a subject can be taught in ways that failed to promote thinking especially in the case of higher-order thinking skills. He went on further to mention that having knowledge of teaching thinking alone was insufficient when he said that,

"There is no doubt that thinking is only possible by the deeper understanding of knowledge. Yet knowledge alone is insufficient. So, from this argument, then one may say that thinking skills should be taught as a subject in itself!"

Teacher A said that the curriculum itself painted a good picture of the education system but the strive for excellence in the exam results did not allow students to fully develop their actual potential. In terms of language learning, he agreed that thinking skills were important in language learning. He believed that students should be taught critical thinking skills as a mode for knowledge acquisition. To include both the higher and lower thinking skills in language learning depended on students' schemata and their language skills and he felt that only then can teachers execute both the lower and higher order thinking skills especially the later skills.

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He mentioned that the most common thinking strategies employed by teachers was 'questioning'. He said that teachers could ask students to solve problems, argue out a case through acting and role playing, through projects and research activities. He felt that the above activities would be interesting and beneficial and to achieve them …….

"you first need students who are committed, mature, have the right learning attitude and are quite eloquent in language usage. If one of these qualities is lacking, then teaching thinking skills might just be a futile effort."

In the view of teachers' belief, style or attitude, he agreed that teachers' views and beliefs of teaching thinking influenced their classroom practice. He felt that many of the students were weak in language competency and therefore activities pertaining to teaching of thinking skills in the language classroom were not possible to be carried out in a normal setting.

(ii) Teacher B

Teacher B was different in her views when she felt that it was better to teach thinking skills as a separate subject and that teachers too needed to be exposed to the theory on thinking. She said that,

"students can be exposed to different tools of thinking skills such as graphic organizers, mind-maps and other thinking tools which aids to thinking in a more systematic manner. When they are integrated into the curriculum only a few thinking skills can be exposed and taught and I am sure teachers too are rather not familiar to the various thinking skills themselves. Furthermore, I do feel that teachers to need to be trained to teach thinking skills. They need to have some form of exposure and knowledge by attending appropriate courses before they are able to impart thinking skills to their students in their classrooms".

Like teacher A, teacher B too agreed that the emphasis was on good examination results and everybody was preoccupied with preparing students for

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examinations, thus neglecting the development of potential and abilities of students. In terms of language learning, she agreed that thinking skills were important in language learning as they could help students to organize and present their thoughts better. To include both the higher and lower thinking skills in language learning she said that students needed to be competent in the language. She felt that graphic organizers and mind-maps were interesting and effective thinking strategies that language teachers could employ in their language classrooms. In the view of teachers' belief, style or attitude, she too agreed that teachers' views and beliefs of teaching thinking influenced their classroom practice. She said that,

> "*students' language proficiency is an obstacle in teaching thinking because despite constant reminders students tend to think in their mother tongue and even during classroom discussion do not use the English language as they are not confident in presenting their ideas in English".*

She asserted that one problem that she encountered in teaching thinking skills in her English lesson was students' competency in the language skills and their attitude towards learning the language. She felt that "teaching of thinking skills would be easier on the brighter students who already had a good command of the language"

The final part of this chapter would continue to discuss the findings of the study.

4.4 Discussion of Findings

Given the choice of four approaches in teaching thinking, namely (a) complete infusion, (b) partial infusion, (c) indirect method, and (d) as a separate,

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independent subject the teachers in this study preferred all approaches with the exception of the last one. Apparently, the teachers' choices were determined more by their personal concern over the already crowded school curriculum than possibly their knowledge of the differences of the differences between each approach and its effectiveness. Adding another separate subject would be an additional load for their students, in an already heavy one. They felt that there was just not enough time for another subject. This study concurred with Asmah's (1994), Suhailah's (2000) and Rosnani's (2001) findings that showed teachers preferred the infusion method compared to teaching thinking as a separate subject.

The results of the descriptive, statistical analysis revealed that the mean percentages of agreement of teachers' perceptions of the values of teaching thinking skills and teachers' self-efficacy in teaching them are m = 94.9 and m = 72.8 respectively. This means that almost all teachers value the teaching of thinking skills among their students. In terms of teachers' self-efficacy a majority of them felt a high sense of personal teaching efficacy in the teaching of thinking skills and processes. This could be that English language teachers in this study realized the importance of teaching thinking skills in the increasing demand of the K-economy. Unlike Suhailah's (2000) and Rosnani's (2001) studies whose findings revealed that teachers valued highly the teaching of thinking skills, however they depicted a low sense of personal teaching efficacy in teaching of thinking skills and processes. However, in this study the results indicated unsatisfactory practice among English language teachers in their employment of teaching thinking strategies (48.2%). Many teachers still felt inadequate to handle the teaching of thinking skills in terms of employing different thinking strategies.

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This study also concurred with Rajendran's (1999) finding that English language teachers were not prepared to teach thinking by the infusion approach. This probably could be due to teachers' unfamiliarity of certain concepts of thinking skills. Probably, teachers were also not familiar with the teaching strategies necessary to promote thinking skills. The teachers' spirit and motivation were further dampened by the fact that there was no space in the school curriculum to be innovative especially with the examination-oriented system and a very heavy syllabus. The curriculum was judged as not helpful in promoting thinking skills because they did not amplify the ideas and the skills in their presentation. The school leadership was also not found to be motivating and visionary to this cause. This finding concurs with that of Suhailah (2000) and Rosnani (2001) whose findings revealed that teachers felt that the heavy content-based syllabus and the curriculum did not provide enough space for them to teach thinking to their students. Rosnani's (2001) findings also indicated that the school leadership was not a motivation factor in the teaching of thinking.

The results of this study also indicated that the mean percentage of frequency on teachers' practices in infusing lower order thinking skills, higher order thinking skills, teaching strategies and teachers' behaviours that are conducive for learning thinking skills are m = 60.9, 62.0, 48.2 and 71.1 respectively. The teachers have almost met the criteria of satisfactory practice in all four scales with the exception of teaching strategies. They need to work on teaching strategies that encourage the practice of thinking skills, in particular use of graphic organizers, discussion of stories to develop reasoning skills, engaging students in reflective writing and in applying Bloom's Taxonomy in different

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level of questioning. This affirms the findings of Rosnani's (2003) study which provided evidence of unsatisfactory practice in terms of teachers employing teaching strategies related to thinking skills.

The results of the t-tests in terms of teachers' perceptions in relation to the independent variables of gender and academic qualification did not show any significant difference with the two variables above. Thus the factor of gender and academic qualification of the English teachers did not have an influence on teachers' perceptions of teaching thinking in this study. In terms of teachers' practices in relation to the independent variables of gender and academic qualification, the results of the t-tests showed significant difference in relation to teachers' academic qualification. Graduate teachers obtained higher mean scores than non-graduate teachers in terms of skills or practices in teaching thinking. This study concurred with Asmah's (1994) findings that indicated graduate teachers performed better in terms of instructional practices compared to non-graduate teachers. In relation to gender, this study found no significant difference. Thus, the factor of gender of English language teachers does not have an effect on teachers' perceptions and practices in teaching thinking.

The results of ANOVA showed that in terms of teachers' perceptions in relation to the independent variables of age, teaching experience, course attendance and teaching periods there were no significant difference in relation to all the variables above. Thus the factor of age, teaching experience, course attendance and teaching periods of English teachers did not have an influence on teachers' perceptions of teaching thinking in this study. In terms of teachers'

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practices in relation to the independent variables of age, teaching experience, course attendance and teaching periods, the ANOVA results of this study showed significant difference in relation to age and course attendance. This means that age and course attendance do have an effect on English teachers' practices in teaching thinking skills. This affirms the findings of Asmah's (1994), Gilbert's (1994) and Suhailah's (2000) studies. In Asmah (1994), she found that attending at least a course on critical thinking improved teachers' skills and attitudes toward critical thinking. Gilbert (1994) also found that teachers with at least 4 hours of training in teaching thinking skills had significantly more positive practices in the teaching of thinking than teachers who had less than 4 hours of training.

In this study, the correlation analysis results indicated that there were no significant relationship between English language teachers' perceptions and practices in the teaching of thinking skills. Based on the correlation analysis it can be said that the insignificant difference was due to a very small difference of 0.003. Both Suhailah's (2000) and Rosnani's (2001) studies yielded results that showed there were positive relationships between teachers' perceptions and practices. This is unlike of this study that indicated there were no relationship between English language teachers' perceptions and practices in the teaching of thinking skills in the ESL classrooms. This insignificant relationship between teachers' perceptions and practices most probably could be due to the findings that showed in terms of teachers' perceptions with respect to age, gender, academic qualification, teaching experience, course attendance and teaching periods there were no significant difference shown. However, teachers' practices with respect to age, gender, academic qualification, teaching experience, course attendance and

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teaching periods showed that the independent variables of age, academic qualification and course attendance indicated a significant difference in relation to teachers' practices of teaching thinking. Thus, the results of this study showed that there were no significant relationship between teachers' perceptions and practices in the teaching of thinking. Therefore it can be said that how teachers perceive the teaching thinking was not directly related to the actual practices of teaching thinking in the ESL classrooms.

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CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

The purpose of the study was to examine English Language teachers' perceptions of teaching thinking and their actual practices in the scenario of the Malaysian ESL classroom. The study sought answers to the following questions:

1. How did English Language teachers perceive the teaching of thinking with respect to approaches, school and curricular support, sense of efficacy and values of teaching thinking?

2. What were their practices in teaching thinking in terms of the type of skills, lower and higher order thinking skills, teaching strategies, and teachers' behaviour conducive to thinking?

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3. Were there any significant differences in English Language teachers' perceptions toward the teaching of thinking with respect to age, gender, academic qualification, teaching experience, course attendance and teaching periods?

4. Were there any significant differences in English Language teachers' practices toward the teaching of thinking with respect to age, gender, academic qualification, teaching experience, course attendance and teaching periods?

5. Was there any statistically significant relationship between English Language teachers' perceptions and teachers' practices?

The population of the study was made up of English language teachers who were teaching in secondary schools in the district of Batang Padang. The schools that were selected in the Batang Padang district were in Tapah, Sungkai, Slim River and in Tanjong Malim. A total of 12 schools were involved in this study.

The survey method was employed in this study as it was the most efficient way of getting a large number of teachers in collecting a large amount of information for the study of the English language teachers' perceptions and practices with respect to teaching thinking. The instrument for this survey consisted of a questionnaire. It was an adaptation from Rosnani's (2001) study. The questionnaire was administered to 115 teachers and the number of questionnaires returned was 103.

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Two English language teachers were interviewed to find out their views on teaching thinking.

5.1 Conclusions

The overall findings of the various statistical analysis conducted revealed that teachers value the teaching of thinking skills among their students and a majority of them have a high sense of personal teaching efficacy in teaching of thinking skills and its processes. Thus it can be highlighted that to attain the goal of having students adept at thinking, they have to be taught by teachers who have a high sense of efficacy in teaching thinking skills. Since the study has shown that teachers' practice of teaching thinking skills is related to their level of knowledge and course attendance, efforts must be made to ensure that teachers are exposed formally to the theory and practice of thinking skills and be well trained in its application.

Teachers in the study also preferred infusion approaches to the teaching of thinking in their language classrooms. The results also indicated teachers' practice of infusing lower order and higher order thinking skills were satisfactory. Teachers were also found to exhibit behaviours that promote thinking skills in students by seeking further explanation, by allowing "wait" time and by being open-minded. The study also showed that teachers' need to work on teaching strategies like using of graphic organizers, levels and techniques of questioning and engage students in reflective writing.

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The study also revealed that there were no significant relationship between English teachers' perceptions and practices in the teaching of thinking skills in their ESL classrooms. Thus, in this study it can be said that teachers' perceptions and practices were not dependent on each other in teaching thinking skills.

The results from the interviews showed that both the teachers thought that promoting thinking skills in their language classrooms was important though they encountered some problems like students' lack of competency in the language and their attitude towards learning the language. Both the teachers also employed some form of thinking strategies in their language classrooms such as questioning techniques, graphic organizers and problem solving skills.

5.2 Discussions

The study indicated that teachers need to work on their teaching strategies in promoting thinking skills in the classroom. One reason teaching strategy is important is that, by adopting a certain strategy, the teacher models a certain role for students (Sternberg & Spear-Swerling, 1996). This role modeling conveys, sometimes unwittingly, implicit messages to students. If the messages are of the wrong kind, then the teaching may not only be ineffective, it may actually be harmful. Strategies and techniques are important for teachers to create a conducive learning environment for the teaching of thinking. (Sternberg & Spear-Swerling, 1996).

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The study showed that teachers exhibited behaviours that promote thinking skills in students. There are said to be many tools available to enhance the thinking of their students. In relation to this, the most frequently used classroom method of enhancing thinking is questioning. (Marzano, 1993). There is some evidence that asking questions improves students' comprehension and retention of content (Yost, Avila & Vexler, 1977) (cited in Willy & Nilda, 2001). One way to engage students in taking more responsibility for thinking is to ask more open questions and to acknowledge student contributions in a neutral rather than evaluative manner (van Zee and Minstrel, 1997). Group work, cooperation, and teacher questioning have all been proposed as important components of teaching thinking skills (Dillion, 1984) (cited in Willy & Nilda, 2001).

It is evident from this study that one of the problems with the teaching of thinking skills is teachers' lack of understanding and knowledge on the accompanying skills on thinking. No proper education and training on thinking have been offered to all teachers, especially in-service teachers, whereas the Ministry and subject teachers prefer to adopt the infusion approach in teaching thinking. The short courses held, sometimes as brief as one day, were inadequate and ineffective. Even though pre-service teachers were offered a course on the concept and theories of thinking, it was taught at the theoretical level. There was little emphasis on practical teaching strategies. This further contributes to the inadequacy and ineffectiveness of the course. That is why teachers could and do consider the teaching of thinking in their lesson plans but could not execute it in the classrooms.

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5.3 Recommendations

This study has been able to elicit from teachers some of the problems they encountered in the teaching of thinking. This discussion puts forth some recommendations to overcome them.

First, the school syllabuses should be revised and trimmed slightly to allow some time for the development of students' thinking skills. To develop thinking skills would require a lot of questioning, conversation and dialogues between teachers and students. This would require time. The school syllabuses should also provide avenue for encouraging students to read beyond their school textbooks. Reading new materials will always raise questions and encourage students to think or be creative or to be critical.

Second, the school curriculum and instructional materials should be improved to assist teachers in teaching thinking skills using the infusion approach. Textbooks should be revised because it is the most important instructional material and most accessible to students and teachers. Textbooks should pose more thoughtful questions or activities for reasoning. Teachers should also change the kind of evaluation to give room to students' creativity, problem solving and critical thinking skills to be exercised. Examination questions should focus more on a reflective or creative nature.

Third, the school principal as the school instructional and administrative leader should be at the front line in this mission of shifting paradigm. Studies (Stoel

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& Scheerens, 1988; Yin, 1996) have shown that one of the most important factors in the rise of effective schools is the school leadership. Thus, in this context, the school principal should take a leading role in emphasizing his concern for thinking skills through his words and his actions. His speech during the weekly school assembly should be exemplary. He could make a lot of difference for the school citizens.

Fourth, more studies on several of the well known approaches that have been used in other countries such as de Bono's Lateral Thinking and Lipman's Philosophy for Children Programme and more original, indigenous projects should be conducted using experimental methods, to see if there are any improvements in students' achievement in reading, reasoning and thinking for the treated groups. Thus, the studies conducted should focus on whether a culture of thinking could be developed.

Finally, the study had provided further evidence that teachers' beliefs could be improved with attending courses on teaching thinking skills and its processes. Thus any teacher preparation programme in Malaysia should consider the provision of a course on the concept of thinking and the teaching of thinking, the necessary skills and its processes within their curriculum. Teacher training courses should consider including both teaching thinking as a separate skill and as an integral part of the different subjects in the curriculum. As Nickerson (1988) and Sternberg (1987) claim, a mixed model of teaching thinking as a separate subject and integrating the teaching of thinking in the curriculum is considered to be more effective in promoting thinking.

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5.4 Recommendations for Further Research

The population of the survey consisted of 103 teachers in the district of Batang Padang. This limits the generalisability of the results and the conclusions drawn may not be generalisable to the other population of English language teachers in the Batang Padang District. Thus for greater generalisability, the conclusions of this study need to be verified and confirmed by extending the study to larger samples of teachers in Malaysia.

The scope of the study only focuses on English language teachers' perceptions and practices in the teaching of thinking. Further study should be carried out by taking into consideration teachers' knowledge of thinking skills and processes in order to yield more comprehensive results in terms of knowledge and exposure of teachers in the teaching of thinking.

The population of this study comprised of secondary school English language teachers. Further study should be carried out to examine the perceptions and practices of English language teachers in the primary school in order to get a clearer picture of the teaching of thinking in primary schools.

Further study should involve students both in the secondary and in the primary schools and their knowledge of thinking skills and to the extent they have been exposed to thinking skills by their teachers. This would yield more comprehensive results towards the effectiveness of teaching thinking.

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The study looked into the perceptions and practices of English language teachers in teaching thinking skills in their ESL classroom. The findings and results of this study are only applicable to English language teachers. Further study should to be extended to teachers of different subjects across the curriculum such as Bahasa Melayu, Mathematics, Science and other subjects. A comparative study could also be carried out to compare teachers who teach the Arts subjects and the Science subjects in promoting thinking skills to their students.

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APPENDIX A

(QUESTIONNAIRE)

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ENGLISH LANGUAGE TEACHERS' PERCEPTIONS AND PRACTICES IN THE TEACHING OF THINKING

OBJECTIVE:

The purpose of this study is to examine teachers' perceptions and their practices in teaching thinking skills and its processes in the ESL classrooms. This is an effort to gather evidence that can be utilized to improve the state-of–the–art in teaching thinking skills in schools. Thinking skills is an important goal that is expected to be achieved through schooling and teachers are the catalyst in its attainment.

DESCRIPTIONS:

Thinking is the process of using the mind to search for meaning and understanding of something, to examine the possibilities of ideas or products and to make a good judgement for problem solving and decision-making, reflection and the metacognition of the experienced process. There are four thinking skills namely, critical, and creative thinking skills, problem solving and decision-making skills.

DIRECTIONS:

This questionnaire consists of three parts. Please answer all questions in all the three parts as honestly as you can. For each question select the most appropriate answer by circling the alphabet. Your answers will be kept confidential.

PART 1: GENERAL BACKGROUND INFORMATION

1. Sex : a) male b) female

2. Category: a) graduate teacher b) non-graduate teacher

3. Age (in years)
   a) 25 and below b) 26 – 30 c) 31-35 d) 36 -40 e) 40 and above

4. Teaching experience (in years)
   a) 1 -5 b) 6 – 10 c) 11- 15 d) 16 – 20 e) 21 and above

5. Number of teaching periods per week
   a) less than 20 b) 20 -22 c) 23- 25 d) 26 – 28 e) 28 and above

6. I have been exposed to thinking skills and processes through (may circle more than one)
   a) pre-service course
   b) seminar or conference
   c) never been exposed before
   d) in-service course
   e) self-reading

7. If you had attended a course, the duration of the course (in month) is
   a) < 1 b) 1-3 c) 4 – 6 d) 7 – 9 e) > 9

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PART II

TEACHERS' PERCEPTIONS TOWARD TEACHING THINKING SKILLS IN THE ESL CLASSROOM

DIRECTIONS: Please read each statement carefully and circle your response. Choose only **ONE** answer. Use the scale format given below.

1 = Strongly agree (SA) 3 = Disagree (D)
2 = Agree (A) 4 = Strongly disagree (SD)

No.	Statements				
1.	Thinking can be best taught by identifying thinking skills and teaching them across the curriculum.	SA	A	D	SD
2.	A separate subject that teaches thinking skills should be introduced in schools.	SA	A	D	SD
3.	Students' thinking skills can be improved implicitly through my teaching methods.	SA	A	D	SD
4.	Students' thinking is developed when thinking skills are used as strategies in one or a few steps of the lesson development.	SA	A	D	SD
5.	The existing curriculum provides opportunities to teach thinking.	SA	A	D	SD
6.	There is too much content in the syllabus that it does not allow the space for teaching thinking.	SA	A	D	SD
7.	The curriculum does not provide adequate guide on how thinking skills can be taught through a particular subject.	SA	A	D	SD
8.	Focusing on developing students' thinking hinders the progress of a lesson.	SA	A	D	SD
9.	The school principal emphasizes teaching thinking skills as an important part of the school programme.	SA	A	D	SD
10.	The textbook used helps in the teaching of thinking.	SA	A	D	SD
11.	I have adequate skills to develop students' thinking.	SA	A	D	SD
12.	I have adequate knowledge about teaching thinking.	SA	A	D	SD
13.	I feel competent in teaching my students how to think well.	SA	A	D	SD
14.	Through my teaching, I have attained the objectives of developing my students' thinking skills as intended.	SA	A	D	SD
15.	Teaching thinking skills is useful for students' success in activities outside of school.	SA	A	D	SD

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No.	Statements				
16.	Teaching thinking skills is important to help improve students' achievement.	SA	A	D	SD
17.	Teaching thinking skills is relevant for work success.	SA	A	D	SD
18.	Developing students' thinking skills helps to improve their moral reasoning.	SA	A	D	SD

PART III

TEACHERS' REPORT OF THEIR PRACTICES IN TEACHING THINKING SKILLS

DIRECTIONS: Please read each statement carefully, reflect upon your practice and circle your response. Please answer in the relevant and appropriate context. Choose only **ONE** answer. Use the scale format given below.

1 = Never (N) 3 = Often (O)
2 = Sometimes (S) 4 = Always (A)

1.	I ask my students to look for similarities and differences between two things or concepts.	N	S	O	A
2.	I require my students to categorize things or subjects according to their common properties	N	S	O	A
3.	I arrange ideas or subjects according to sequence, chronology or importance to facilitate acquisition and storage of information efficiently and effectively.	N	S	O	A
4.	I insist upon my students to define major terms and/or concepts used in class discussion.	N	S	O	A
5.	I encourage my students to give reasons for their answers.	N	S	O	A
6.	I encourage my students to reason by using analogy.	N	S	O	A
7.	I encourage my students to determine the relationship between all the parts and the whole.	N	S	O	A
8.	I encourage my students to look at available information and evidence before making predictions.	N	S	O	A
9.	I encourage my students to examine the truth of an assumption based on the validity of its evidence and assumption based information.	N	S	O	A
10.	I require my students to examine the reliability of the sources before accepting an argument.	N	S	O	A
11.	I encourage my students to search for information and evidence before making a generalization.	N	S	O	A
12.	I encourage my students to seek for all possible reasons before making conclusions.	N	S	O	A
13.	I encourage my students to make inferences based on the available evidence and information.	N	S	O	A
14.	I use metaphors in my explanation so that my students can learn how to use analogy figuratively.	N	S	O	A

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15.	I require my students to consider all possible solutions to a problem before deciding on the best way to solve it.	N	S	O	A
16.	I encourage my students to explain how they arrive at a certain decision or conclusion.	N	S	O	A
17.	I encourage my students to come up with new ideas or solutions.	N	S	O	A
18.	I encourage my students to consider all possible options and their consequences before making a decision.	N	S	O	A
19.	I use thinking skills as strategies in one or a few steps of my lesson development.	N	S	O	A
20.	I use teaching methods that can trigger my students thinking indirectly.	N	S	O	A
21.	I apply Bloom's taxonomy of educational objectives as a guide in different levels of questioning.	N	S	O	A
22.	I use structured questioning in my questions to students.	N	S	O	A
23.	I ask open-ended higher order questions rather than close-ended questions which can be answered with a specific "correct" answer.	N	S	O	A
24.	I use specialized graphic organizer to organize students' thinking skills and verbal communication.	N	S	O	A
25.	I use thinking mind-map to provide visual reminder.	N	S	O	A
26.	I encourage working on a thinking task in small groups.	N	S	O	A
27.	I vary my instruction between individual, small group and class discussion.	N	S	O	A
28.	I engage students in reflective writing.	N	S	O	A
29.	I discuss stories to develop my students' reasoning skills.	N	S	O	A
30.	I include 'thinking' time for formulation of responses from students working in a group.	N	S	O	A
31.	I allow 'waiting' time before expecting a response from my student.	N	S	O	A
32.	I ask several questions to clarify and extend a student's response.	N	S	O	A
33.	I am particular about precision in language and encourage precision of expression.	N	S	O	A
34.	I am prompt in reconsidering students' responses.	N	S	O	A
35.	I consider and accept "odd" ideas expressed by students.	N	S	O	A
36.	I am open-minded and evaluate things based on good reason.	N	S	O	A
37.	I seek for further explanation if things are not clear.	N	S	O	A
38.	I only use relevant information in discussions and interactions.	N	S	O	A

THANK YOU

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APPENDIX B

(INTERVIEW QUESTIONS)

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INTERVIEW QUESTIONS

ENGLISH LANGUAGE TEACHERS' PERCEPTIONS AND PRACTICES IN THE TEACHING OF THINKING

1. What do you think is the meaning of thinking in the learning process?

2. If teachers can teach students to think better, do you think that it is better to teach thinking skills as a separate subject or it is more appropriate to integrate them into the curriculum?

3. Do you think that our school curriculum is much exam orientated and does not allow students to improve their thinking abilities?

4. Do you think that thinking skills are important to English language learning?

5 Do you think that students can be taught thinking skills in English lessons?

6 In language learning activities, do you think it is possible to include both lower and higher order thinking skills?

7 What do you think are some of the various forms of thinking skills that could be introduced through language learning activities?

8. What do you think are some of the thinking strategies that teachers can employ in their ESL classrooms?

9. Do you think that teachers' belief, style or attitude affects the teaching of thinking in the ESL classroom? Why?

10. Were there any problems that you encountered or may encounter if you teach thinking skills in English lessons?

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APPENDIX C

(PILOT TEST RESULTS)

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PILOT TEST

Reliability of items for each scale

Scale	N	No. of Items	Alpha Coeff
Self efficacy	40	4	.8651
Value	39	4	.8174
LOTS	40	7	.7567
HOTS	40	7	.8647
Teaching strategy	40	9	.8201
Teaching behaviour	40	9	.7450
Perception (overall)	39	18	.7033
Practice (overall)	39	38	.9443

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APPENDIX D

(INTERVIEW TRANSCRIPT)

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TEACHER A

ENGLISH LANGUAGE TEACHERS' PERCEPTIONS AND PRACTICES IN THE TEACHING OF THINKING

1. What do you think is the meaning of thinking in the learning process?

I believe that we humans cannot be called intelligent beings if we exist without making any meaning to our immediate environment. I did not indulge myself into this area of study but as far as I know, 'thinking' entails the study of cognitive and metacognitive science as well as psychology. The question is, do we need to teach students how to think? We classify, analyse, generalize, deduce, induce, solve problems and even hypothesise in our daily activities; just that we do these spontaneously, without giving much thought about the process that is happening up there in the little room upstairs. Rajendran (2001) in hi spaper presentation pointed out that one cannot think in a content vacuum. Researchers have argued for decades about the meaning of thinking in the learning process. There are two main schools of thought here; the first, the behaviourists believe that thinking can be conditioned; and on the other hand, the mentalists believe that thinking is an inherent process which occurs naturally. I believe that 'thinking' is an inherent mental process executed by the brain in order to e enable human to function in his immediate environment.

2. If teachers can teach students to think better, do you think that it is better to teach thinking skills as a separate subject or it is more appropriate to integrate them into the curriculum?

I remember Collins (1991) did mention that teaching strategies that strengthen thinking competencies increase language arts achievement. But I can assure you that there seems to be a lack of literature in the area of teaching thinking although this issue has been on the academic agenda for the past 30 years. From my point of view, I think that there is no need to teach thinking skills as a separate subject but just incorporate them into other subjects. Nonetheless, a subject can be taught in ways that fail to promote thinking, but thinking can be taught apart from knowledge. In this case, it is the 'higher-order thinking skills' that comes into the picture. There is no doubt that thinking is only possible by the deeper understanding of knowledge. Yet knowledge alone is insufficient. So, from this argument, then one may say that thinking skills should be taught as a subject in itself! Allow me to quote Rajendran (2001) who came to the conclusion that conscious effort taken by language teachers in using specific strategies and techniques seem to create a conducive environment for the teaching and learning of higher-order thinking skills in their language classrooms.

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3. Do you think that our school curriculum is much exam orientated and does not allow students to improve their thinking abilities?

The curriculum set by the Ministry seems to paint a very good picture of our education system but from my experience, I think that our school and, in fact all schools in Malaysia are fashioned in such a way that everybody favours excellence in pupils' exam results. Even daily class teaching does not allow students to fully develop their actual potential. It is all exam….. exam… exam. The STAR reported that Hishamuddin cautioned teachers 'deliver or be replaced'

4. Do you think that thinking skills are important to English language learning?

Yes, most certainly. Sali (2006) in her one of her lectures did mention that 'thought cannot exist without language'. There is evidence to suggest that language abilities and thinking competencies shape each other.

5 Do you think that students can be taught thinking skills in English lessons?

Yes, I believe that students should be taught critical thinking skills as a mode for knowledge acquisition.

6 In language learning activities, do you think it is possible to include both lower and higher order thinking skills?

Yes, ….. well it depends on the pupils schemata. And these can only be achieved with 'normal' students who have acquired sufficient basic knowledge and language skills. Only then, language teachers in secondary schools can assist their students in learning and executing lower and higher-order thinking skills…. especially the latter skills.

7 What do you think are some of the various forms of thinking skills that could be introduced through language learning activities?

There are many aspects of thinking skills. The main ones are: meaning making, reflective thinking, analysis, synthesis, convergent thinking, divergent thinking, critical thinking and also creative thinking.

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8 What do you think are some of the thinking strategies that teachers can employ in their ESL classrooms?

The most common thinking strategies that teachers employ is 'questioning'. But if we go in depth, teachers may employ activities that need analytical and creative thinking skills. They can also ask students to solve problems or argue out a case through acting and role-playing. Students can also be orientated towards projects and research activities… but I must caution you here, all these suggestions seem interesting and beneficial yet to achieve all these, you first need students who are committed, mature, have the right learning attitude and are quite eloquent in language usage. If one of these qualities is lacking, then teaching thinking skills might just be a futile effort.

9 Do you think that teachers' belief, style or attitude affects the teaching of thinking in the ESL classroom? Why?

Yes, Prawat (1992) points out that teachers' view and beliefs of teaching and learning influence their classroom practice. Rajendran (2001) also points out that for thinking to take place in classrooms, teachers must convey to students that the goal of instruction is thinking, that the responsibility of thinking is theirs, that is desirable to have more than solution, that is commendable when take time to plan, that an answer can be changed with additional information. Chang-Wells and Wells (1993) reports that education must be thought of in terms not of the transmission of knowledge but transaction and transformation.

10 Were there any problems that you encountered or may encounter if you teach thinking skills in English lessons?

Yes…. all the time. Sadly, many of our students are weak in language competency. Therefore, activities that concern thinking skills especially higher-order thinking are just not possible to be carried out in a normal setting.

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TEACHER B

ENGLISH LANGUAGE TEACHERS' PERCEPTIONS AND PRACTICES IN THE TEACHING OF THINKING.

1. What do you think is the meaning of thinking in the learning process?

   From my point of view, thinking in the learning process is a skill that helps students to actually learn instead of merely memorizing. When students memorize, they are unable to solve problems nor apply what they have learnt to their daily lives.

2. If teachers can teach students to think better, do you think that it is better to teach thinking skills as a separate subject or it is more appropriate to integrate them into the curriculum?

   I think it is better to teach thinking skills as a separate subject as then students can be exposed to different tools of thinking skills such as graphic organizers, mind-maps and other thinking tools which aids to thinking in a more systematic manner. When they are integrated into the curriculum only a few thinking skills can be exposed and taught and I am sure teachers too are rather not familiar to the various thinking skills themselves. Furthermore, I do feel that teachers to need to be trained to teach thinking skills. They need to have some form of exposure and knowledge by attending appropriate courses before they are able to impart thinking skills to their students in their classrooms.

3. Do you think that our school curriculum is much exam orientated and does not allow students to improve their thinking abilities?

   Yes… in the end students grades in public examinations is all that counts. Schools in Malaysia, parents and teachers themselves give much emphasis on excellence in exam results that the process of learning itself is sidelined and students' actual potential nor abilities are not fully developed nor given much thought.

4. Do you think that thinking skills are important to English language learning?

   To me learning English is more to practice and acquiring the four skills of listening, speaking, reading and writing. However at times, thinking skills does help students to organize and present their thoughts and ideas better.

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5. Do you think that students can be taught thinking skills in English lessons?

   Yes, for thinking skills such as problem solving, generating ideas, comparing and contrasting and analyzing.

6. In language learning activities, do you think it is possible to include both lower and higher order thinking skills?

   It depends on the students. If the students are proficient in the language why not?

7. What do you think are some of the various forms of thinking skills that could be introduced through language learning activities?

   Problem solving, generating ideas, making inferences, comparing and contrasting and other relevant thinking skills.

8. What do you think are some of the thinking strategies that teachers can employ in their ESL classrooms?

   I think graphic organizers and mind-maps are interesting and effective thinking strategies language teachers can employ.

9. Do you think that teachers' belief, style or attitude affects the teaching of thinking in the ESL classroom? Why?

   Yes….. I for one think that students' language proficiency is an obstacle in teaching thinking because despite constant reminders students tend to think in their mother tongue and even during classroom discussion do not use the English language as they are not confident in presenting their ideas in English.

10. Were there any problems that you encountered or may encounter if you teach thinking skills in English lessons?

    Yes, and again it is the students' language proficiency and their attitude towards language learning. Teaching thinking skills would be easier if students have a good command of the language.

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