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CRITICAL THINKING IN TEACHING AND LEARNING SESSION AMONG SECONDARY SCHOOL TAMIL TEACHERS

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Abstract

This study examined about the Critical Thinking in Teaching and Learning session among secondary school Tamil teachers. This research consists of two objectives. First objective is to identify the use of critical thinking in teaching and learning session among Tamil teachers. Second objective is to identify the techniques to implement critical thinking in teaching and learning among Tamil teachers. Researcher have been chosen an urban secondary school at Kuala Langat, Selangor as my research area for this research. Researcher includes five Tamil teachers consists of a senior assistant dan Two form two teachers and Two form four teachers as research's sample. The types of methods used to collect data were mix method such as Quantitative and Qualitative methods. Besides that, Interview, Questionnaire and also Observation analysis methods were used to analysis the data obtained in this research. Researcher have used Bloom's Theory for better results in this research. By using Interview and Questionnaire instruments, researcher had collected data for the first objective while do observation for the second objective. Most of the teachers used I-Think maps and do Question & Answer (Q&A) session in Tamil teaching and learning session methods to improve critical thinking among the students. As a result, all 5 teachers implement the Critical Thinking in teaching and learning lesson of Tamil. Moreover, their knowledge toward Critical Thinking is very strong and the use various kind of ways to improve Critical Thinking such as Audio, Video, and most important I-Think Map and Q & A Session to voice out.

Keywords: Secondary school Teachers, Critical Thinking, Methods, Teaching, Learning

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Introduction

Critical thinking is not about being negative. The term critical comes from the Greek word *Kritios* meaning discerning. So critical thinking is a deeper kind of thinking in which we do not take things for granted but question, analyse and evaluate what we read, hear, say, or write. It is a general term used to identify essential mindsets and skills that contribute to effective decision making. While there are many definitions for critical thinking, here is one that covers its essential aspects:

“It is not so very important for a person to learn facts. For that he does not really need a college. He can learn them from books. The value of an education in a liberal arts college is not the learning of many facts, but the training of the mind to think something that cannot be learned from textbooks.” Albert Einstein

(Frank, 1947, p. 185)¹

Recently Monash University run a study regarding critical thinking. There the researcher found about Critical thinking seeks to identify reliable information and make reliable judgements. It encompasses mindset and skills, both of which can be developed through an understanding of key concepts, practice and application (Monash University, 2020)².

Critical thinking experts describe such people as having “a critical spirit”, meaning that they have a “probing inquisitiveness, a keenness of mind, a zealous dedication to reason, and a hunger or eagerness for reliable information”.

(The Delphi Research Method cited in Facione, 2011, p. 10)³

With respect to the first question above, you may respond by describing critical thinkers by the mindsets they possess. These could include being: inquisitive and curious, always seeking the truth, fair in their evaluation of evidence and others’ views, sceptical of information, perceptive and able to make connections between ideas, reflective and aware of their own thought processes, open minded and willing to have their beliefs challenged, using evidence and reason to formulate decisions, and able to formulate judgements with evidence and reason.

Based on policy of our country, Tamil language is explained as an auxiliary language in secondary schools. There are four main fundamental skills to be mastered in Tamil. They are listening, speaking, reading and writing. The program emphasizes on further enriching the Tamil language skills acquired in primary school and achieving balanced development in the cognitive, spiritual, sensual and emotional aspects of the students in line with the philosophy of national education. Overcoming Many Obstacles (KBSM) in year 1989 under *Laporan Jawatankuasa Kabinet Mengkaji Pelaksanaan Dasar Pelajaran* (1979) The Tamil lesson was taught to from Form One to Five students based on the KBSM syllabus (Kamarudin, 1994)⁴. It is registered under ‘Perakuan’ 58. Currently in Form Four and Form Five students are only studying under this scheme.

According to *Utusan Online* Hakimi Ismail (2016)⁵, Quality based Tamil language curriculum was introduced and officially implemented in 2017 under the leadership of Naza Idris Sadoon. Beginning years this KSSM Initially prepared for Form One students. However, later this KSSM program was incorporated into Form Two and Form Three Learning Teaching in year 2019. The primary purpose of this study is to identify the understanding of critical thinking among teachers in the 21st century high school thinking under this integrated Tamil language curriculum. The secondary purpose of this study is to clarify what are the methods that teachers used to improve critical thinking among Tamil taking students.

Teachers need to be very clever and talent in higher order thinking skill by criticise a topic in various of corner into the bargain. This study is mainly focused on to identify the use of critical thinking in teaching and learning session among Tamil teachers. Besides, to identify the techniques to implement critical thinking in teaching and learning among Tamil teachers. So, by doing this research researcher will find out teachers understanding toward critical thinking and how they implement on their lesson in classroom. In this finding, teachers also had been observed by researcher in 4 elements such as Listening, Speaking, Writing and Reading. Generally, students always depend on teacher's guidance. Therefore, teachers should be more knowledgeable and independent thinking skill. So, students will follow teachers' footsteps utilised in their studies. Hence, this research study will show teachers ability in critical thinking and how they applied in their Tamil teaching and learning process.

Literature Review

According to Muhammad Harriz Zaini (2015)⁶, explained in his research about Critical thinking carries out a significant role in improving the quality of students and education all over the world. However, educators are criticized for not preparing students effectively for future employment since the students lacked critical reasoning skills. Thus, educators need to be able to provide critical thinking learning environment in the classroom. This study aims to investigate how the English lecturers in APB perceive their critical thinking application in class as well as how their students perceive their critical thinking application in class. Additionally, the study investigates whether there is a significant difference between their perceptions regarding the critical thinking application in class. From this study, researcher implement the way of improve critical thinking skill in Tamil Language and analysis the both teachers and students in Tamil class are aware of the importance in incorporating critical thinking in learning.

The skills of analysing arguments and making inferences are part of critical thinking. Besides that, critical thinking also includes inductive or deductive reasoning; judging or evaluating; and making decisions or solving problems. According to Emily (2011)⁷, critical thinking combines both cognitive skills and dispositions. These dispositions, which can be seen as attitudes or habits of mind, include open and fair-mindedness, inquisitiveness, flexibility, a propensity to seek reason, a desire to be well informed, and a respect for and willingness to entertain diverse viewpoints. Instructors are urged to provide explicit instruction in critical thinking, to teach how to transfer to new contexts, and to use cooperative or collaborative learning methods and constructivist approaches that place students at the centre of the learning process. From this research study researcher evaluate the class assessment tasks should make student reasoning visible by requiring students to provide evidence or logical arguments in support of judgments, choices, claims, or assertions. Therefore, its help researcher to collect data by doing class observation.

Another research conducted by Irfan & Hazita Ahmad (2010)⁸, regarding the application of asynchronous mode of computer-mediated communication such as the online discussion forum is becoming more prevalent in our learning environment. Online forum is important for learning to take place as it allows the creation of a "virtual community of inquiry" that encourages problem solving, critical thinking, and knowledge construction. Thus, this study sought to analyse the content of trainee teachers' discussion in an online forum, especially in terms of their critical thinking levels. An online discussion forum was created for the trainee teachers to discuss their

experience and problems encountered during the teaching practicum. The depth of their critical thinking in terms of relevance, importance, novelty, accuracy, linking ideas or interpretation, justification, critical assessment, and practical utility were of interest in this study. Throughout, their reflections focused mainly on the aspects of relevance, importance, and justification of the issues being discussed. Based on these findings, it is recommended that our teacher training institutions integrate this technology into their curriculum. By using these data researcher estimate his data and do comparisons for achieve his second objective.

In these studies, critical thinking was selected as a skill to investigate as the students were weak in this skill when compare to other skill. This critical thinking has a very important role in all element such as reading, listening, especially writing and speaking. In examination students preforms or scores lower because of their way of answered higher order thinking skill questions. Therefore, teachers play an important role to produce a quality of method to make students understand the definition of critical thinking and plan the assessments to improve this critical thinking toward students. Besides that, these studies encourage researcher to identify the importance and methods to improve these critical thinking skills in Tamil language.

Relevant Studies

In engineering design work, engineers must be capable of thinking creatively by efficiently alternating between divergent thinking (developing many novel ideas) and convergent thinking (seeking a suitable idea by engineering analyses) (Hirshfield & Koretsky, 2020). There are many researchers conducted using critical thinking and their usage of in their studies such as writing, speaking, and literature. In the research conducted by Shankar (2016)⁹, Critical Thinking is one of the significant portions of Higher Order Thinking Skills (HOTS) which is at length discussed and used nowadays in almost in all fields. As the researcher said in his study, the field of Critical Thinking is introduced by Western philosophers and educationists by the name Critical Thinking. The Eastern thinkers, especially the Tamil philosophers who belong to a long-time history and culture and thoughts immemorial have applied these Critical Thinking skills very long ago. But they did not name it as it is called presently, Critical Thinking. This paper attempts to proof that, Tamil language as the most historic language in the world has been using Critical Thinking around 2000 years back through its vast and rich literature especially Naladiyar. From this research study, researcher going to introduce or investigate what is the actual meaning of critical and the what are the differences between Higher Order Thinking and Critical Thinking. Therefore, researcher use this data and idea to implement in one of the interview questions for asked at teachers to ensure they know regarding the difference between 2 skills which can achieve his first objective.

Besides, another research conducted by Tuzlukova (2017)¹⁰, investigated Critical thinking in the language classroom: teacher beliefs and methods. In recent years, English language teaching and research in the Sultanate of Oman has witnessed a significant increase in the emphasis upon critical thinking skills development alongside language proficiency. In particular, it explores English language teachers' conceptual definitions of critical thinking, their beliefs about the significance of critical thinking for language teaching and connections between critical thinking and language teaching methods. The results of the study's survey, supported by concrete examples from the classroom, suggest that the ultimate majority of those teachers recognise the central role played by critical thinking in effective language pedagogy. From this study, researcher observe teacher's activity for improving critical thinking in Tamil Class such as discussion, Q&A session,

I-Think Map, Technology and etc. By using this idea researcher plan to draw an estimate data for achieve his second objective.

Ahmed & Omnia Nabih (2014)¹¹, suggested Towards a Critical Thinking Classroom. The major objective of the present study is to investigate the effectiveness of using Richard Paul’s “Elements and Standards of Reasoning (E&Ss)” on improving the Critical Thinking skills as well as writing skills of EFL Saudi students. Students were identified as high, mid and low-level students. The progress of each group was measured through a progressive series of rubric assessments of their writing, examining five key areas important in rhetorical composition: clarity of writing, analysis of author’s argument, use of supporting information, organization, and grammar and syntax. Through the introduction of this focused Critical Thinking training, student composition improved in all of the five key areas, among all the groups. By using this research study as a guideline researcher collect data for achieve his second objective which is the methods using by the teachers for improving Critical Thinking among students in Tamil class.

Methodology

The survey was conducted at a secondary school operating in the Kuala Langat area. The researcher has utilised a combination of qualitative and quantitative methods to study the critical thinking ability of secondary school Tamil Teachers. The researcher has collected information using interview and questionnaire respectively for two purposes. The Analysis collected information through Form Two and Form 4 Tamil Teaching Teachers through Questionnaire method. One of them are senior Tamil Teacher who call as ‘Ketua Panitia’. It is noteworthy that all of these teachers occupy 20 to 30 years of teaching experience.

Table 1
Finding of Interview and Questionnaire

NO	QUESTIONS	SENIOR TEACHER (KETUA PANITIA)	FORM 2		FORM 4	
			TEACHER 1	TEACHER 2	TEACHER 3	TEACHER 4
1.	What is the meaning of Critical Thinking?	Critical Thinking is that mode of thinking - about any subject, content, or problem - in which the thinker improves the quality of his or her thinking by skilfully.	Critical thinking is a higher-order thinking skill.	Critical Thinking is main source of Higher Order Thinking Skill.	Critical thinking is one of the main roles for higher order thinking skill.	Critical thinking is the analysis of facts to form a judgment.
2.	What is the differentiation of Critical Thinking and Higher Order Thinking Skill?	Higher Order Thinking skills and Critical Thinking are gone beyond basic observation of facts and	Critical thinking is a higher-order thinking skill.	The usage of Critical Thinking and Critical Thinking are same.	Critical Thinking is the main part of answer Higher	Critical Thinking is an innovative and creative thinking

		memorization. They are what we are talking about when we want our students to be evaluative, creative and innovative.			Order Thinking Skill.	which help for answer Hots question.
3.	What is the main purpose of Critical Thinking?	To ensure that people are able to think clearly and rationally about what to do or what to believe. This is very important in any walk of life but especially in the realm of formal education, where it's vital to be able to construct rational arguments in support of one's ideas.	From solving problems in class assignments to facing real world situations, Critical Thinking is a valuable skill for students to master.	Critical thinking is essential in this regard, as it allows one to understand the logical connection between ideas.	To teach a variety of skills that can be applied to any situation in life that calls for reflection, analysis and planning.	The ability to analyse the way of think and present evidence for your ideas, rather than simply accepting sufficient proof.
4.	How to improve Critical Thinking in Tamil Class?	Using the verity of methods such as ICT Technology (youtube, powtoon and etc)	Use I-Think Map and Q & A session.	Use Audio, visualise method (picture), I-Think and Q & A session.	Use Audio, Movie Maker, Powtoon, Youtube, I-think and Q & A session.	Use Technology (Audio, Powtoon, Story Board and Movie Maker), I-Think Map and Q & A session.
5.	What is the theory used in school for Critical Thinking?	Bloom's Taxonomy	Bloom's Taxonomy	Bloom's Taxonomy	Bloom's Taxonomy & Anderson	Bloom's Taxonomy & Anderson

The researcher conducted an interview and do a simple survey with the Tamil language teacher of the selected school and collected information from that. In addition, the researcher found out through interviews how teachers use micro-thinking techniques in Tamil language teaching. The questionnaire method was manipulated to clarify the critical thinking of the first objective. He asked the Malaysian Ministry of Education questions on the teaching elements of learning and teaching by asking questions in the questionnaire and thereby assessing their clarity.

The class observation method was equally used to get supplementary information to reinforce the second purpose. The observational burden was equally ready and noted during the observation. By using, all the collected data researcher completed his/her findings in next chapter. Form Two and Form Four class are selected for an observation for each form for nearly 4 weeks.

So, all together 8 weeks to do observation for 2 different classes. The researcher managed five authors as study samples in this study. Two of them are male, and three are female.

Finding

Researcher were share his research study's data in this chapter. First of all, the researcher was explained the interview and questionnaire data of this study. These 2 methods were used to achieve the first objective.

The above Table 1 illustrates the data of the teachers who participated in interview and Questionnaires. The way of answering regarding Critical Thinking is slightly different in all 5 teachers' point of view. However, their thinking or understanding regarding Critical Thinking is similar. For example, the first question representative about the meaning of Critical Thinking in their understanding. Actually, the proper answer will be the Critical Thinking is that mode of thinking - about any subject, content, or problem - in which the thinker improves the quality of his or her thinking by skilfully. That means, for doing a Higher Order Thinking Skill questions people should think rationally regarding an issue. Maybe it can be an adapted decision to solving a problem at the same time its must be the logical decision which without interruption. The second question is what are the difference between Critical Thinking and Higher Order Thinking Skill. The answer for this question is Higher Order Thinking skills and Critical Thinking are gone beyond basic observation of facts and memorization. They are what we are talking about when we want our students to be evaluative, creative and innovative.

The majority of students learn without identifying the factual content of the high order thinking questions (KBAT). Teachers fail to point out that all high order thinking questions are all critical thinking questions in the quest to prepare students for the exam. Therefore, students leave the school life without knowing the intended meaning and explanation for Critical Thinking questions. Normally, in government level exam and school level exam will do question based on Higher Order Thinking Skill question which the government introduced as Kemahiran Berfikiran Aras Tinggi (KBAT). So, the teachers and school management regardless to introduced the actual meaning and purpose of Higher Order Thinking Skill. All the peoples who worked under school such as Teachers, Principle, Senior Teachers and Education Ministries all their motive is to achieve the target of upgrade or maintain the percentage of A's in exams. Therefore, they don't even feel to share the knowledge and the usage of Critical Thinking towards to handle Higher Order Thinking Skill.

In addition to, the third question is the purpose of the Critical Thinking. The suitable answer for this question is to ensure that people are able to think clearly and rationally about what to do or what to believe. This is very important in any walk of life but especially in the realm of formal education, where it's vital to be able to construct rational arguments in support of one's ideas. For this question all the 5 teachers gave similar answer but different way of convey. The main purpose of Critical Thinking is to produce logical answer and reliever a better idea to do a problem solving. The fourth, question will be how this Critical Thinking implement in Classroom Activity. All the teachers apply ICT usage such as Audio, YouTube, PowToon, Story Board, Picture, Movie Maker to improve their critical Thinking in better way by absorb their attraction toward these activities. On the other hand, teachers also used I-Think Map and Q & A session to grab their idea to convey by different angle. Furthermore, the final question is Theory that abated

to improve the Critical Thinking in school is Bloom's Taxonomy Theory. Bloom's Taxonomy is a method to categorize the levels of reasoning skills that students use for effective learning. There are six levels of Bloom's Taxonomy: knowledge, comprehension, application, analysis, synthesis, and evaluation. Each one of the categories aims to construct one level of abstraction more complex than the other. Teachers applied activities in this Theory based on the six levels given in the above. Audio, YouTube, Story Board, Movie Maker and PowToon used for listening, speaking and reading. Meanwhile the I-Think Map and Q & A (QUESTION & ANSWER) were used for deliver ideas for writing and speaking. The teachers said these activities gave positive outcome from students.

Table 2
Finding of Tamil Class Observation

		TEACHERS		
		FORM 2		FORM 4
WEEKS	TEACHER 1	TEACHER 2	TEACHER 3	TEACHER 4
1 - 4	i. Writing, Speaking - I-Think Map and Q & A session.		i. Listening & Speaking - Audio, I-think and Q & A Method YouTube, ii. Writing - Movie Maker, PowToon, I-think and Q & A Method	
5 - 8		i. Listening & Speaking – Audio ii. Writing - Visualise method (picture), I-Think and Q & A Method iii. Literature – Visualise (Picture & Story Board)		i. Listening & Speaking - Audio, Q & A Method ii. Writing- I-Think Map, Story Board and Movie Maker. iii. Literature - PowToon

Table 2 shows the findings of Tamil class observation which held for 8 weeks. First month around 4 weeks Teacher 1 and Teacher 3 was avoided to do observation meanwhile second month Teacher 2 and Teacher 4 gave permission to do observation. From the observation finding most of the teachers were used I-Think Map and Q & A method through their teaching and learning session in Tamil Class. All the teachers were used I-Think Map and Q & A method for improving students Critical Thinking toward writing skill such as essay writing, list the important points, summary writing, and etc. Furthermore, the teacher 3 and teacher 4 were used Story Board, Movie Maker, visualise method for improving students Critical Thinking toward writing skill. All the teachers use Audio, YouTube, Q & A Method and I-Think Map for improving students Critical Thinking toward Speaking and Listening skill. Moreover, teachers used Visualise methods such as (picture, story board and Movie Maker) and PowToon for improving students Critical Thinking toward

studying literature. All these teachers keep used one method similarly is Q & A method which help students to deliver a logical idea and knowledge.

The results of the observation indicate that these critical sophisticated skills have been greatly improved in the articles. The school where the study was conducted may have less training aids used by teachers to enrich Critical Thinking. The reason is that teachers rarely use sample supplements. Plus, there is no specific class for Tamil language students. In this manner, teachers are assigned without facilities to adopt technology.

Conclusion

Shankar (2016)⁹, conducted a study called Uyyachchintanai (Micro-Thinking) in Naladiyar. Hirshfield (2020)¹², explains the FRISCO approach as the basis for the Uyghur thinking tool. This FRISCO approach has been studied under 6 steps in the form of Focus, Reason, Interference, Situation, Clarity and Overview. At the end of this study the researcher explores how to microscopically examine students. This study examines how Naladiyar can develop micro-thinking in an ecosystem and how to follow and adhere to it in life. The difference between high level thinking and critical thinking ability in Tamil can be explored based on its components. What is high-level thinking ability in this study, and what is critical thinking ability? The need for this can be fully explored in terms of application, similarity, differences, strategies, and outcome. Some faculty greats do not know the differences between high-mindedness and critical thinking. The given research study shows similar finding for this research study which is analysis Critical Thinking in Tamil teaching and learning session among teachers. So, from this research researcher find the basement of improving Critical Thinking skill are teachers and their guidance. Therefore, teachers should be very careful to understand about Critical Thinking and its Importance in studies. The academic researcher compares and analysis the critique of Critical Thinking with 20 - 30 years of experience in this study in a systematic way and describes the elements of critical thinking creatively as constructive, fictional, creative and analytically identifying and interpreting causal factors in the study. Furthermore, they have traditionally used the questionnaire approach to sufficiently develop Critical Thinking and the Critical Thinking with the thought mind map. Furthermore, this study sufficiently reveals that this critique is necessary not only for gifted education but also for thinking and acting in superior conjunction with life. This study naturally suggests that life can also be tackled when learning the possible way of social life and the local environment.

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