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The Effects of Debate Competition on Critical Thinking among Malaysian Second Language Learners

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Abstract: Debate is a common co-curricular activity involving most Malaysian schools at the district level. Every year, each school would send three students to represent its team. In this study, forty (40) second language learners, aged 16 years old, were involved in a two hour debate activity carried out three days per week for three consecutive weeks. This activity was organized by their school seniors, aged 18 years, as part of their English assignment. A pre-post critical thinking test was carried out among the debaters and at the end of the activity, a survey was undertaken to gauge their perception of the thinking process they had experienced. The result revealed that there was a significant difference in their critical thinking skills before and after the debate activity as the intervention. The survey and teacher observation offered feedback on how debate foster their critical thinking. Among others, it showed the importance of scaffolding and collaborative learning in enhancing critical thinking. Another factor is the fact that debate involves argumentation, reasoning, explanation and questioning, all important critical thinking skills.

Key words: Critical thinking • Debate competition • Second language learners • Argumentation • Explanation skill • Reasoning skill • Questioning skill • Scaffolding • collaborative thinking

INTRODUCTION

Teaching critical thinking in schools is important as it is deemed an essential survival skill of the twenty-first century. Even as far back as 1989, Resnick [1] had asserted for the inclusion of critical thinking into the curriculum and argued for making it the foundation skill taught rather than merely basic skills. Critical thinking has a high premium : it is directly related to cognitive development and good thinking practice [1, 2]. Malaysia is no exception among nations that aspire to cultivate critical thinking among its students. It has, since 1989, incorporated critical thinking in stages into its education system [3]. The approach undertaken is the infusion method- where the teaching of critical thinking skills is incorporated in all lessons and in co-curricular activities. However, the recent Preliminary Report of the Educational Blueprint 2013-2025 [4] highlighted that despite these

efforts, critical thinking and in particularly problem solving skills, were lacking among Malaysian school students. Indirectly, it bring into question the effectiveness of the infusion approach and the current practice of incorporating critical thinking in the classroom.

Definition of Critical Thinking: There are various definitions of critical thinking. Early traditionalists emphasized on skills. Steinberg [5] defines critical thinking as, "The mental processes, strategies and representation people use to solve problems" (p.46). John Dewey [6] defined it as reflective thinking : active, persistent and careful consideration of a belief or supposed form of knowledge in the light of the grounds which support it and the further conclusion to which it tends. A simpler definition offered by Ennis [7]. included belief and behavior. He defined critical thinking as : "Reasonable and reflective thinking that is focused upon deciding what

to believe or do" [p. 45]. Lipman [8] on the other hand, believes critical thinking has to do with good judgment based on criteria where like moral values, the teaching of critical thinking needs to be shown and modeled to students. This would ensure that the thinking skills are transferred and students would internalize what they had learned [8]. Similar thoughts was suggested by Paul and Elder [9] : 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 skillfully taking charge of the structures inherent in thinking and imposing intellectual standards upon them. The emphasis of critical thinking is on metacognitive or thinking about thinking.

Another aspect of critical thinking, emphasized by many experts, is the importance of the predisposition [10]. Disposition can be broadly seen as a mindset, or mental attitude or a proclivity, "towards a particular pattern of intellectual behavior" [11, p.2]. Facione stated it as "a consistent internal motivation to use CT (critical Thinking) skills to decide what to believe and what to do." [10, p73]. Scholars have put forth various kinds of thinking that they perceived to be essential. Facione [12] for instance, identified inquisitiveness, open mindedness, confidence in reasoning, judicious and truth seeking as essential thinking dispositions. Paul [9, p.14-15] included intellectual humility, intellectual courage, intellectual perseverance, intellectual integrity, intellectual autonomy and confidence in reasoning and fair-mindedness. Ennis [13], identified fourteen critical thinking dispositions. Thus, critical thinking is beyond skills. It is a complex, multifaceted process that involves knowledge, skills, attitudes and abilities [14] and predisposition. According to Paul (cited in Burbules and Berk, [15] there are two distinct critical thinking forms : one is the weak form which involves mastering of critical thinking such as drawing conclusion, making inferences or evaluating. The second type is the strong form which involves not only the integration of the thinking skills but the learner's disposition as a character to feel strongly for a case in an argument and be bold to express one's idea and thoughts. The various CT classifications or taxonomies indicate how complex critical thinking is.

There are also different thinking programs available. An example of such a program is the "Philosophy for Children (P4C)" program, a stand alone program by Lipman [2]. Using the inquiry approach, Socratic method and short stories, Mathew Lipman, aimed to make children be reflective and practice good thinking. Paul [9], on the other hand, developed a set of six [6] questions, as guidance on how to develop CT through questioning.

In conclusion, CT is complex. It remains a difficult and challenging construct to define and measure. Nevertheless, experts at least agree on the basic understanding of critical thinking- which is, that critical thinking involves a thought process. This thought process according to researchers, are commonly associated with qualities such as analytical, reasoning, good judgment, self -correction, metacognitive skills, explanation, verifying sources and accepting the perspective or viewpoints of others, being sensitive or being broad – minded. Interestingly, these qualities are familiar to debate as shall be discussed.

Debate and Critical Thinking: Debate is loosely defined by *Collins Cobuild Advanced Learner's English Dictionary* [16], as a discussion or to discuss. Debate is an ancient practice that is purportedly 2400 years old [17]. It was introduced as a teaching method in Ancient Greece by Protagoras [18]. It was also a popular teaching method in the field of Islamic jurisprudence introduced in the college as early as the twelfth century [19]. In the United States, debate has been established as a sound educational tool at both secondary and tertiary level. At the university level, debate as a teaching tool, has been carried across various disciplines such as in marketing, sociology, psychology, biotechnology, dentistry and nursing [20]. As attested in the literature, debate is often claimed by many to promote critical thinking [21] and as an effective educational tool that offers a lot of benefits [22]. Research of classroom debates at tertiary level reveals the benefits included: 1. learning the research culture of analyzing, 2. clarifying ideas and presenting arguments [23], 3. understanding better content knowledge [24], 4. improving personal skills and critical understanding [25,26] and 5. bolstering teamwork [27]. An action research conducted by Omelicheva and Avdeye [28] examined the relationship between academic debate and critical thinking among undergraduates. An analysis of the evidence concluded that debates engaged students in intellectual practice that also characterizes critical thinking. Despite this, the data linking debates and critical thinking is not conclusive since students are not only exposed to debate activity but they are also exposed to other academic courses which could contribute to their maturity and critical thinking [29].

Other than classroom debate, debate activities also occur in debate competitions at school or university level with two or three persons in a team. Likewise in debate classroom, participants claim that debate leads to improvement in critical thinking [30], communication and speaking skills[31] and increased confidence [32]. Though

debate is loosely defined as a discussion or to discuss, in a debate competition, two teams will debate on a motion in front of a third party, the judge(s) or adjudicator(s). Emphasis is given to the team which presents a better argument as judged by the third party [33]. There are of course certain criteria to determine which team builds a better case. One of this is the ability to prepare a broad scope of information requiring deep and critical analysis of the topic. Thus, it is imperative that the information is gleaned from a wide range of reliable sources. Another criterion is the effective debater or the team must be able to rebut well all the counter arguments(s) put forth by the opponent at the same time the debater must also have the skill to examine and identify weaknesses in the case argument [34].

Therefore, there are certain skills that are demanded for a successful debate. Among these, are the ability to 1. identify and clarify the issue discussed, 2. assess and interpret the underlying values involved, 3. evaluate the relevance or accuracy of information or evidence obtained, 4. evaluate the relative merits of different viewpoints, 5. articulate effectively ideas or arguments, 6. draw conclusively and summarize all the arguments and lastly, 7. critically appraise one's performance as well as the team [34]. Thus, in summary, debate involves the key dispositions identified by Facione [12]: interpretation, analysis, evaluation, inference, explanation and finally self-regulation - each of these entails a specific thought process.

Clearly this shows that both debate and critical thinking may involve certain thought process that overlaps one another. For instance, interpretations skills which entail analysis of definitions and arguments, verification skills of sources of information or evidence and reasoning skills, which involve explanations of ideas followed by evaluations and justifications. This agrees with the assertion made by Colbert [35], that previous research on critical thinking and debate indicates a link or relationship although not conclusively.

Thus the purpose of this study is to determine the relationship between debate competition and critical thinking. Forty (40) students aged 16 years old underwent a debate competition; subsequently a questionnaire was administered to gauge students' perception of the effects of debate on their thinking process. Specifically, this study aims to find out whether debate improves students' critical thinking and if so, which aspect of the thinking process does debate promote.

Participants: The participants involved in this debating activity, were made up of three groups namely, the debaters, the adjudicators and the organizers. The debaters involved were 40 new Form Four students, aged 16, who had enrolled in the school at the beginning of the year. The organizers and adjudicators who carried out this program as part of their English assignment were their seniors in the same school, aged 18. The organizers were familiar with debate format and rules and had often debated during their English class. They had also organized debate competition in semester one involving the Form One students, aged 13 and were experienced in adjudicating debates.

The debate competition adopted British parliamentary debate where there were four teams (or pairs) involved at each venue [33]. In a debate there are two sides, the opposition and the government. As shown in the following diagram, each side is made up of two teams. The four teams are accordingly called Opening Government, Opening Opposition, Closing Government and Closing Opposition.

GOVERNMENT	OPPOSITION
Opening Government	Opening Opposition
1. First speaker	1. First speaker
2. Second speaker	2. Second speaker
Closing Government	Closing Opposition
3. Third speaker	3. Third speaker
4. Fourth speaker	4. Fourth speaker

Order of Speech and Roles of Speakers: In debate each speaker delivers his speech according to the following order with specific roles. This is described accordingly.

Point of Information (POI): Another feature of the British Parliamentary debate is the use of point of Information or POI. A POI is a form of question asked by the rival members to any current speaker delivering his or her speech. The interruption in the form of POI is only allowed one minute into the opening of a speech and one minute before the closing of a speech. The request for POI is made by raising one's hand and exclaiming, "POI, please" or "On that point, sir".

Stages: There were two stages involved: the pre-debate stage and debate competition.

Pre- Debate Stage: The pre debate was conducted in the first week. During this stage, the organizers were involved in debate preparation. Students were first divided into groups of eight. There were five groups altogether.

Table 1: Debate Format

Order of Speech	Description of roles	Time (min)
Opening Government(First Speaker) (OG1)	Introduces the debate : gives definition and GOV argument	5
Opening Opposition (First Speaker) (OO1)	Cross examines OG1 speech Introduces OPP argument	5
Opening Government(Second Speaker) (OG2)	Cross examines OO1 speech Continues GOV claim-new argument	5
Opening Opposition (Second Speaker) (OO2)	Cross examines OG2 speech Continues OPP claim/ argument	5
Closing Government (Third Speaker) (CG3)	Cross examines OO2 speech Continues GOV claim/ argument	5
Closing Opposition (Third Speaker) (CO3)	Cross examines CG3 speech Continues OPP claim/ argument	5
Closing Government (Fourth Speaker) (CG4)	Opposition Rebuttal Speech	5
(CO4)	Closing Opposition (Fourth Speaker) Government Rebuttal Speech	5

Table 2: Debate topics (Preliminary rounds)

1.	Students should not be allowed to bring hand phones to school
2.	Homework should be abolished
3.	Should school require their students to wear a school uniform?
4.	Boys are better than girls

Each group was given a classroom as a debate venue. At each venue a workshop was carried out on debate, its structure, format and rules, the roles of each speaker as well as delivery of effective argument and rebuttal. The workshop also included a mock debate and students tried out debating for the first time. The motion was, “Home cooked meal is better than fast food Happy meal”. Students were given 30 minutes to brainstorm the topic. At the end of the mock debate, students were given an assessment of their delivery and performance.

Debate Competition: The debate competition was conducted the following week. Students debated four times during the competition. Before debate commenced, students were given 20 minutes to brainstorm the topic. The motion of the debate were based on the topics covered in their syllabus and issues which interested students. (Table 2) Students were informed the topics one week before the competition to enable them to carry out research.

After each round, scores were given for the performance of each team. Based on the total scores, eight teams were chosen to compete in the semi-finals and finally only four teams made it to the finals.

Instrument: Two instruments were used to collect quantitative data in this study.

The first instrument was the New Jersey Test of Reasoning Skill, (NJTRS). This test was chosen as it measures general critical thinking that had constructs on

logic and reasoning - both important aspects in debate since debate involves students giving arguments or offering counter arguments and delivering rebuttals. This test is recommended for high school and college students and has been used in Malaysian schools carrying out the Philosophy for Children Program, a critical thinking program. A reliability test for this study was undertaken and its Cronbach alpha for internal reliability was 0.73. Students sat for this test two weeks before the debate competition. This was the pre-test critical thinking. At the post debate stage, the students would sit again for the NJTRS. This was the post critical thinking test.

The second instrument used was the survey that comprises two sets of questionnaire. The initial set, set A, was given to the students before the debate competition. It aimed to determine students’ prior experience in debating. A second set of questionnaire, set B, was given. Items in the construct were based on the literature review of debate [33, 34].

The survey items used Likert-type scales ranging from 1 for strongly disagree to 5 for strongly agree. The midpoint rating of “3” is defined “not sure”. The Cronbach alpha for internal reliability was 0.75.

Throughout the program, the researcher recorded observation of students participation during the debate competition.

Result and Analysis: A paired sample t test was run to determine if debate improves students’ critical thinking.

The finding (Table 1) revealed that the mean for the post-test scores (M=33.13, SD= 5.15) was slightly higher than the mean for the pre-test (M=35.98, SD=6.08). The results showed a positive increase of 2.85 in the

Table 1: Paired Difference t test for the Means of Critical Thinking Skills

Test	Mean	N	Mean Diff	s.d	t	p
Pre	33.13	40	-2.85	5.42	-3.326	0.002 *
Post	35.98	40				

* Test is Significant at.05 level

Table 2: Argumentative Mind

Item	Mean
I was actively listening to other people's arguments	4.25
I was able to see the positive and negative points of an arguments	4.23
This debate activity helps me to argue better	4.37
I was able to engage in the debate better after each round	4.00
The debate helps me to defend my points better	4.50
The debate activity helps me to think fast	4.50

mean score. The paired sample *t* test showed that the mean difference for the pre and post critical thinking tests was significant, ($t = -3.326$, $df = 5.42$, $p < 0.025$).

Thus it shows that as a result of the debate, students improved their critical thinking.

Debate and Improvement of Critical Thinking Skills:

The descriptive analysis was applied to investigate in what ways debate improved the students' critical thinking. Its purpose was to better understand the students' learning experience throughout the debate competition. In order to do this the students were given a set of questionnaire containing 13 questions aimed to gauging their critical thinking attitude in four aspects: Argumentation, Explanation and Reasoning and Inquisitiveness.

For this analysis, a mean score that was above 3.50 was considered high as it was above 2/3 or 66 % of the general population. Therefore, any score between 2.50 and 3.5 was considered medium and less than 2.50 was considered low.

Results of the survey showed a majority of the students(83.8%) responded positively to the thinking effect of debate. This agrees with the findings by Jerome and Algarra [30] that in debate competition, participants often claimed that it led to improvement in critical thinking. Details of their positive experience are elaborated below.

Argumentation: Six items looked at aspects related to argumentative skills (table 2). The score for each item was all very high.

During debate students were actively listening to the arguments of the opposition and thus were able to see arguments from both sides. This enabled them to engage

better in debate. Students felt that debate helped them to argue and defend their arguments better and in order to do so it was important to think fast.

Reasoning and Explanation: There are seven related items in this section. As shown in Table 3, the mean score for this aspect was very high. Students felt that through debate, they improved their reasoning skill, were able to elaborate their points (to explain) and thus were able to engage more with the opponent after each round. During the process, students were exposed to a lot of information through arguments where organization and summarization skills became essential.

Questioning: Students were asked two items related to questioning (Table 4). For both items, the mean score was very high. Students felt they were inquisitive as they were questioning and probing more during debate.

Summary of Students' Survey: As a result of debate, the students felt they had improved in skills related to reasoning, explanation, argumentation and probing. How this came about could be explained by the researcher's observation.

Researcher Observation: These were areas where critical thinking was observed to take place the most. 1. Brainstorm session before the debate 2. Boldness to express an opinion 3. Reasoning skills in rebuttals to counter arguments while debate progressed 4. Questioning during POI session 5. Clarifying or making clear arguments when answering queries during POI. 6. Discussion while debate in progress.

Discussion before the debate was essential for these students. The brainstorming session allowed the participants to analyze the motion as the discussion was

Table 3: Reasoning and/ or Explanation Mind

Item	Mean
I feel my reasoning skills have improved	4.50
I was able to elaborate my points better each round	4.38
I was able to engage in the debate better after each round	4.00
The debate activity helps me to think fast	4.50
I was able to take in large chunk of information	3.90
I learn how to organize information/my ideas	4.33
I was able to summarize the points the students gave	3.95

Table 4: Inquisitive Mind

Item	Mean
During debate I have the tendency to ask probing questions	4.02
This debate helped me to question more about assumptions the opponents made	4.45

the source to get ideas, to exchange opinions and be better prepared in their preparation and mind set. Students insisted on having the brainstorm session each time before debate started and at each debate round, the participants requested for more time to be allocated for discussion.

At each discussion round, it was observed that the students were listening and discussing attentively to the ideas contributed. Debate is a display of their oratory and reasoning skill and each member knew this, hence the reason for their focused discussion before debate. The debate activity was similar to public speaking and so it was important for them to do well in front of an audience. A discussion prior to the debate, would ensure that they had ideas and would be able to elaborate on them when they delivered their speech. Thus another critical thinking aspect was the students boldness to stand up and express their opinion. This was in contrast to their behavior in the beginning (during the mock debate) when they were mostly uncertain and nervous. After repeated attempts in subsequent rounds, students became progressively confident as they were more used to speaking in front of an audience. Gradually, they became less dependent of their written text where initially they would be reading from the text but as they progressed they would refer to the text they had prepared. The practice gave them the confidence to debate, to argue and to reason.

Similarly, while debate was in progress, students listened attentively the arguments put forth. They had to listen and understand so that they could get the main points. This was essential as the structure of the debate was first to rebut the points raised by the recent speaker. This meant, for each debater, the next speaker had to focus and listen to the argument to identify the main point, take stock and think of why the point raised was flawed by countering with a reason. An advantage of this

was students had time to think of reasons to counter. As explained below, this is contrary to a POI session where the debater had to respond immediately the query raised as everything occurred in real time. So throughout the debate this pattern would emerge where initially an argument being put forth would be countered first by the next debater in a rebuttal before he raised another issue or a new argument. Thus, as debate proceeded, students would inevitably acquire the reasoning skills as the arguments unfolded.

POI was another session where thinking was observed. In the beginning, it was observed that the students were not familiar with the POI but once had understood how it worked, they really enjoyed challenging their friends with questions to counter. Unlike in public speaking, debate is not a one way communication. Debate allowed them to participate through POIs. Thus while debate was in progress, it was observed that the students were listening attentively to the arguments presented, taking down notes of the arguments raised and enthusiastically seeking opinions within group members to counter the points raised. Answering queries during POIs was a challenge as the debater who accepted them had to think on their feet since he would have to defend his point at the spur of the moment. Often, when they were not able to respond instantaneously, the debater would enlist the assistance of his team mates. Group effort was also observed as friends tried to help the debater to respond to queries. In this sense, the competition element was an important aspect of the debate.

While debate was in progress, discussion of disagreement of points given by any team was also seen in the respective opposition team. This would lead to one of its members to raise his hand (POI) to query. This was also observed as a strategy – where questioning was used to disrupt the opponent from continuing his

arguments. Another strategy used was to attack a fellow debater by continuously giving POIs when he was seen weak or uncertain in his arguments or weak in his case point. Similar strategy could also be used to deviate a speaker from delivering his argument within the time allocated. Likewise, refusal to accept any POIs was also a defense strategy – If the team sensed a weakness in their friend’s argument or a fellow debater was uncertain then his teammates would advise the debater not to accept the POI offered. Examples of these strategies were palpable and involved group efforts. The researcher believed the employment of these debate strategies promoted critical thinking.

Lastly, on a less positive note, even though a lot of arguments were continuously thrown back and forth as each round progressed, there was not much quality in the argument. Often, students repeated the same idea or points raise by earlier speaker/s. Similar observation was also reported by Othman [36]: “students would repeat the same point and then add one or two sentences further as explanations or elaborations.” [pg 847]. Use of evidence or research information was also lacking. Feedback from the students’ interviews indicated that these students did not have time to carry out research as their school schedule on the weekdays were packed with classroom activities and evening co-curricular activities. Hence, the reason for their intense brainstorm session as it was the only source of information for the debate motion of the day- they relied on their friends’ feedback during the brainstorm discussion to prepare their script.

DISCUSSION AND CONCLUSION

The researcher observation highlighted several factors that promoted critical thinking.

One factor was the brainstorming sessions prior to debate and the discussion among team members during debate. Another factor involving team effort thinking was the employment of group strategies by each team during the competition. This included the usage of POI as a strategy measure to attack the opponent or otherwise. This is clearly explained in the researcher observation. These are all actually collaborative activities. Collaborative activities are defined as activities carried out by team members to achieve a common goal [37]. There is evidence to indicate that collaborative activity promote critical thinking [38]. In fact, research by Gokhale [39] showed that teamwork or collaborative critical thinking fostered more critical thinking than individual critical thinking.

Active listening and critical listening were also important factors in promoting critical thinking. Both of these aspects require students to ask questions and make judgment of the arguments delivered [40].

Another factor is scaffolding. This was a concept put forth by Wood, Bruner and Ross [41]. Van Lier [42] suggested 6 features of scaffolding in the field of language learning. One of these was continuity: “repeated occurrences over time of a complex activity, characterized by a mixture of ritual repetitions and variations” [p.195]. In debate these was seen when students were repeating the ideas given by an earlier speaker followed by an addition of new sentences. [36]. Thus indirectly in this manner, students learned how to argue, give reasons and provide explanations.

Lastly, participating in debate would improve individual critical thinking. The fact is debate is an activity involving arguments where students have to give reasons and explanations or evidence to make their case strong. All these are skills related to critical thinking skills [14] The survey confirms this : through argumentation, reasoning, explanation and questioning student felt their critical thinking had improved.

In conclusion, the NJTRS showed a positive improvement in critical thinking among the participants after undergoing debate. The result from the survey and researcher observation parallel the significant result of the pre-post T test of the mean score of the NJTRS. Thus, this study agrees or supports previous research findings: that there is a link between debate and critical thinking [35]. More research is needed to look into this– perhaps a content analysis of the actual debate arguments to find out the development of critical thinking as debate takes place or unfolds. At the same time, more research to determine the critical thinking effects of debate on other sample groups of Malaysian population need to be carried out as well.

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