Fostering Egyptian EFL Learners' Critical Thinking Abilities through the Implementation of the Toulmin Model in their Speaking Classroom

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Abstract

This study attempted to examine the extent to which training in the use of the Toulmin model of argument (TMA) helped students develop their critical thinking abilities in Egyptian EFL classrooms. The pretest-posttests control group design was employed for the intervention stage, with participants being divided into experimental (EG) and control groups (CG). The participants were 80 students from the Department of English Language and Literature, Faculty of Arts, Menoufia University who voluntarily participated in this study. Both groups were given a pretest before the experiment in which they were required to present arguments while debating, followed by a posttest after the ten weeks of treatment administration. A rubric was used by two raters and the researcher to score the speech arguments of the participants in the pre-and posttests. The results of the data analysis revealed that, in terms of their critical thinking ability, the experimental group outperformed the control group significantly.

Keywords : Critical thinking, debates, EFL speaking, Toulmin model of argument.

ملخص

حاولت هذه الدراسة أن تحدد مدى إسهام التدريب على استخدام نموذج تولمين للحجاج في معاونة الطلاب على تطوير قدراتهم على التفكير النقدي في فصول الدراسية العملية للغة الإنجليزية كلغة أجنبية. وقد تم استخدام تصميم مجموعة التحكم في الاختبار القبلي والبعدي لمرحلة التدخل، حيث تم تقسيم المشاركين إلى مجموعات تجريبية ومجموعة تحكم بمشاركة ٨٠ طالبا من قسم اللغة الإنجليزية وآدابها بكلية الآداب جامعة المنوفية طوعا في هذه الدراسة حيث أجرت كلتا المجموعتين اختبارًا قبل التجربة وطلب منهم فيها تقديم الحجج أثناء المناقشة، يلي ذلك اختبار بعدي بعد عشرة أسابيع من المعالجة. وتم استخدام نموذج تقييم من قبل اثنين من المقيّمين مع الباحث لتسجيل حجج الكلام للمشاركين في الاختبارات القبلية والبعدية. وقد أظهرت نتائج تحليل البيانات تفوق المجموعة التجريبية على المجموعة الضابطة من حيث القدرة على التفكير النقدي.

الكلمات المفتاحية : التفكير النقدي، المناظرات، التحدث باللغة الإنجليزية كلغة أجنبية، نموذج تولمين للحجاج.

Introduction

The ability to think critically is one of the most essential aspects of education, and it is employed in lessons and curricula to create cultured critical thinkers, or individuals who are confident, open-minded, and capable of using fair judgment. As a result, English teachers have long attempted to integrate critical thinking techniques into the English language classroom through the production of argumentative essays, problem-solving exercises, and the use of provocative questions during class discussions and debates (Paul & Elder, 2008). Applying critical thinking skills through argumentation and having students practice making arguments while debating can significantly increase speaking ability in EFL learners (Iman, 2017).

Debate as a Teaching Technique

Debate has been widely regarded as an effective pedagogical tool that can improve L2 argumentation skills of EFL learners in speaking classrooms. Freely (2009) defined debate as "the process of inquiry and advocacy; the seeking of a reasoned judgment on a proposition" (p. 2). According to the English Speaking Union's Akerman and Neale (2011, p. 9), debate can be described this way:

> A formal discussion where two opposing sides follow a set of pre-agreed rules to engage in an oral exchange of different points of view on an issue. Formal debates are commonly seen in public meetings or legislative assemblies, where individuals freely choose which side of an issue to support, and also in schools or university competitions, where the participants are often assigned a particular side for which to advocate.

In the language learning classroom, debate is one of the communicative interactions in which learners express their opinions, share their perspectives, and provide genuine arguments to rebut and convince the other participants. Debating is a contemplative activity that requires a significant amount of time and effort from both the student and the teacher. Brainstorming, reasoning, perspective-taking, and metacognitive reflection are all part of this process, as it is basically regarded as a set of skills that have been developed through collaboration.

According to Alasmari and Ahmed (2013), countries that use English as a foreign language require effective activities that motivate students to appropriately practice language skills both within and outside the classroom. Closely related, debating is a strategy that encourages students to engage in discussions, defend their

own viewpoints, provide counterarguments, and conduct research on related topics. When we need to communicate efficiently and present our points of view in order to reach an agreement, we debate.

Debating engages debaters in competitive and stimulating practice while also becoming well-versed in the language (Krieger, 2005). While debating, students learn more through the process of constructing and creating arguments, working in a group, and sharing knowledge. Therefore, debate is one of the suggested language learning practices since it helps students improve a wide range of language abilities, including public speaking, listening to and understanding the viewpoints of other teams, and reformulating their own ideas (Brown, 2007).

Because EFL learners have limited opportunities to use English in real-life situations in an EFL setting, debating should be incorporated in their activities in order to allow them to express their opinions utilizing the language in the form of logical arguments. Therefore, debate can be included into the classroom as a communicative and interactive activity. Many studies have been undertaken to demonstrate the benefits of classroom debate, as this strategy is becoming more common in EFL speaking classrooms. As stated by Zare and Othman (2013), "Classroom debates build up academic language skill, second language fluency, and public speaking, which assist ESL learners to be prepared for successful academic study" (p.1511).

Critical Thinking

It was the Greek philosopher Socrates who first set the agenda for critical thinking (Fahim & Bagheri, 2012). In modern times, it was Bloom's works that established the contemporary theory of critical thinking (1956). Critical thinking, according to Pithers and Soden (2000), is a cognitive capacity that encompasses a wide range of skills, such as identifying, comprehending, and assessing an issue through inferring from top-down and bottom-up strategies to assess the credibility of claims or arguments. Critical thinking, according to Paul and Elder (2006, p.1), is "the art of analyzing and evaluating thinking with a view to improving it." In other words, critical thinking is a way of thinking that enables people to analyze and examine ideas about a topic before synthesizing them into a decision-making process (Paul & Elder, 2008). It entails reasoning, which is a sophisticated mental process that is subsequently communicated in language (Palmer, 2012).

Research evidence has shown that critical thinking and language development are closely related. For almost a century, educators have sought to foster critical thinking as a goal of education (Ennis, 2003). If students would like to succeed academically in college, in their professional careers, and in their social lives, they need to develop critical thinking abilities. Lin (2018) adds that "thinking skills are

essential skills if students are to achieve academic success in college and in their professional careers and social lives" (p.1).Therefore, Marin and Halpern (2011) have advocated for critical thinking instruction to be a core component of general education in all high schools.

Learners can enhance their problem-solving and decision-making skills through honing their critical thinking skills, which enable them to identify relevant and valuable information, develop and analyze the information they receive, and develop effective approaches to achieve their objectives. Gough (1991) stated that thinking skills are "crucial for educated persons to cope with a rapidly changing world" and Halpern (2003) went even further, stating that "critical thinking skills suggest irresistible opportunity for forming and adjusting to change and novelty".

Recent research within the domain of EFL teaching has also shed light on the proliferating importance of critical thinking skills that enable students to overcome various perplexities they encounter in the process of language learning (Waters, 2006). Critical thinking is regarded as an important component of today's modern educational system for enhancing learners' skills. Active longitudinal learning, problem solving, and empowerment are seen as essential skills for thriving in modern society (Akdere, 2012). To that end, it is commonly acknowledged that critical thinking helps individuals become engaged and efficient life-long learners as well as critical problem solvers, which leads to empowerment (Kincheloe, 2004; Lai, 2009).

Facione and Facione (1994) developed a Holistic Critical Thinking Scoring Rubric (HCTSR) for grading, along with a set of instructions on how to apply it. It evaluates critical thinking based on six key skills: "interpretation, analysis, evaluation, inference, explanation, and self-regulation" (Facione 1990, p. 8). Each skill is believed to indicate a key area of critical thinking based on the scholarly work of Toulmin (1958) and Facione (1990). These skills are: -

- Interpretation is the understanding and expression of the meaning or importance of a "variety of experiences, situations, data, events, judgments, conventions, beliefs, rules, procedures, or criteria" (Facione, 1990, p. 6). Interpretation is used to answer a question such as "How did the author come up with this?" (Facione, 2011 p. 36).
- Analysis is used "to identify the intended and actual inferential relationships among statements, questions, concepts, descriptions, or other forms of representation intended to express belief, judgment, experiences, reasons, information, or opinions" (Facione, 1990, p. 7). Detecting and analyzing arguments is a sub-skill of analysis. Detecting arguments entails determining

if a claim or expression supports or refutes a standpoint, claim, or argument. Analyzing arguments entails scrutinizing how a claim might gain support or opposition.

- Evaluation is presented as the ability to evaluate the logical strength of actual or intended inferential relationships among statements, descriptions, questions, or other forms of representation; and to evaluate the credence of statements or other representations which are representations of a person's perception, experience, judgement, belief, or opinion (Facione, 1990).
- Inference means to pinpoint elements required to approach rational conclusions; to formulate suppositions and hypotheses; to take into account necessary details and minimize the impacts of data, statements, evidence, judgments, opinions, descriptions, or questions. (Facione, 1990). Inference is elicited by posing questions such as, on the basis of the available evidence, what conclusions can we draw? Or what are the implications of accepting this assumption?.
- Explanation is the ability to state the results of one's reasoning. It was defined by Facione's (1990) panel of experts as being able "to state and to justify that reasoning in terms of the evidential, conceptual, methodological, and contextual considerations upon which one's results are based; and to present one's reasoning in the form of cogent arguments" (p. 10). Explanation is a stage of critical thinking after reaching a conclusion based on our previous abilities.
- Self-regulation is "self-consciously to monitor one's cognitive activities, the elements used in those activities, particularly by applying skills in analysis, and evaluation to one's own inferential judgments with a view toward questioning, confirming, validating, or correcting either one's reasoning or one's results" (Facione, 1990, p. 10). Self-regulation entails being aware of or establishing awareness of your own personal biases, monitoring your understanding when listening, and being conscious of the weaknesses and strengths of your comprehension.

The Toulmin Model

The Toulmin model of argument (TMA), proposed by British philosopher Toulmin (1958, 2003), is one of the most well-known models and it has a significant impact on argumentation theory. Toulmin proposed a new paradigm in which the traditional concepts of "premise" and "conclusion" are replaced by "claim," "data," "warrant," "qualifier," "rebuttal," and "backing."

The TMA trains learners to consider a wide range of ideas and standpoints and challenges them to develop their own conclusions based on their convictions

(Greenwald, 2007; Qin &Karabacak, 2010). The TMA is composed of six elements; claims, data, warrants, backing, qualifiers, and rebuttals. The stance or assertion being argued for is referred to as a claim, and the explanation or supporting evidence used to prove the claim is referred to as data. The principle or general logical statement that serves as a link between the claim and the data is known as a warrant. The backing for an argument adds to the warrant's credibility by answering several questions. The qualifier reflects the depth of the leap from the data to the warrant. Even if the argument has been well constructed, there may be counterarguments that can be utilized. These can be rebutted either through further debate or by offering the rebuttal during the original presentation of the argument, thus pre-empting the counterargument (Toulmin, 2003).

Since the late 1970s, educators and scholars have adopted the TMA (1958, 2003) as a feasible approach for producing and analyzing arguments, and it has been used in various writing classes and textbooks (McCann, 2010). Although there have been many studies investigating the implementation of this model in EFL writing, little is known about its potential in the classroom when it comes to the development of argumentation skills and critical thinking abilities in the EFL speaking classroom.

The work of British philosopher Toulmin (2003) in describing the structure of a basic argument has been of vital relevance in English as a First Language settings (Ong and Zhang 2010); however it has garnered less attention in L2 settings. When it comes to writing, the Toulmin model has been frequently used. Not only can the model act as the basis of structure and framework, but it may also teach students how to make claims and support them with solid explanations and evidence (Warren, 2010). As a result, students will begin to ask more critical questions while constructing arguments or putting them into standard forms. The basic format for the Toulmin Model is as follows (Toulmin, 2003),

Claim: The overall thesis the writer will argue for.

Data: Evidence gathered to support the claim.

Warrant (also referred to as a bridge): Explanation of why or how the data supports the claim, the underlying assumption that connects your data to your claim.

Backing (also referred to as the foundation): Additional logic or reasoning that may be necessary to support the warrant.

Counterclaim: A claim that negates or disagrees with the thesis/claim.

Rebuttal: Evidence that negates or disagrees with the counterclaim.

Empirical Studies

In this sense, Rafik-Galea, et al. (2008), conducted a study among 21 secondary school students from lower-middle-income families in Malaysia through pre-and post-test essays. According to the results of the study, there was an overall improvement in students' argumentative writing and critical thinking skills. The instruction of the Toulmin's model showed a significant improvement in the mean scores between the pre-test and post-test findings; the participants were able to better evaluate their essays and, consequently, this enhanced their writing quality for each element. As a result of this advancement, the participants' critical thinking abilities have increased as well. The study concluded that the TMA, as a scaffolding tool for writing, might help students improve their critical thinking skills and persuasive writing abilities. Similarly, Rex et al. (2010) investigated the ability of high school students to construct solid arguments. To teach them argumentation, the researchers employed the essential components of the TMA. For two months, the participants were given in-class, group, and individual instruction on the Toulmin model to maximize their knowledge retention of the argumentation elements. According to the findings, learners improved their argumentation skills and understood how to convey their ideas clearly and in academic situations with the help of the model.

Closely related, Suhartoyo, et al. (2015) investigated the effectiveness of implementing the Toulmin model of argumentation on undergraduate students' critical thinking in writing argumentative essays. The research implemented a quasi-experimental design with a pretest-posttest and a non-randomized control group. The participants were 38 fourth-semester English Department students from Universitas Negeri Malang. The TMA was used in the experimental group as part of a Think-Pair-Share-Write (TPSW) technique, whereas the control group received no treatment. An argumentative essay test was used to assess students' critical thinking abilities. The writing test was a subjective test that comprised a prompt and an instruction. The exam takers responded by writing an argumentative essay that included a claim, warrant, support, and refutation. The results of the study indicated that there was no significant difference on the students' critical thinking ability. This study implemented the TMA as a pedagogical intervention in EFL writing classes and not in speaking classes. Moreover, the total number of participants was 38; therefore, the results of their study may not be generalizable to other contexts.

The Toulmin's Approach was recognized by Zainuddin and Rafik-Galea (2016) as a powerful model for improving L2 students' writing skills. A total of 21 fifth-grade students from a rural high school participated in the study. They investigated the effect of training in the Toulmin elements on the development of students' critical

thinking skills while writing argumentative essays, as well as its impact on students' idea organization. The results revealed a significant difference between the pre-and post-tests which indicated that the instruction of the TMA enhanced the quality of the argumentative essays. Furthermore, the findings showed that the respondents' ability to construct arguments and think critically had increased.

Need for further research

The Toulmin model has been widely used in critical thinking classrooms when it comes to the writing skill. Not only can the model act as the basis of structure and organization, but also students can learn to make claims and support their claims with valid reasons and evidence (Warren, 2010). According to the literature (Du, 2017; Fauzan, 2016; Iman, 2017; Zainuddin, & Rafik-Galea, 2016), investigating the effectiveness of applying the TMA in speaking classes in order to foster critical thinking abilities of EFL learners has not been tested yet. Furthermore, to the best of the researcher's knowledge, there are no studies in the literature reporting on the implementation of the TMA in the Arab or Egyptian educational EFL context.

The Research Question

To what extent does the instruction of the Toulmin Model of Argument help in the development of students' critical thinking skills (interpretation, analysis, evaluation, inference, explanation and self-regulation) in their speaking classes?

Methodology

Participants

The participants of the study were 80 students of the Department of English Language and Literature, Faculty of Arts, Menoufia University for the academic year 2019-2020. During data collection, they were second, third, and fourth-year students. The participants, who ranged in age from 18 to 21, were all native Arabic speakers. The students were notified about the objectives and the procedures of the study and were informed that their participation was voluntary.

Participants were informed about the goal of the study and that they might withdraw at any time if they so desired. As a result, the final number of participants was 80, as some did not attend all of the sessions as instructed and others dropped out of the research experiment. Following that, the participants were randomly assigned to four groups: two control groups (CG) and two experimental groups (EG). Only 22 participants were males, and the rest were females.

Data Collection Instruments

Pre- and Posttest

In order to compare participants' pre- and post-experiment performance, the researcher devised a pretest and post-test to evaluate their progress in the art of argumentation and the development of their critical thinking ability. The current study's pre-treatment evaluation was conducted utilizing the same debate method that was used throughout all of the sessions. The treatment was followed by a posttest. It took over 2 hours to complete each test. Audio recordings were used to document the debating performance of the group members. The researcher briefed the students on the fundamentals of classroom debate—its goals, structure, components, and rules—during an orientation session before to the pretest. The researcher briefed the students on the fundamentals of classroom debate—its goals, structure, components, and rules—during an orientation session before to the pretest. Topics for debate on the pre- and post-tests were, respectively, "Women's Freedom" and "Should foreign languages be taught in kindergarten?"

The Holistic Critical Thinking Scoring Rubric (HCTSR) (Facione & Facione, 1994)

The Holistic Critical Thinking Scoring Rubric (Facione & Facione, 1994) is a four-level scale scoring instrument for assessing the quality of critical thinking presented in a written document or presentation where the presenter is obliged to be explicit about their reasoning process (Appendix A). According to them, this four-level rubric treats critical thinking as a set of cognitive skills in which a good critical thinker engages. Facione & Facione (1990, 1994, 2009, 2011) provided researchers and teachers with their Guide to Rating Critical & Integrative Thinking.

It was chosen for the assessment in this study for a variety of reasons. To begin with, the rubric was developed based on the findings from the APA's Delphi Report, which included 46 experts. Second, it was selected after conducting extensive research on several rubrics used by college teachers to grade students' writings and speeches. Since it provides an excellent instrument for performance-based assessment of students' critical thinking skills, the HCTSR can be utilized in any educational program or assessment procedure. The usage of HCTSR assists in the understanding of critical thinking language in daily and practical conversation. It assists the teacher in the evaluation of the students' critical thinking level in the classroom through the teaching results (Facione, 1990; Facione; Facione, 2009).

Procedures

After selecting the participants, the instruction for the groups was based on a

teaching schedule prepared in advance for the 12-sessions of the experiment. In the first week, a consent form was distributed to the participants in the orientation session in which the researcher explained the aims of the study, the selection process, ethical regulations and other relevant issues. In the second week, the participants were asked to sit for the pretest in order to determine the learners' ability to produce arguments prior to conducting the experiment. The participants were then invited to take a posttest at the end of the experiment to provide a basis for comparing their performance before and after the experiment.

The Oral Proficiency Test was administered to 285 students in the English Language and Literature Department, Faculty of Arts, Menoufia University for the academic year 2019-2020. Two experienced EFL instructors, who work at the Department of English Language and Literature, Faculty of Arts, Menoufia University, administered the test along with the researcher based on the rubric of the test. This test was an informal interaction between each participant and the researcher and the other examiners, who served as the interviewers. Each interview lasted between 15 and 25 minutes, depending on the students' assessed level of proficiency: the higher the reported level of proficiency, the longer the interview.

After selecting the participants, the instruction for the four groups was based on a teaching schedule prepared in advance for the 12-sessions of the experiment. The 12 sessions of the present study were delivered by the researcher for a period of 8 weeks with a frequency of two lessons per week except for the first and last weeks (The pre- and post-tests). The treatment sessions were held twice a week. Each session was two hours long.

In the second week, the participants were asked to sit for the pretest in order to determine the learners' ability to produce arguments prior to conducting the experiment. The experiment lasted for 12 sessions and the participants were pretested in the first week and then post-tested at the end of the experiment. In both tests, the students were asked to debate based on the given topic. All students were under the same time and preparation conditions for both tests and the topic of the test differed from the pretest to the posttest.

I designed a teacher's guide that includes lesson plans and instructional practices for the TMA in EFL classrooms. The teacher's guide was developed in a thorough and straightforward manner, guiding the instructor through the teaching sessions in a step-by-step framework. The researcher based the lesson plans on the review of the literature as well as comments from juries and instructors.

Results

The experimental and control groups' scores were compared using an ANOVA test in order to evaluate if there was any difference between the pretest and posttest for each group, as well as between the two groups' posttest results. Table 1 illustrates the results of the one-way ANOVA for the performance of the participants regarding their critical thinking ability. The results of the one-way ANOVA indicated a significant difference [$p<0.05$] between the sores of the two groups. As the results of the one-way ANOVA did not reveal how the two groups differed from one another, a post Tukey HSD test was run with regard to the posttest results of both groups. Moreover, the gains between pre and posttest results from each group were compared statistically in order to see if there was any statistically significant difference between them.

Table 1

ANOVA of the Critical Thinking Holistic Scores of the Two Groups

	Mean Square	F	Sig.
Between Groups	43.590	112.536	.000
Within Groups	.387		

As shown from the results presented in Table 2, it can be said that the difference between the pretest and the posttest of the participants reached a significant level across both groups. This suggests that, in comparison to the pretest, participants in both groups performed better on the posttest. The mean difference results indicated that the experimental group achieved the highest difference between the pretest and the posttest.

Table 2

Post Tukey HSD Tests, Multiple Comparisons of the Critical Thinking Holistic Scores of the Two Groups

(I) GROUPS	(J) GROUPS	Mean Difference (I-J)	Sig.
Experimental Group Posttest	Experimental G Pretest	2.37500*	.000
	Control G Posttest	1.35000*	.000
Control G Posttest	Control G Pretest	.65000*	.000
	Experimental G Posttest	-1.35000*	.000

*. The mean difference is significant at the 0.05 level.

Discussion

As for their critical thinking abilities, participants in the experimental group got higher critical thinking achievement than those in the control group after the instruction of the Toulmin model was applied as the treatment, which shows that the treatment significantly improved students' critical thinking abilities. The student's critical thinking abilities improved after going through the instruction for all elements of argument.

After comparing the results of the pretest and posttest, the critical thinking scores of both groups show a significant difference, implying that the students' critical thinking ability enhanced while developing their speaking argumentation abilities. Furthermore, the EG participants' scores significantly outperformed those of the CG. The findings further demonstrated that the Toulmin model not only helps students with comprehending the task and sharpening their argumentation skills, but it also improves their critical thinking abilities.

This is in accordance with the conclusions of studies by Abdul Aziz & Ahmad (2017), Dent (2018), Osman (2021), and Zainuddin & Rafik Galea (2016), who reported that the TMA can promote critical thinking development. An explanation is that critical thinking is commonly evaluated by asking learners to identify an

issue, evaluate diverse points of view, formulate and advocate a viewpoint, and examine and respond to counterarguments. Moreover, the framework of the debate process allows for the emergence of opposing explanations, which substantially strengthened the critical thinking ability of the participants (van Audenhove et al., 2002). In a nutshell, it could be concluded that integrating the TMA training with debate activities significantly enhanced students' critical thinking.

The beneficial impact of the TMA training on learners' critical thinking abilities may be ascribed to the fact that participants were trained during the sessions to begin asking questions in the process of developing their arguments, based on the elements of argument, such as:

1) What exactly is the claim?
2) After reviewing all of the evidence, what conclusion do I want the other debaters to reach?
3) What proof should I offer to back up my claim?
4) What is the relationship between the data and the claim?
5) Have I provided any evidence to support the warrant?
6) Have I addressed the claim with any counterarguments?
7) Have I described any circumstances in which the claim may be untrue?

These questions enabled students to strengthen their critical thinking skills. Furthermore, Zainuddin and Rafik-Galea (2016) pointed out that developing critical thinking skills may go hand in hand with developing an argument. Prior to the treatment, the students not only frequently misinterpreted evidence, but they also failed to identify solid and relevant counterarguments. Students were able to appropriately assess evidence and identify essential explanations after receiving the training, implying that their critical thinking abilities had improved.

After engaging in the intervention and debating, the participants appear to progressively understand that persuading a critical opposing team is reliant on the strength and validity of their arguments. The constant desire to persuade the opposing team has strengthened their critical thinking skills and provided them with insight into their reasoning abilities, as well as an understanding of what constitutes strong and persuading proof.

In the posttest, the intervention students presented and refuted considerably more counterarguments. The use of counterarguments and responding to them requires a high level of cognitive complexity (Crammond, 1998; Hays & Brandt, 1992). Response to opposition is acknowledged as a characteristic of critical thinking and an indication of reasoning skill (e.g., Liu & Stapleton, 2014; Nussbaum & Schraw, 2007) as it improves argument quality, persuasion, and efficacy (Crammond, 1998; Erduran et al., 2004).

Limitations of the study and suggestions for future research

The main objective of this investigation was to examine if the TMA training affected the critical thinking abilities of Arabic-speaking Egyptian EFL learners in an educational setting. The scarcity of research on the application of the model in speaking classes was the primary impetus for this study. One of the study's drawbacks was that, because participation in the experiment was voluntary, it was impossible to assign male and female participants to the groups equally. Because male and female students learn in different manners, it is recommended that the impact of gender be studied in a study similar to this one. Furthermore, considering that previous research has shown that language proficiency and age have distinct impacts on the correlation between the application of the TMA and argumentation skills, research involving participants of varying language proficiency and ages may present a more realistic investigation.

Another area for further research is the investigation of the impact of introducing the TMA to Egyptian EFL learners through a longitudinal study. This kind of research can address questions about how it impacts students' argumentative speaking abilities over time and if it enhances the quality of their argumentative speeches. Finally, future research should examine the linguistic qualities of valid arguments, such as their lexical, syntactic, and stylistic aspects. This research is anticipated to provide us with tools that will assist in our understanding of how to successfully teach arguments**.**

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Appendix A
Holistic Critical Thinking Scoring Rubric
(Facione & Facione, 1994)

Insight Assessment — Critical Thinking Resources

The Holistic Critical Thinking Scoring Rubric - HCTSR

A Tool for Developing and Evaluating Critical Thinking

Peter A. Facione, Ph.D. and Noreen C. Facione, Ph.D.

Strong 4: Consistently does all or almost all of the following:

Accurately interprets evidence, statements, graphics, questions, etc.
Identifies the most important arguments (reasons and claims) pro and con.
Thoughtfully analyzes and evaluates major alternative points of view.
Draws warranted, judicious, non-fallacious conclusions.
Justifies key results and procedures, explains assumptions and reasons.
Fair-mindedly follows where evidence and reasons lead.

Acceptable 3: Does most or many of the following:

Accurately interprets evidence, statements, graphics, questions, etc.
Identifies relevant arguments (reasons and claims) pro and con.
Offers analyses and evaluations of obvious alternative points of view.
Draws warranted, non-fallacious conclusions.
Justifies some results or procedures, explains reasons.
Fair-mindedly follows where evidence and reasons lead.

Unacceptable 2: Does most or many of the following:

Misinterprets evidence, statements, graphics, questions, etc.
Fails to identify strong, relevant counter-arguments.
Ignores or superficially evaluates obvious alternative points of view.
Draws unwarranted or fallacious conclusions.
Justifies few results or procedures, seldom explains reasons.
Regardless of the evidence or reasons, maintains or defends views based on self-interest or preconceptions.

Significantly Weak 1: Consistently does all or almost all of the following:

Offers biased interpretations of evidence, statements, graphics, questions, information, or the points of view of others.
Fails to identify or hastily dismisses strong, relevant counter-arguments.
Ignores or superficially evaluates obvious alternative points of view.
Argues using fallacious or irrelevant reasons, and unwarranted claims.
Does not justify results or procedures, nor explain reasons.
Regardless of the evidence or reasons, maintains or defends views based on self-interest or preconceptions.
Exhibits close-mindedness or hostility to reason.