

The Effect of Applying the Toulmin Model on Enhancing Egyptian EFL Learners' Speaking Argumentative Skills^(*)

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Abstract

The purpose of this study was to examine the extent to which instruction in the Toulmin model of argument (TMA) helps students develop their argumentation skills in their speaking classes using debate activities. The study employed a pretest-posttests control group design in which participants were assigned to the experimental (EG) and control groups (CG). The participants were 80 students of the Department of English Language and Literature, Faculty of Arts, Menoufia University. The study included an intervention which was the implementation of the TMA in EFL speaking classes. Both groups were given a pretest before the experiment in which they were required to present arguments while debating and then 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 on the target features. The results of the data analysis revealed that, in comparison to the pretest, the argumentative speeches from the posttest featured more rich and sophisticated reasoning. In terms of argumentation skills, the experimental group outperformed the control group significantly. This demonstrates that teaching the Toulmin model enhanced learners' comprehension of argumentation elements, their function, and application.

Keywords

argumentation, debates, EFL speaking, Toulmin model of argument

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ملخص البحث

سعت هذه الدراسة، من خلال استخدام نموذج تولمين للحجاج، إلى فحص مدى مساعدة هذا النموذج الطلاب لتطوير مهاراتهم في الحجاج أثناء دروس المحادثة العملية وهذا باستخدام أنشطة المناظرة. واستخدمت الدراسة تصميم المجموعة الضابطة قبل وبعد الاختبار مع تخصيص المشاركين في المجموعات التجريبية والمجموعات الضابطة بمشاركة ٨٠ طالباً من قسم اللغة الإنجليزية وآدابها بكلية الآداب جامعة المنوفية. وقد تضمنت الدراسة تدخلاً يتمثل في تنفيذ نموذج تولمين للحجاج أثناء دروس المحادثة العملية باللغة الإنجليزية كلغة أجنبية. وتم إجراء اختبار قبل التجربة لكلتا المجموعتين لتقديم الحجج أثناء المناقشة ثم اختبار بعدي بعد عشرة أسابيع من إدارة المعالجة. أما نموذج التقييم فاستخدمه اثنين من المقيمين مع الباحث لتسجيل حجج الكلام لدى المشاركين في الاختبارين القبلي والبعدي حول السمات المستهدفة. وكشفت نتائج تحليل البيانات أنه، ومقارنة بالاختبار القبلي، قد تميزت الخطابات الجدلية بالاختبار البعدي بتفكير أكثر ثراءً وتطوراً. ومن حيث مهارات الجدل تفوقت المجموعة التجريبية على المجموعة الضابطة بشكل ملحوظ. ويوضح هذا أن تدريس نموذج تولمين قد عزز فهم المتعلمين لعناصر المناقشة ووظائفها وتطبيقها.

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

Introduction

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 in the EFL speaking classroom.

Given the importance of argumentation skill and critical thinking ability in terms of second language acquisition (SLA), and the benefits brought by using debate activities in language learning, the aim of this research was to scrutinize the effect of direct instruction of the Toulmin model of argument on the enhancement of argumentation skills of EFL learners in Egypt. The following question was investigated in order to examine the impact of implementing the Toulmin Model of Argument in Egyptian EFL speaking classes: To what extent does instruction based on The Toulmin Model of Argument affect the performance of Egyptian EFL learners in terms of the elements of argumentation (claim, data, warrant, proposition, opposition and response to opposition) presented in their speeches in speaking classes?

Literature Review

Argumentation

Argument has been described as the “umbrella under which all reasoning lies” (Goldstein et al., 2009, p. 380). Argumentation has ancient roots and is associated with the thoughts and teachings of the most prominent ancient Greek philosophers, such as Socrates, Plato, and Aristotle. According to these philosophers, the construction of reasoned arguments is crucial to the act of thinking (Erduran et al., 2006).

Since British philosopher Stephen Toulmin established his audience-based scheme of argumentation (1958), which comprised consideration of individuals who disagree with the writer, the study of argumentation research has entered a new era of informal logic. The process of developing and supporting a claim (one's viewpoint on an issue) by presenting data - evidence and grounds for the claim - is referred to as argumentation (Palmer, 2012; Toulmin, 1958).

Van Emereen et al. (1996, p. 5) states that, "argumentation is a verbal and

social activity of reason aimed at increasing (or decreasing) the acceptability of a controversial standpoint for the listener or reader by presenting a constellation of propositions intended to justify (or refute) the point of view before a rational judge." Similarly, Toulmin (1958) defined an argument as a collection of claims, one of which (the main claim or conclusion) is expected to be supported by a number of reasons or premises. According to Toulmin, an argument can be strong or weak depending on whether it is supported by facts, evidence, logic, and reason.

Argument has been categorized in three primary distinct senses: as an object or a product, as a form of social interaction (Gilbert, 2014), and as cognition (Benoit et al., 1992). According to O'Keefe (1992), an argument in the first sense is a claim made or offered by an individual. This might allude to a person's ability to reach a sound conclusion. Argumentation theorists define argument in its second sense as a dialogical interaction in which two or more individuals participate and seek to justify or refute a viewpoint by demonstrating why the argument is invalid. Argumentation in this sense appears to be viewed as a social activity, and it is related to Goldman's (1999) notion of 'dialogical' argumentation rather than monological argumentation. The third sense of argument, according to Benoit et al. (1992), is cognition. Argument is defined in this sense from a psychological standpoint. The process of 'thinking out' an argument is referred to as "argument". This includes elements like noticing an argument, memory processes associated with storage and retrieval, cognitive reconstruction, information processing or reasoning, the creative process of generating new arguments or responding to them, and the productive ability to give form to utterances. It is important to highlight that in this study, "argument" refers to the product, object, or content as an argument, while the term 'argumentation' refers to the process of producing arguments.

The Toulmin Model of Argument

The intervention employed in the present study is based on the Toulmin model of argumentation (TMA). Stephen Toulmin (1958, 2003) is a philosopher who proposed a model for analyzing and comprehending the structure of practical reasoning in any argument. Toulmin's work on the argumentation framework has had a significant impact on how experts and educators define and use arguments. In his book, *The Uses of Argument*, Toulmin suggested that, in contrast to the formal and traditional argumentation that has existed for many years, argumentation should be rationalized and include aspects that do not complicate reasoning. As a result, Toulmin developed a detailed argumentation model that demonstrates these characteristics (Huh & Lee, 2014).

The TMA is a well-known framework in the literature for instructing and evaluating argumentation. Toulmin's analytical framework (1958, 2003) has been widely employed in the L1 setting and is increasingly being applied in the L2/FL context to assess learners' arguments (Cheng & Chen, 2009; Huh & Lee, 2014). It is a form of textual analysis that allows us to break down an argument into its various elements and make judgments about how effectively the argument elements function together. Furthermore, it enables researchers to inform argument instruction and examine argument quality in a variety of subject areas (Lunsford, 2002). Its elements were easily defined, and its overall structure enabled it to be adapted to a wide range of discussion topics.

According to the TMA, a standard argument directly states at least some, if not all, of the elements (Warren, 2010). The presence or absence of these structural components in combination determines the effectiveness of an argument (Sampson & Clark, 2008). Toulmin maintained that six elements can be found in any wholly explicit argument (Huh & Lee, 2014). Toulmin classified the elements into two categories: major elements of argument (claim, data, and warrants) and subsidiary elements (qualifiers, backing, and rebuttal). These elements are the basis of any written or spoken argument (Toulmin, 2003): -

- **Claim:** a proposition that supports, states, rejects, or requests something; "objective argument, thesis". According to Toulmin, this is the first step for a sound analysis.

Example: "Teachers should earn higher salaries."

- **Grounds/data:** facts or evidence to back up the claim. They are the motives, evidences, facts, circumstances, and justifications that support the conclusion. We must give a compelling evidence to establish that our claim is sound and trustworthy.

Example: "Teachers are as well-trained and hard-working as other, higher paid professionals."

- **Warrant:** statements with implicit logic, often hypothetical, linking claims and grounds. *Warrant* is the bridge that connects claim to data as it legitimizes the claim by revealing the relevance of the data.

Example: "Professionals who are similarly trained and hardworking should receive similar salaries."

- **Qualifier:** indicates that a claim may not be true in all situations. Words like "apparently," "some," and "many" assist your audience understand that you are aware that your claim may not be valid in certain cases. Toulmin (1958) noted in his book "The Uses of Argument" that a qualifier informs the opposition about the explicit degree, circumstances, and exceptions of the claim that is to be considered.
- **Backing:** statements that limit the strength of an argument or provide criteria for the argument to be true.
- **Rebuttal:** Counterarguments or statements indicating circumstances when the general argument does not hold true and responding to them.

Example: Teachers who are incompetent do not deserve higher salaries.

Since the late 1970s, educators and researchers have embraced the TMA as a viable approach for producing and analyzing arguments, and it has been used in various writing classes and textbooks. The model's straightforward definitions and illustrations, according to numerous studies, assisted students in focusing their thoughts, understanding the layout and structure of an argument, and developing strong critical thinking habits in the EFL classroom. Furthermore, it has promoted the understanding of opposing viewpoints during the argumentation process, which is considered essential for debating and critical thinking pedagogy. Students were able to achieve a better understanding of the meaning of words like "data" and "rebuttal" by knowing how they operate in argumentative discourse. In other words, implementing the TMA has encouraged students to consider the juxtapositions of ideas and perspectives, particularly the potential opposing viewpoints, and challenges them to choose their own convictions (Greenwald, 2007).

Critique of the TMA

Despite the fact that the TMA provides a logical framework for developing a powerful argument, it has been attacked. According to some experts, the model promotes hierarchical and linear thinking through relying on out-of-date techniques. Olson (1993) stated that Toulmin's argument structure does not accurately reflect the reality and complexity of persuasive argument. He went on to say that when investigating naturally occurring argumentation, the model becomes problematic since it greatly limits the analyst's ability to

consider diverse viewpoints in the conversation, such as the speaker's and the critical interlocutor's perspectives. Furthermore, he stated that the model is inefficient in portraying how a speaker's beliefs are formed and subsequently modified throughout a discussion.

Another substantial criticism has been raised about the artificiality of several of the model's features. When this approach is used to analyze an argument, for example, it might be difficult to distinguish between the data and the warrant (Nussbaum, 2011). Toulmin (2003) acknowledges that distinguishing between elements is challenging, asking "How absolute is this distinction between data, on the one hand, and warrant, on the other?" Yet, he concludes that "we shall find it possible to distinguish clearly two logical functions in some instances" (p. 99).

Furthermore, some researchers have had challenges using the approach consistently because students' arguments can often be categorized under more than one element. For example, Sampson and Clark (2008) gave examples of student statements that might be classified as claims, warrants, qualifiers, or rebuttals depending on the reader's perception. Simon (2008) also noted that "claims are sometimes implicit in argumentation discourse and have to be deduced, plus identifying data, warrants, and backings can be ambiguous" (p. 288).

Nussbaum (2011) highlighted that many researchers found it difficult to consistently identify specific categories, such as warrants and backing, using the Toulmin model as an analytic tool. Another study by Kim and Roth (2014) mentioned the irregularities and challenges encountered while using the TMA to analyze children's arguments and code learners' speech. Fulkerson (1996) added that the model tends to complicate argument assessment since an individual must be able to assign an argument to a certain topic area while also being conversant with that field. He further maintained that the modal's seemingly basic form conceals a variety of complicated underlying mechanisms that are difficult to comprehend or produce deliberately. He also raised the issue of whether an argument should be analyzed as a whole or minutely as a chain of arguments.

As for teaching the TMA, according to some academics, the key issue is that students are unable to adapt the Toulmin model to their argumentative writing since the model and its components have proven to be more difficult to comprehend than when the idea was initially proposed (Nussbaum, 2011). Another concern regarding the Toulmin model's applicability is that the

boundaries of logic based on suppositions cause problems when emotional aspects of a rhetorical situation are not taken into account. This might appear to be a restriction in terms of teaching students how to appeal to the emotions of an audience or employ persuasion techniques (Kim & Roth, 2014).

Another critique of the Toulmin model is that it ignores the use of questions in reasoning completely. The Toulmin model implies that an argument begins with a fact or claim and concludes with a conclusion, but it overlooks the underlying problems that an argument raises. Toulmin gives this example of an argument: "***Harry is a British subject because he was born in Bermuda.***" and analyzed it as follows:-

Data (D): Harry was born in Bermuda.

Conclusion (C): Harry is a British subject.

Warrant (W): since a man born in Bermuda will generally be a British subject.

Backing (B): on account of the following statutes and other legal provisions.

Rebuttal (R): unless both his parents were aliens/he has become a naturalized American.

According to Hitchcock (2013), the question "Is Harry a British subject?" is overlooked in the example "Harry was born in Bermuda, so Harry must be a British subject," which also fails to examine why certain questions are asked and others are not.

On the other hand, many scholars maintained that Toulmin's theory of argumentation offers a straightforward and thorough model of argumentation that is practical in constructing an argumentative article, despite the criticisms highlighted by academics (Kneupper, 1978). In contrast to the traditional approach to logic, Toulmin's methodology is said to be effective in assisting learners in identifying and analyzing claims, suppositions, and understanding justifications for the claims stated (Qin, 2013; Qin & Karabacak, 2010). In conclusion, despite critiques of Stephen Toulmin's (1958) model of argument's theoretical and practical elements, the model's potential contributions to the development of non-native English speakers' argumentative writing appear promising (Qin, 2013).

Empirical Studies

A line of research focused on the use of the TMA as a pedagogical and methodological intervention in the EFL writing classroom, since many

researchers believe it offers the required foundation for substantive argumentation. In a Turkish EFL university classroom, Qin (2013) investigated the efficacy of using the Toulmin model to teach argumentative writing. Before the experiment, a total of 16 freshmen were recruited. During the instruction, a number of one-hour activities designed in the light of the Toulmin model were incorporated into the traditional 10-week teaching curriculum, including explicit Toulmin model instruction, awareness-raising of the Toulmin model and its features via carefully selected reading passages, class debates on difficult subjects, and identification of the Toulmin elements in published argumentative essays. The results revealed that students' argumentative papers improved following training, with denser and more sophisticated argument structures, displaying essential aspects of argumentation, such as opposing viewpoints and rebuttals, which were basically non-existent in their earlier argumentative papers. Students also believed that the training on the TMA had given them the confidence to produce argumentative papers in the future.

Another important study, conducted in a Malaysian setting by Abdul Aziz & Ahmad (2017), examined how L2 learners argue in their writing. The three objectives of this research were to: identify the characteristics of persuasive essays widely used by Malaysian students; examine the challenges students face while constructing their arguments; and make recommendations to help students improve their persuasive writing abilities. The data for the study was compiled from 79 essays produced by secondary school L2 students. To assess which persuasive elements (claim, grounds, warrant, backing, rebuttal, and qualifiers) the students utilized in their writing, the essays were analyzed using the TMA. The results showed that the students employed key persuasive elements, including claim, grounds, and warrant, to persuade others. However, the learners tended to be incompetent at using persuasive features such as the qualifier, rebuttal, and backing, suggesting that learners need to be familiar with qualifying, rebutting, and backing techniques while writing persuasive essays.

On a different account, Ananda, et al. (2018) used Toulmin's model in their study to identify the main argumentation elements present in effective IELTS essays. They examined 60 academic essays with band scores ranging from 8 to 0. The findings revealed that, first, lead in, thesis statement, and deduction were frequent occurrences across all academic writing. Second, claim, data, and warrant were all common reasoning characteristics. Finally, academic essays were usually organized in one of two ways: simply or strongly, with the latter being the most common. This result suggests that in order to produce good argumentative essays, a clear and systematic framework, consisting of an introduction, writer's perspective, and conclusion, must be employed. The

findings also suggest that well-structured arguments that incorporate all six Toulmin elements are more likely to result in high-quality academic papers. This conclusion is comparable to that of other studies (Qin & Karabacak, 2010; Qin, 2013), which stated that secondary elements of the TMA help to make arguments more solid, consistent, and well-rounded. This is due to the fact that fundamental reasoning elements do not allow for strong support of claims, analysis and synthesizing of ideas, or simple or complicated problem-solving in relation to the issue at hand.

Based on the literature review, the researcher identified a number of research gaps. The first gap is that most of the studies investigating argumentation, in the EFL context, have focused mainly on writing and not speaking (Du, 2017; Zainuddin, & Rafik-Galea, 2016). Furthermore, there are few studies that have investigated the link between argumentation and debate in the L2 context. To the best of the researcher's knowledge, there are no studies in the literature investigating the issue of examining the effect of implementing the Toulmin Model of Argument on enhancing EFL learners' argumentation ability while debating in the Arab educational EFL context in general, and in the Egyptian EFL context in particular.

Methodology

Participants and Sampling Technique

Sampling of the participants was carried out in two stages. In the first stage, 285 students of the Department of English Language and Literature, Faculty of Arts, Menoufia University were formally asked to participate in the study. The students were notified about the objectives and the procedures of the study and were informed that their participation was voluntary. The participants then took the Cambridge Oral Proficiency Test to measure their English oral proficiency level. 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. The second phase of the study included the selection of eligible participants who were rated as upper intermediates. Consequently, 80 homogeneous subjects were randomly assigned to four groups: two control groups and two experimental groups (EG). Only 22 participants were males and the rest were females. Each group included a total number of around 20 participants.

Research Instruments

Pre- and Posttest

The researcher constructed the pretest and posttest in order to assess

the participants' progress in presenting arguments and the development of their critical thinking skills in order to provide grounds for comparison between their performance before and after the experiment. The pretest was administered before giving the treatment through using the debate technique adopted throughout the 10 sessions of the present study. 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. The posttest was administered after giving the treatment. Each test lasted for almost 2 hours and the participants were tested individually.

Before the pretest, in the orientation session, the researcher explained the concept of classroom debate to the participants, such as the procedures, the functions, the elements, and the rules. In both tests, the participants were given the option of choosing either the positive or negative standpoint and delivering a 7-minute debate speech. The debate topic of the pretest was "Women Freedom"; whereas the posttest topic was "Should foreign languages be learned in kindergarten?"

The Toulmin Model of Argument Rubric

The McCann's Toulmin- rubric (1989) was adopted for the purpose of this study (Appendix A). This rubric has been shown to be reliable in identifying argument elements (Bacha, 2010; Nussbaum & Schraw, 2007; Qin & Karabacak, 2010). The McCann's Toulmin- rubric was used to score the participants' speeches, which focused on the overall effectiveness of the argument. Furthermore, it was also employed to indicate the extent to which the elements of the Toulmin model were used, as well as their level of sophistication.

This rubric provided a technique for determining the strength of each argument element: claim, data, warrant, proposition, opposition, and response to opposition, based on how well each component communicated and supported the claim or its counterpart. This was an attempt to compensate for the shortcomings of prior studies, which only focused on the presence/absence or total frequency counts of argumentation components through qualitatively evaluating each element.

To use this rubric, the researcher first identified the six elements of argument in each spoken excerpt. The researcher then utilized the rubric to provide a score for each component of the argument. To ensure a reliable and consistent coding process, data coding and frequency counts of the Toulmin

elements were performed. After transcribing the data from both the pretest and posttest, the researcher recruited additional two raters to mark the pretest and the posttest. The two raters, who are experienced English-speaking lecturers at Menoufia University, were first assigned as coders. They were given the task of identifying and coding the Toulmin elements in order to identify examples of the elements of argument, if any, in the speech products of the participants of the two experimental groups and the two control groups.

Procedures

1. 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. It was conducted over a three-month period from October to December, 2019. 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. The Instructor's guide instructions provided with the test were followed.
2. 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.
3. 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. The participants were guaranteed that their participation in the study had no effect on their course grade. I provided them with a list of 30 topics and asked students to select 12 that attracted their attention. Moreover, participants were invited to discuss and come up with recommendations for further debate topics during the study's orientation session. Moreover, all the four groups were provided with some pamphlets for the purpose of familiarizing them with debate activities, including expressions for discussion and debate, in order to be prepared for the pretest.

4. 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.
5. In both tests, audio recordings were made of the participants' debates. Participants in debates were also informed that their speech was being audio recorded. There were at least two voice recorders on hand in case something went wrong with the recording process. Extraneous sound was reduced by using a high-quality microphone. During the recordings, I would move the microphone closer to the speaker with each subsequent utterance. Because any non-verbal cues that occurred during the debate were not considered to be the focus of the investigation, the audio recording was sufficient and valid enough to document what I was observing. More crucially, when compared to using video recordings, employing audio recordings can better minimize the participants' knowledge that they are being monitored.
6. **Instruction (from session 1 to session 10):** Lesson plans were implemented for both the control and experimental groups. 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. More specifically, I designed a suggested model for teaching the TMA, based on which I developed the lesson plans for the current study and which could be used as a teaching tool in an EFL speaking classroom.

The Experimental Groups

The instruction designed for this study used the Toulmin model (1958/2003) to teach task-specific procedures for composing argumentative excerpts in an effort to enable participants to effectively handle audience related tasks such as warranting claims, providing convincing supporting data, and addressing opposition. It was integrated into the students' speaking classes using debate activities apart from the traditional instructions described

above throughout the ten sessions of the experiment. The purpose of the TMA training was to show how the elements of argumentation may assist a debate speaker in constructing a sound argument.

Participants in the experimental groups were introduced to the Toulmin model and its elements through some daily-life debate topics, such as "The death penalty should be abolished," "Animal testing should be banned." By presenting the Toulmin model in these simple daily issues, students were able to understand the basics of the Toulmin model in a more straightforward way. The Toulmin Method Guide produced by Nesbitt (2012) at Colorado State University was the primary source for developing the lesson plans for the experimental group.

The Control Groups

The two control groups were given debate training based on the Lincoln-Douglas Debates format. The participants in the control groups received their training using traditional methods. They were required to perform in-depth analysis of the debate topics and develop arguments in support of their own viewpoints as well as refutations of their opponents' positions. The instructor described debate, its structure, format, responsibilities of each speaker, the structure of an argument, and a rebuttal during the sessions of the study (adapted from (Leuser, 2003)).

The participants were taught how to ask someone for his/her opinions, how to interrupt, and how to ask for information, etc. Participants were also taught how to interrupt someone (e.g., may I add something?), and how to ask for their opinions (e.g. could you tell me...?). The researcher was the mediator during the process. In addition, they were taught a few examples of widely used expressions like (a) agreeing: "That's exactly what I think"; (b) disagreeing: "I don't think so!" and (c) irony expressions: "Are you kidding". The instructor attempted to teach the students how to differentiate between facts and judgments or views throughout the debate session, as well as how to support their claims using examples, common sense, statistics, and expert opinions. They learned to begin an argument with "I believe/think that... because... therefore..." (Krieger, 2005, p. 2)

Students learned the fundamentals of developing viewpoints, reasoning, and evidence, as well as basic refutations. Pair and group work were used throughout the process to familiarize students with the skill of face-to-face debate and discussion. The scaffolding tasks were designed to guide students into debate and assist them in conducting debate with their colleagues.

Implementing these activities clarified the process and made a more formal discussion framework more accessible. Moreover, throughout all the sessions, participants practiced debating during which participants were asked to present their position then makes a rebuttal opposing the other point of view. The structure of the debate flexibly allowed students to exchange turns of rebuttals and concessions.

Results

The results of the experimental and control groups were analyzed using an ANOVA test to determine if there was a statistically significant difference between them. Table 1 illustrates the results of the one-way ANOVA for the performance of the participants regarding the sub-skills of argumentation (claim, data, warrant, proposition, opposition, response to opposition). As can be observed, a difference was found between the performance of the two groups [$p < 0.05$] which was found to be significant. This means that the instruction of the TMA had a significant effect on the argumentation sub-skills of the learners.

Table 1

ANOVA of the Argumentation Sub-Skills Scores of the Two Groups

		Mean Square	F	Sig.
Claim	Between Groups	84.700	97.586	.000
	Within Groups	.868		
Data	Between Groups	162.892	145.789	.000
	Within Groups	1.117		
Warrant	Between Groups	242.692	326.660	.000
	Within Groups	.743		
Propositio ns	Between Groups	58.690	145.039	.000
	Within Groups	.405		
Oppositio ns	Between Groups	57.367	144.575	.000
	Within Groups	.397		
Response to opposition	Between Groups	56.492	132.522	.000
	Within Groups	.426		

Discussion

Based on the results reported from the preceding chapter, it can be concluded that the instruction of the TMA in EFL speaking classes has a positive impact on learners' argumentation skills. There was a statistically significant difference between the experimental group's pretest and posttest scores on the TMA's six elements. Additionally, when the experimental and control groups' posttest results were examined, the experimental and control groups had a statistically significant difference in the six parts of argument, with

the mean difference favoring the experimental group significantly. This demonstrates that TMA training boosted the argumentation skills of EFL learners with Arabic as their native language in their speaking classrooms while employing debate activities. In comparison to their pretest, the experimental group's argumentative speeches comprised more developed and finer arguments, which may be attributed to their increased grasp of reasoning elements.

This was reflected on the participants' scores of each element according to the McCann's rubric. After rating the six elements of argument, it was concluded that the majority of the experimental group's participants scored the highest marks for each element's quality (6 for Claim, Data, and Warrant, and 3 for Proposition, Opposition, and Response for Opposition). These findings are greatly in harmony with those of researchers such as Ananda, et al. (2018); Abdul Aziz & Ahmad (2017); Rafik-Galea, et al. (2008); Qin (2013); Rex et al. (2010); Suhartoyo, et al. (2015); Zainuddin and Rafik-Galea (2016), who proposed that TMA instruction in EFL writing classes has beneficial effects. The current study, on the other hand, distinguishes itself by demonstrating the model's effectiveness in speaking classes.

The results of the posttest speeches assessment indicated that after the instruction of the Toulmin's model (1958, 2003), the participants were capable of understanding the functions of the elements and successfully integrating them. More specifically, the posttest scores showed that the participants employed *Claims* that were linked to the *Proposition*, and the majority of them were explicit and detailed. The difference may be accounted for by the fact that *Claim* is the preliminary step in forming an argument, thus it is intrinsically easier for learners to understand. Similarly, their ability to use *data* as a relevant type proof has strengthened in their argumentative speeches. Prior to this, their perceptions of what constitutes data were based on subjective experiences and opinions that lacked reliability and consistency, an issue that was also identified in research by Qin (2013) and Qin & Karabacak (2010).

In addition, the presence of warrants significantly increased in the speeches produced by the EG participants. This demonstrates that the intervention fostered in the students the capacity to identify the necessity to establish the *data-to-claim* relationship. The progress might be attributed to the incorporation of pertinent *data* to fill in the gap between the *claim* and the *warrants* which made their *data* more effective. All the EG participants were able to integrate a warrant in their posttest speeches as a result of the intervention, indicating that the Toulmin model assisted them in establishing a more efficient debate schema. Respondents in this study appear to have been able to achieve what

those in Crammond's (1998), Dent's (2014), and McCann's (1989) studies were unable to do: produce credible data and correlate that data back to the claim using a warrant.

Moreover, students exhibited a consistent application of *backup* (*proposition*). Throughout the experiment, the participants used the element, suggesting that they had no difficulty providing support for their warrants. This might be justified by the fact that in both spoken and written argument, learners tend to present further support for their own points of view (additional support for *warrants*) (Dent, 2014). In the posttest, the intervention group utilized more backings than the control group. The experimental group's posttest speeches demonstrated a balanced use of *backing* using logical statements to provide extra support to the *warrant* while limiting, if not eradicating, possibilities to undermine it. Following the TMA training, their use of backings strategically develops and elaborates arguments, therefore strengthening them (Cheng & Chen, 2009), and is viewed as an effective approach to gain the audience's approval of the debater's claim (Crammond, 1998).

The presence of *opposition* and *response to opposition* increased in all of the EG participants' posttest speeches, with the exception of one EG participant. The quality of both elements in the posttest speeches shows advancement due to the learners' improved ability to offer relevant and factual counterarguments. According to the study participants, predicting opposing arguments from other debaters was nearly impossible to achieve at first. However, after practicing and discussing several examples, it became easier to implement them. *Opposition* and *response to opposition* are critical Toulmin elements for learners since they are the most difficult. Both provide complexity and breadth to reasoning, which assists in the development of sophisticated and solid argumentation. Furthermore, *opposition* and *response to opposition* are more likely to be delivered simultaneously in a powerful and compelling argument which was the case in this study's EG speeches (Crammond, 1998). Additionally, according to Qin & Karabacak (2010), the efficacy of providing a sound argument is determined by secondary factors rather than *claim* and *data* (*Opposition* and *response to opposition*) (Crammond, 1998; McCann, 1989).

This is in line with the findings of Bacha (2010) and Qin (2013), who showed that both elements were employed more frequently, and the argumentative extracts provided by the EG participants in their studies demonstrated more comprehensive and sophisticated argumentation, resulting in a more persuasive style of reasoning. Nonetheless, contrary to the findings of this study, studies such as Liu and Stapleton (2014) and Qin and Karabacak (2010) showed that learners produced significantly less *opposition* and *response*

to opposition in their argumentative essays, despite their relevance.

Importantly, the intervention took place in a genuine, engaging, and dynamic setting (debate activity) that promoted collaborative reasoning by allowing debaters to acquire argumentation techniques and become more conscious of what makes argumentation successful. This implies that acquiring argumentation skills necessitates ongoing training in rich contexts that involve the use of these skills, such as debate in an EFL classroom (Kuhn, 2018). Another aspect of debates that may have supported the emergence of the TMA elements is the existence of an audience in the form of opposing peers. The audience, according to Berland and McNeill (2010) and Chen et al. (2016), gives students an urgent motive to build convincing and more sophisticated arguments. Furthermore, the debating context tends to promote the concept that a large amount of data is required to support one's stance. This suggests that practicing debates combined with the TMA instruction boosted debaters' argumentation competence.

On the other hand, nearly all of the CG participants gained average rather than high scores. The analysis showed a significant difference between the results of the pretest and posttest of the control group with regard to all the elements except for *claim*, *opposition*, and *response to opposition* after practicing debate activities. What is very notable is that the quality of the claims of the CG participants in the posttest did not significantly improve from those of the pretest. The majority of participants made broad statements on the topic, and their arguments lacked clarity. In order to communicate their claims, debaters should utilize powerful and straightforward language. Because the CG participants may not have realized the possible significance of those elements to the overall quality of arguments, neither opposition nor response to opposition improved significantly. As a result, the CG participants' arguments may be perceived as insufficient or prejudiced since they failed to consider all aspects of a topic, thereby making the arguments less convincing (Paek & Kang, 2017; Qin & Karabacak, 2010).

In conclusion, the study's findings revealed that intervention participants presented qualitatively enhanced oral arguments than participants in the control group in terms of argumentation skills. The claims must be supported by substantial, pertinent, solid, straightforward, and persuasive arguments. To put it another way, arguments must be sound in both form and content. The TMA instruction integrated with debate practice appears to have scaffolded learners in developing a strong knowledge of effective argumentation structure with regard to the form and content.

Conclusion

Sound argumentation capacity in L2 is an integral aspect of education, but it can only be attained if students are instructed and motivated to participate in cognitive strategies that direct the mind toward promoting a more profound understanding of evidence and logic. Closely related, students need to develop critical thinking abilities earlier in their academic life. To do so, students need to be exposed to sound logic in order to foster critical thinking. Argumentation helps to promote critical thinking by allowing for the ongoing examination and synthesis of different points of view. Notwithstanding the significance of argumentation in educational, and social settings (Hillocks, 2011), Egyptian EFL students struggle to present solid arguments effectively.

The current study investigated the efficacy of L2 in-class debates combined with the TMA training, which has shown to be a rich environment for strengthening L2 argumentation skills and critical thinking abilities. The quality of the argumentation components used by the EG participants has improved when compared to their pretest argumentative presentations. Consequently, their argumentative speeches became more sophisticated in terms of reasoning. These findings imply that scaffolded training in the Toulmin (1958/2003) Model of Argument utilizing debate activities would be beneficial to Egyptian EFL students.

The treatment in this study strengthened a range of characteristics of the experimental group's argument structure and quality. The debaters showed a strong inclination to broaden their arguments with complex structural features after the intervention. They preferred to back up their views with solid and well-supported evidence (with more backing), emphasizing the link between the evidence and the claims via warrants. Additionally, they foresaw probable counterarguments and pointed out their deficiencies (rebuttals).

In terms of pedagogy, this study has not only confirmed the efficacy of the TMA and L2 debate instruction as tools for developing students' L2 speaking argumentative skills, but it has also revealed a number of pedagogical characteristics that can supposedly enhance scaffolding and optimize reasoning skills beyond the L2 context, given that argumentation is at the heart of education in general. Some of these features include the existence of an actual audience (opponents, colleagues, and the instructor), a competitive atmosphere that encourages students to participate in productive discussions, and rigorous and persistent practice. Therefore, it is hoped that the outcomes of this study can encourage L2 instructors to incorporate the TMA training and in-class debates into their classroom instruction frequently.

Finally, it is worth mentioning that teaching argumentation through classroom debating practice is not regarded seriously in Egypt. The outcomes of this study will help everyone involved in language planning, including curriculum and instructional designers, instructors, and learners. To summarize, the outcomes of this study and other comparable studies should urge Egyptian educational experts to upgrade language teaching techniques in such a way that teaching debate activities while teaching the TMA is incorporated in learning and teaching courses.

References

- Abdul Aziz, F. I, & Ahmad, U. K. (2017). Persuasive writing: How students argue. *Sains Humanika*, 9(4-2).
- Ananda, R. P., Arsyad, S., & Dharmayana, I. W. (2018). Argumentative features of International English Language Testing System (IELTS) essays: A rhetorical analysis on successful exam essays. *International Journal of Language Education*, 2(1), 1–13.
- Bacha, N. (2010). Teaching the academic argument in a university EFL environment. *Journal of English for Academic Purposes* 93: 229–241.
- Benoit, W. L., Hample, D., & Benoit, P. J. (1992). *Readings in argumentation*. New York/Berlin: Foris Publications.
- Berland, L. K., & McNeill, K. L. (2010). A learning progression for scientific argumentation: Understanding student work and designing supportive instructional contexts. *Science Education*, 94(5), 765–793.
- Cheng, F. & Chen, Y. (2009). Taiwanese argumentation skills: Contrastive rhetoric perspective. *Taiwan International ESP Journal*, 1(1), 23-50.
- Crammond, J. G. (1998). The uses and complexity of argument structures in expert and student persuasive writing. *Written Communication*, 15(2), 230-268.
- Dent, A. (2018) *The impact of instruction based on Toulmin elements on the writing performance of NNES learners*. Master's thesis, University of Malaya.
- Du, F. (2017). The Analysis of Argument-Counterargument Structure in Chinese EFL Learners' Argumentative Writing. *Journal of Studies in Education*, 7 (3) , 41-74. doi:10.5296/jse.v7i3.11275
- Erduran, S., Ardac, D., & Yakmaci-Guzel, B. (2006). Learning to teach argumentation: Case studies of pre-service secondary science teachers. *Eurasia Journal of Mathematics, Science Technology Education*, 2(2), 1-14.
- Fulkerson, R. (1996). *Teaching the argument in writing*. Urbana: National Council of Teachers of English.

- Gilbert, M. A. (2014). *Arguing with People*. Ontario: Broadview Press.
- Goh, C. C. M. (2007). *Teaching speaking in the language classroom*. Singapore: SEAMEO Regional Language Centre.
- Goldman, A. I. (1999). *Knowledge in a Social World*. Oxford: Clarendon Press.
- Goldstein, M., Crowell, A. and Kuhn, D. (2009) ‘What Constitutes Skilled Argumentation and How Does it Develop ?’, *Informal Logic*, 29(4), pp. 379–395. Available at: https://ojs.uwindsor.ca/index.php/informal_logic/article/download/2905/2312/0
- Greenwald, A. R. (2007). *Learning how to argue: experiences teaching the Toulmin model to composition students*. Ph.D. thesis. Iowa State University, Ames.
- Hillocks, G., (2011). Commentary on “Research in Secondary English, 1912–2011: Historical continuities and discontinuities in the NCTE imprint”. *Research in the Teaching of English*, 46 (2), 187 – 192
- Hitchcock, D. (2014). Groundwork in the Theory of Argumentation: Selected Papers of J. Anthony Blair. *Informal Logic*, 34(1), 94-123.
- Huh, M. H., & Lee, I. (2014). Applying Toulmin: Does Peer Response Play a Role in Korean EFL College Students’ Revision Quality. *English Teaching*, 69(3).
- Iman, J. N. (2017). Debate Instruction in EFL Classroom: Impacts on the Critical Thinking and Speaking Skill. *International Journal of Instruction*, 10(4), 87-108. <https://doi.org/10.12973/iji.2017.1046a>
- Kim, M., & Roth, W. M. (2014). Argument: An introduction to the Toulmin model. *College Essay and Communication*, 29(3), 237-241.
- Kuhn, D. (2018). A Role for Reasoning in a Dialogic Approach to Critical Thinking. *Topoi*, 37, 121–128.
- Liu, F., & Stapleton, P. (2014). Counterargumentation and the cultivation of critical thinking in argumentative writing: Investigating washback from a high-stakes test. *System*, 45, 117-128.

- Kneupper, C. W. (1978). Teaching argument: An introduction to the Toulmin model. *College Composition and Communication*, 29(3), 237-241.
- Lunsford, K. J. (2002). Contextualizing Toulmin's model in the writing classroom: A case study. *Written Communication*, 19, 109-174.
- McCann, T. M. (2010). Gateways to writing logical arguments. *English Journal*, 99(6), 33-39.
- Nussbaum, E. M., & Schraw, G. (2007). Promoting argument-counterargument integration in students writing. *Journal of Experimental Education*, 76(1), 59-92
- Nussbaum, E. M. (2011). *Argumentation, dialogue theory, and probability modeling: Alternative frameworks for argumentation research in education*. Department of Educational Psychology University of Nevada, Las Vegas.
- O'Keefe, D. J. (1992) 'Two Concepts of Argument', in Benoit, W. L., Hample, D., and Benoit, P. J. (eds) *Readings in Argumentation*. Berlin: Walter de Gruyter & Co., pp. 81-90.
- Olson, G. A. (1993). Literary theory, philosophy of science, and persuasive discourse: Thoughts from a neo-premodernist. *Journal of Advanced Essay*, 283-309.
- Palmer, W. (2012). *Discovering arguments: An introduction to critical thinking, writing, and style (4th ed.)*. Boston, Mass.; Hong Kong: Prentice Hall.
- Qin, J. (2013). Applying Toulmin model in teaching L2 argumentative writing. *The Journal of Language Teaching and Learning*, 3(2), 21-29.
- Qin, J. & Karabacak, E. (2010). The analysis of Toulmin elements in Chinese EFL university argumentative writing. *System* 38, 444 - 456.
- Rafik-Galea, S., Zainuddin, S. Z., & Galea, P. V. (2008). Learning to think critically the Toulmin Way. In *Seminar and Conference presented in the 13th International Seminar Conference on Thinking*.
- Rex, L. A., Thomas, E. E., & Engel, S. (2010). Applying Toulmin:

- Teaching logical reasoning and argumentative writing. *English Journal*, 99(6), 56-62.
- Sampson, V., & Clark, D. B. (2008). Assessment of the ways students generate arguments in science education: Current perspectives and recommendations for future directions. *Science Education*, 92, 447-472.
- Suhartoyo, E., Mukminatien, N & Laksmi, E. (2015). The Effect of Toulmin's Model of Argumentation within TWPS Strategy on Students' Critical Thinking on Argumentative Essay. *Jurnal Pendidikan Humaniora*, 3 (2).
- Toulmin, S. (1958). *The Uses of Argument*. Cambridge University Press, Cambridge.
- Toulmin, S., Rieke, R., & Janik, A. (1979). *An Introduction to Reasoning*. Macmillan, New York.
- Toulmin, S. (2003). *The Uses of Argument*, Cambridge, England: Cambridge University Press
- Van Eemeren, F.H., Grootendorst, R., Henkemans, F.S., Blair, J.A., Johnson, R.H., Krabbe, E.C.W., Plantin, C., Walton, D.N., Willard, C.A., Woods, J. & Zarefsky, D. (1996). *Fundamentals of argumentation theory; A handbook of historical backgrounds and contemporary developments*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Warren, J. E. (2010). Taming the warrant in Toulmin's model of argument. *English Journal*, 99(6), 41-46.
- Zainuddin, S & Rafik-Galea, S. (2016). Effects of Training in the Use of Toulmin's Model on ESL Students' Argumentative Writing and Critical Thinking Ability. *Malaysian journal of language and linguistics*, 5 (2).

Appendix A
Scoring Criteria – Toulmin/McCann (1989)

Scoring Criteria – Toulmin/McCann (1989)

Claims

- 0 No claim related to the proposition or topic.
- 2 The writer makes generalizations that are related to the proposition or topic, but the assertions lack specificity or offer unclear referents. The writer leaves much for the reader to infer in order determine the impact of the claim.
- 4 The writer states generalizations that are related to the proposition or topic, but the assertions are not complete. Enough information is available to figure out the writer's intent, but much is left to the reader to determine.
- 6 The writer states generalizations which are related to the proposition and which are clear and complete.

Data

- 0 No data are offered of the data have no relevance to the claim.
- 2 The data that are offered are weak, inaccurate, or incomplete. Examples may include the following: (a) an attempt at using a general principle without establishing the truth of the principle; (b) the use of examples from personal experience that are not generalizable; (c) the citation of data when no source is identified; (d) the use of obviously biased or outdated material.
- 4 The data that are offered are relevant but not complete. The writer leaves much for the reader to infer from the data. The writer may have offered the data without the complete citation which would allow the reader to determine the reliability of the data as evidence. The writer may offer data which are not complete enough to allow the reader to determine their significance.
- 6 The supporting data are complete, accurate, and relevant to the proposition.

Warrants

- 0 No warrant is offered.
- 2 An attempt is made to elaborate about some element in the data. The attempt suggests that the writer recognizes a need to connect the data to the claim, but the writer fails to make the connection.
- 4 The writer explains the data in some way, but the explanation is not linked specifically to the claim.
- 6 The writer explains the data in such a way that it is clear how they support the claim.

Propositions

- 0 No relevant proposition is stated.
- 1 The writer states a proposition which does not directly address the issues. No particular policy or action is proposed.
- 2 The proposition is relevant to the issues but is not complete or clear.
- 3 The proposition is clear and specific and is relevant to the issues that the writer has identified.

Opposition

- 0 The writer offers no recognition of opposition.
- 1 The writer vaguely implies the existence of some opposition.
- 2 The writer identifies opposing arguments, but these reservations are not specific.
- 3 The writer systematically identifies the opposition and the opposing arguments.

Response to Opposition

- 0 The writer offers no response to opposing arguments.
- 1 The writer vaguely addresses some implied opposition, or the writer weakly denies whatever the opposition claims.
- 2 The writer offers responses which address the opposing arguments which are identified somewhere in the composition. Much is left to the reader to link the counterargument to the specific opposition.
- 3 The writer states counterarguments which directly address the opposition and which are clear and complete.