

Article

What Makes Proficient Writers' Essays More Persuasive? A Toulmin Perspective

Donghong Liu*

Central China Normal University, China

Fang Wan

No. 1 Junior Middle School of Suzhou New District, China

Abstract

Although many studies have been done based on the Toulmin model, only a few involve EFL students at different proficiency levels. The present study compares the English argumentative essays of first-year students with those of the fourth-year students in terms of the use of Toulmin elements and argument complexity. Altogether 62 timed argumentative writings were selected from Spoken and Written English Corpus of Chinese Learners. Toulmin elements, namely Claim, Subclaim, Data, Warrant-Backing, Counterargument-claim, Counterargument-data, and Rebuttal were investigated, as well as Data length, Warrant-Backing length, argument depth and width. The results show that the two groups of essays have almost no difference in the use of Toulmin elements except Warrant-Backing, and that the fourth-year students perform better in argument complexity. It is concluded that the use of the Toulmin elements cannot clearly differentiate proficient writers; however, argument complexity showed improvement.

Keywords

Toulmin model, argumentation, persuasive, argument complexity

1 Introduction

Attempting to demonstrate that most arguments have a more complex structure than the syllogism, in 1958, Stephen Toulmin (2003) expounded a theory of argumentation, the "Toulmin model". As a new rhetorical theory, it is influential not only in the field of rhetoric, but also in composition research and pedagogy. It has been modified and improved for pedagogical purposes or for research purposes (Crammond, 1998; Voss, 2005; Whithaus, 2012). Most studies were conducted within L1 contexts,

***Corresponding Author.**

Address: 158 Luoyu Road, Hongshan District, Wuhan, 430079 China

E-mail: liudonghong19@sina.com

including the analytical studies on textual features (Cooper et al., 1984; Connor, 1990; Crammond, 1998; McCann, 1989) and exploratory studies using the Toulmin model as a teaching strategy (Bacha, 2010; Varghese & Abraham, 1998; Yeh, 1998). Other studies involved L2 contexts such as Qin and Karabacak (2010), Cheng and Chen (2009), and Abdollahzadeh et al. (2017).

Although the related studies based on the Toulmin model provide a practical and theoretical foundation for the present study, there are some inadequacies such as the confusion of Data and Warrant and the exclusion of the two important elements in data collection; these weaknesses potentially undermine the strength of the studies. In addition, the participants in most of the L2 studies were largely homogenous, i.e., participants shared similar proficiency levels. There is a need to study the differences in the Toulmin elements used by L2 learners at different proficiency levels; this study attempts to fill the gap.

2 Toulmin Model of Argumentation

The Toulmin model consists of six elements: Data, Warrant, Backing, Reservation, Qualifier, and Claim. An argument is a movement from accepted Data, through a Warrant to a Claim. Data (D) answers the question: “What have you got to go on?”. It provides evidence. Claim (C) is the final proposition in an argument, or conclusion. In argumentation the sequence is either “Data, therefore Claim” or “Claim because Data”. Warrant (W) answers the question — “How do you get there?” and certifies this claim as true or acceptable. Warrant is supposed to bridge the gap between Data and Claim. Backing (B) certifies the assumption expressed in the Warrant. It must be introduced when the Warrant is not convincing enough. Rebuttal (R) recognizes certain conditions under which the Claim will not hold well. Qualifier (Q) expresses the degree of force or certainty in the claim. Such words or phrases can be used as Qualifier: probably, possible, impossible, certainly, and presumably.

In the process of research and application, the model has been modified many times. For one, some of the Toulmin elements have been adapted by writing textbooks or resources. To make these elements more comprehensible to students, some elements have been given different names. For instance, Purdue University Online Writing Lab (Purdue OWL) uses different names for Claim, Warrant, and Reservation. In addition, new elements have been added and defined for the purpose of finer analysis and in-depth study. For example, Crammond (1998) expands the qualifying element to include not only modality operators but also ‘constraints’; the backing element to ‘warrant backing’ and ‘data backing’; and recognizes possible ‘alternative solutions’. More recent empirical studies are also being conducted within the framework of the modified Toulmin model. The Toulmin Model has also been modified and applied to new genres which are non-typical argumentation. Whithaus (2012) revised the Toulmin Model and uses it to analyze multimodal science papers and Voss (2005) employs the expanded Toulmin Model to analyze oral discourse. In general, the structural modifications are based on the original Toulmin model. They not only reinforce and update this model, but also facilitate finer studies on argumentation. The Toulmin model, whether original or modified, has provided a clear, broad, and flexible set of categories for conducting research on argumentation. It can be taken as a method for describing, analyzing, and evaluating not only typical argumentative essays but also new genres.

3 Related Studies Based on Toulmin Model

As a well-defined model of argument structure, the Toulmin model (both the original and modified) has been extensively employed as a research framework by an increasing number of researchers. However, most of the research has been conducted within L1 contexts, and only a few studies are carried out in L2 (including EFL) settings. The studies can be generally categorized into three groups.

The first group includes studies on textual features in students' argumentative discourses. These studies focus on frequency or efficiency of the Toulmin elements or the relationship between the overall writing quality and the use of the elements. McCann (1989) examines the argumentative essays of the American students in the 6th, 9th, and 12th grades. The study revealed some developmental changes showing students at higher grade levels are significantly more effective in stating Claims and using Rebuttals than those at lower grades. Moreover, the 9th graders performed considerably better than the 6th in the use of Counterarguments and Rebuttals, which indicates a concern for audience. Based on a modified Toulmin model, Crammond (1998) compared 36 argumentative essays of American students in the 6th, 8th, and 12th grades, as well as 7 expert argumentative essays written on the same topic. The results revealed that most students can organize their essays by using basic argument structure consisting of Claim, Data, and Warrant, while expert writers used relatively more Warrants, Rebuttals, and Qualifiers. In addition, their frequency progresses with grade level. Certain Toulmin elements, especially Counterargument and Rebuttal, appear later in the students' argumentative writings and their argumentation abilities increase with grade levels both in terms of frequency and quality of the structural elements. These two studies imply developmental trends across grade levels; they also suggest that certain Toulmin elements, especially Rebuttal and Qualifier, appear later in students' argumentative writings and their argumentation abilities increase with grade levels whether in the aspect of frequency or quality of the structural elements.

At the tertiary level, Cooper et al. (1984) analyzed argumentative writings by 10 American University freshmen from the aspect of structural features of argumentative essays and depth of elaboration based on the adapted version of the Toulmin model. They find that the more effective papers are more elaborated in Data, Warrants, and Backing while the less effective papers are insufficient in Data and Warrants. However, all papers, in general, were lacking in elaborating and developing arguments; and those which were seldom used were Warrants, Reservations, and Qualifiers which indicate a good quality of argument writing. However, it should be mentioned that a larger sample is necessary to corroborate and support the findings because the results were derived from just ten papers.

Connor's (1990) purpose of research was to develop valid, reliable, and comprehensive measures to describe and evaluate persuasive student writing. Her data included 150 compositions of English native speakers (50 compositions by students from England, the US, and New Zealand respectively). Three major areas that predict the quality of student essays were isolated: features of syntax, coherence, and persuasion. These results indicate that the level of reasoning, as measured by the Toulmin analysis, is a powerful predictor of writing quality, even more so than the length of an essay. The results also show that in addition to building up strong Claims, Data, and Warrants, highly rated essays included effective use of credibility appeal. In other words, good essays contained the writer's own personal experiences, a good knowledge of the subject, and an awareness of the audience's values.

The second group includes exploratory studies on the Toulmin model as instructional strategies to argumentative writing. The Toulmin model as a strategy to teach argumentative writing has been studied for years. Yeh's (1998) study implies that the teaching method based on the Toulmin model is more conducive for students to write argumentation. Within L2 settings, Varghese and Abraham(1998) provided explicit instruction in Toulmin's pattern of argument structure to English-major undergraduates in Singapore and found that students' writing ability improved considerably in terms of stating claims with supporting grounds, building better writer credibility, and conveying both sides of an argument to resolve the problem. Bacha (2010) drew the same conclusion from his study which shows Arabian students' argumentation features can be improved with an explicit and direct rhetorical strategy—using the Toulmin model. Moreover, this strategy can also be applied to other argumentative topics by those Arabian L2 learners.

The third group involves second language writing. There are only a few studies employing the Toulmin model in an L2 context. Qin and Karabacak (2010) investigated the use of Data, Claim,

Counterargument-claim, Counterargument-data, Rebuttal Claim, and Rebuttal Data in the argumentative essays of Chinese second-year English majors. The results show that each essay includes at least one claim supported by four pieces of data, and that the overall quality of English argumentative writing is significantly positively correlated with the use of Counterarguments and Rebuttals, but not with the fundamental elements, Claims, and Data. However, there were not many Counterarguments and Rebuttals in the students' essays. This study supports the findings of L1 studies from McCann (1989), Connor (1990), Ferris (1994), and Crammond (1998). Cheng and Chen (2009) employed Crammond's (1998) modified Toulmin Model to analyze the essays written by 40 Taiwanese students and 39 US college students. The results indicate that the Taiwanese students' arguments are less extended and complex, that both groups are weak at handling oppositional structures, and that Taiwanese students are able to construct certain argument features similar to American students when composing in Chinese. Liu and Stapleton (2014) made an experiment in which the experimental group was trained in counter arguing and refuting while the control group was not. The findings show that classroom instruction was effective in helping the Chinese students incorporate alternative views in their argumentation. Abdollahzadehet et al. (2017) adopted the analytical framework of Qin and Karabacak (2010) to investigate the relationship between the use of the Toulmin elements and the quality of the essays of Iranian college students. They found that Data and Claim were used most frequently while Counterargument-claim, Counterargument-data, Rebuttal Claim, and Rebuttal Data were less frequently used, and that there is significant correlation between essay quality and the six elements.

The above-mentioned studies show the application of the Toulmin model, and a modification of the model. Almost all studies in an L2 context have been based on the modified models of Crammond (1998) or Qin and Karabacak (2010). However, these two studies have weaknesses. Crammond's (1998) primary inadequacy is the unclear criteria for data collection caused difficulty in the identification of some elements and hindered the exact replication of the study. The inability to replicate undermines its reliability and validity. Qin and Karabacak (2010) study excluded two important elements, warrant and backing on an unreasonable ground of "extremely low frequencies in the participants' papers" (Qin & Karabacak, 2010, p. 449). However, they failed to show the low frequencies. They also confused Data with Warrant in their definition. Nearly all of the L2 studies focus on L2 learners with a similar proficiency level or in the same grade, for example, Qin and Karabacak (2010), Cheng and Chen (2009), and Stapleton and Wu (2015). The exclusion of L2 learners of different proficiencies renders it unclear how the proficient learners are distinguished by the use of the Toulmin Model. Thus, to fill this gap, we raise the following research questions:

- 1) How does the use of the Toulmin elements distinguish proficient writers?
- 2) How do proficient writers perform in argument complexity?

4 Data Source

4.1 Genre

Convenience sampling was used in this study. All the argumentative essays were chosen from Written English Corpus of Chinese Learners (WECCL), a sub-corpus in Spoken and Written English Corpus of Chinese Learners (SWECCL) compiled by Wen Qiufang et al. (2005). All the essays were produced by Chinese tertiary-level students majoring in English linguistics and literature at nine universities on the Chinese mainland. WECCL consists of three different genres: Narration, Exposition, and Argumentation. Considering our research framework—the Toulmin Model, we chose the argumentation genre.

4.2 Timed or untimed

All the writings were classified into timed and untimed for various research purposes. According to the introduction to WECCL written by Wen Qiufang et al. (2005), all timed writings were no less than 300 words in length and produced within 40 minutes. They were the first drafts without any modification by those participants or other people. Timed writing is better than untimed for the present study because the effects of intervening factors could be eliminated or at least lowered to some extent. For instance, the participants could only rely on their own cognitive resources rather than on other resources with different accessibilities. Timed writing can guarantee other things being equal.

4.3 Proficiency and topic

The argumentative essays in WECCL were written by Chinese university students—from freshmen to seniors. To compare the effects of proficiency level, the first-year and fourth-year students' essays were chosen because the differences would be potentially clearer using the Toulmin elements. The first-year students had two topics: Education as a Life-long Process (32 essays) and Impact of Internet (32 essays). The fourth-year students had more topics: Education as a Life-long Process (30 essays); Impact of Internet (30 essays); and other topics (free topics) (30 essays).

Before deciding on the topic, we implemented a small survey to ask 30 students in a university to choose an easier one from the above Education and Internet topics. Finally, 26 students chose Internet. Altogether 62 argumentative essays written in 40 minutes were selected for this study, all of which were produced with the same prompt:

“Some people think that the Internet is good to our life. While others think that it is bad. Write an essay to express your view.”

5 Data Collection and Analysis

5.1 Identification of Toulmin elements

The modified Toulmin models of Crammond (1998) and Qin and Karabacak (2010) were synthesized and employed as the analytical framework for this study. Warrant and Backing were considered as one element because of the importance of Warrant (Ferris, 1994) and the difficulty of distinguishing the two (Jackson & Schneider, 2018). Seven elements were analyzed: Claim, Subclaim, Data, Warrant-Backing, Counterargument-claim, Counterargument-data, and Rebuttal. The following are working definitions of the Toulmin elements used in this study together with examples. The examples were chosen from the students' argumentative essays analyzed in the present study.

Claim: A/An conclusion/assertion in response to a contentious topic or problem. For example, “*I believe the impact of the Internet will decrease the circulation of newspapers because the Internet is quicker and also much more varied than newspaper.*”

Subclaim: The claim of an embedded Argument. For example, “Firstly, we can get information more quickly from the Internet than from the newspaper...Secondly, the Internet is more creative than newspapers...”

Data: Evidence offered in support of a claim. It can take various forms, such as facts, statistics, personal experience and so on. For example, “Thanks to the e-mail, I've made an American friend. We talked about our lives cultures, etc. I really couldn't imagine that I could know a foreign friend before the Internet was invented.” This is personal experience.

Warrant-Backing: General statement and/or explanations, background or context offered to validate and strengthen the supportive relationship between the Data and the Claim. For example, “I believe the

impact of the internet will decrease the circulation of newspapers. *We can get information more quickly from the internet than from the newspaper. The internet is based on the electronic telecommunication and so one person can send messages on the internet from a place to any other place in this planet in less than a second.*”

Counterargument-claim: The possible opposing views that can challenge the validity of a claim, which can also be supported data. For example, “Newspaper still remains an ordinary and common media for people to get information.”

Counterargument-data: Evidence such as facts, statistics, and personal experience and so on, offered in support of a Counterargument-claim. For example, “There are also complaints from college professors because they find their students may cheat with the use of the internet. There are other people's writings publicized on the internet which some students borrow them without identifying the sources.”

Rebuttal: Statements in which the writer responds to a counterargument by pointing out the possible weakness in the Claim, Data, or Warrant, such as logical fallacies, insufficient support, immoral values. For example, “However, we cannot deny such a fact that an increasing number of young people even middle-aged people get themselves informed by the Internet, smart phones rather than daily newspaper.”

Semantic and logical considerations based on the definitions served as the major way of identification. Apart from that, linguistic devices were treated as the cues for identifying different elements. Two linguistic patterns can be employed to identify Claims and Subclaims: (a) assertions such as “Without doubt, it is that the Internet has great impact on every side of our society, making our life easy and convenient.” and (b) statements such as “in my opinion,” “I believe,” “I think,” “as far as I’m concerned”. Data can be signaled by explicit connectives or prepositional phrases such as “since,” “because,” “for that reason”. To identify Backings, phrases like “for example,” “for instance” are suggestive. Since counterarguments and rebuttal statements often go hand in hand, some suggestive indicator words and phrases are conducive to their identification, such as “although”, “despite”, “even though”, “some people claim that...however...”, “it is said that...but...”. The sample text in the Appendix displays the labeling and coding of the Toulmin elements.

Frequency is usually used in the data analysis in Toulmin studies since element use is the focus and the number of occurrences can reveal element use more directly than percentage. Moreover, percentage is not appropriate for statistical tests since it might produce inaccurate results, so it is unnecessary to use percentage in this study.

5.2 Argument complexity

An argument is likely to become the starting point for a further argument and thus they are in the form of argument chains. In other words, an argument chain on sub-argument level is produced by having an embedded argument which functions as a specific substructure in the main argument (Crammond, 1998). Knipping (2008, p. 434) calls it “argumentation stream”; this is an important aspect of argument complexity. In this study argument complexity is measured by two aspects: Argument Depth and Argument Width. The former represents the longest argument chain identified in an essay. Argument width refers to the total number of embedded arguments consisting of Data and Subclaim. Figure 1 illustrates the argument structure of an ideal essay. The top-level argument (i.e., Argument) has two embedded arguments—Argument 1 and Argument 3. Argument 1 consists of Sub-claim 1, Data 1.1 and Argument 2 which includes Subclaim 1.1 and Data 1.1.1. The depth of the essay is 3. Moreover, there are 3 embedded arguments (i.e., Argument 1, Argument 2, and Argument 3). Thus, the Width of the essay is 3. The sample text in the Appendix is a typical student essay. It has three embedded arguments. Subclaim 1 is supported by Data 1.1 and Data 1.2; Subclaim 2 is supported by Data 2.1 and Data 2.2; and Subclaim 3 by Data 3.1 and Data 3.2. There are three embedded arguments. Thus, the Argument Depth of the essay is 2 and its Argument Width is 3.

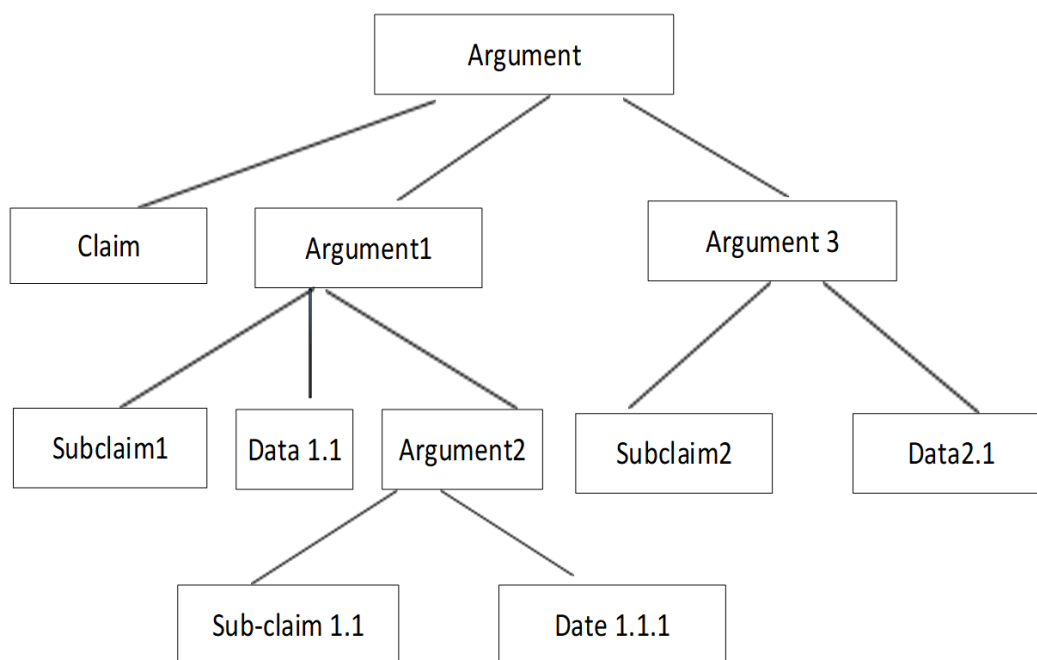


Figure 1. Argument Structure

5.3 Coding procedure

According to Cheng and Chen (2009) and Qin and Karabacak (2010), identification or coding can, at times, rely on inferring a writer's intention, which are based on readers' general knowledge of persuasive discourse forms and reasoning structures. Moreover, to test the identification validity of these structural elements, the authors of this paper first coded a sample respectively after getting familiar with the Toulmin elements by learning and discussing the definitions and typical examples. Then they coded the rest of the compositions independently. The inter-coder consistency of each element is as follows: Claim 100%, Sub-claim 93%, Data 90%, Warrant-Backing 79%, Counterargument-claim 97%, Counterargument-data 89%, and Rebuttal 100%. The controversial elements in the process of identification were not coded until an agreement was reached.

6 Results

6.1 Use of the Toulmin elements in English majors' argumentative writings

Table 1 and Figure 2 show the frequency of the Toulmin elements used by the first-year and fourth-year groups. The two groups are the same in Claim since each essay has a thesis statement, but they show difference in the other six elements. The frequency of Sub-claim and Warrant-Backing of the first-year group are lower than those of the fourth-year group while their frequency of Counterargument-data and Rebuttal are higher than those of the fourth-year group. The two groups have the same mean frequency in Data and Counterargument-claim but have different standard deviation. However, these differences are not statistically significant except Warrant-Backing. The fourth-year group use more Warrant-Backing than the first-year group ($1.27 > 0.38$, $p=0.001$), which indicates they are better at explaining the examples and analyzing the reasons.

Table 1
Toulmin Elements Used by the Two Groups

Toulmin elements	First-year (n=32)		Fourth-year (n=30)		Z value	
	Mean	S.D.	Mean	S.D.		
Claim	1	0.00	1	0.00	0.00	p=1.000
Subclaim	2.31	1.39	2.57	0.05	1.58	p=0.12
Data	4	1.80	4	1.11	0.79	p=0.43
Warrant-Backing	0.38	0.51	1.27	1.05	3.29**	p=0.001
Counterargument-claim	0.5	0.62	0.5	0.63	0.02	p=0.99
Counterargument-data	0.5	0.65	0.27	0.58	0.48	p=0.63
Rebuttal	0.09	0.39	0.07	0.25	0.03	p=0.97

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

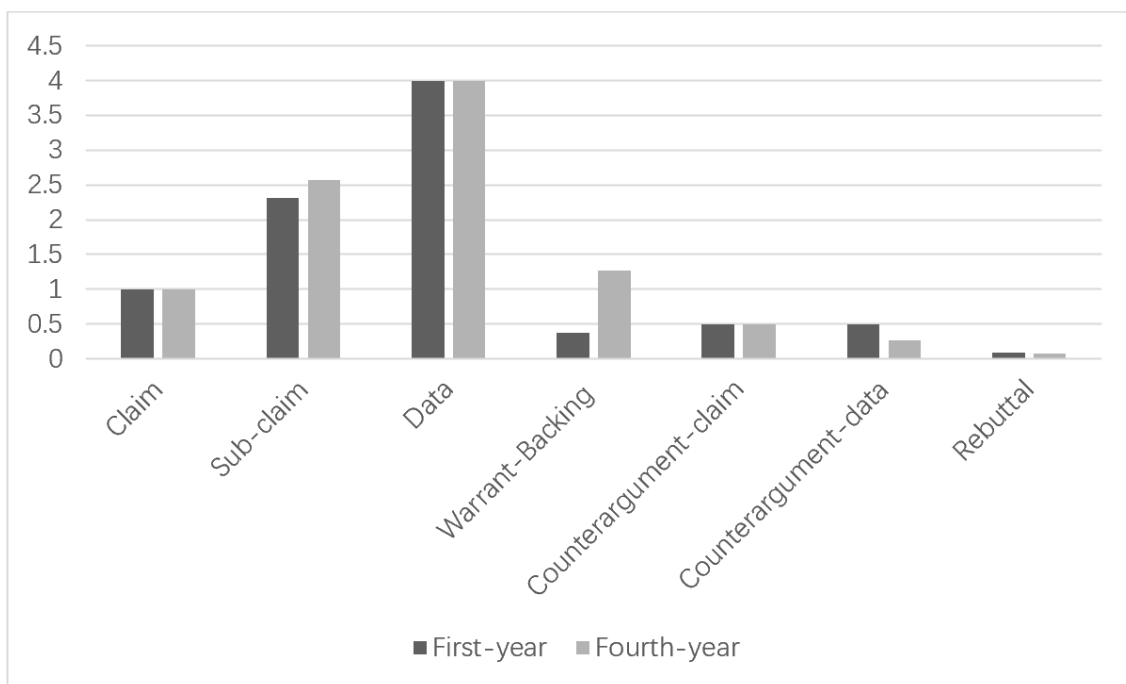


Figure 2. Comparison of Toulmin Elements Used by the Two Groups

6.2 Comparison of argument complexity of the two groups

Although the two groups have no difference in the use of Data (Table 2), they show significant difference in Data length in Table 2. The first-year students' mean length of Data is longer than that of the fourth-year students ($46.06 > 36.04$, $p=0.044$). Nevertheless, they are inferior to the fourth-year students not only in the frequency of Warrant-Backing but also in its mean length. This result suggests that the

description of Data occupies more space in the first-year essays. Moreover, the argument depth and width of the first-year students are also inferior to that of the fourth-year. These differences have statistical significance. Figure 3 displays the differences visually.

Table 2.
Argument Complexity of the Two Groups

	First-year (n=32)		Fourth-year (n=30)		Z value	
	Mean	S.D.	Mean	S.D.		
Depth	1.78	0.55	2.27	0.45	3.63***	p=0.000
Width	2.34	1.35	2.83	0.65	2.55*	p=0.012

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

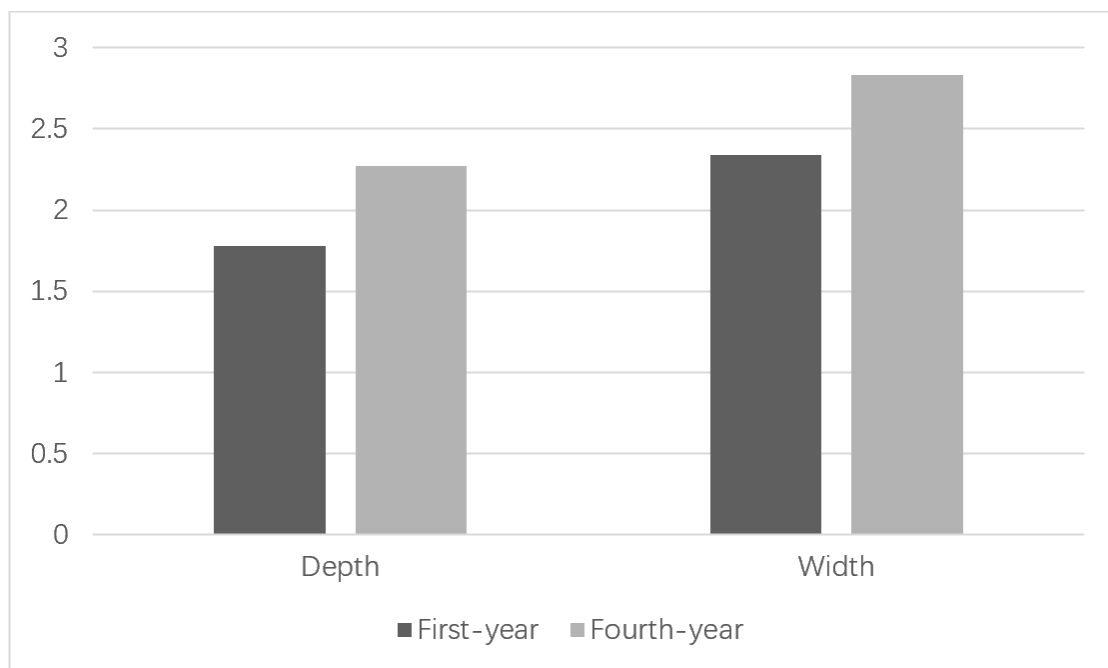


Figure 3. Comparison of Argument Complexity between the Two Groups

7 Discussion

7.1 Frequencies of Toulmin elements and argument complexity

The results of the frequency of the Toulmin elements manifest the only significant difference between the first-year and the fourth-year groups—the latter rely more on Warrant-Backing. Its higher frequency and greater length imply that the fourth-year group are more proficient at explicit reasoning by expounding the relationship between their data and claims. However, the proficient writers produce similar numbers of Data, Sub-claims, Counterargument-claims and Counterargument-data, and Rebuttals. In other words, the frequency of the Toulmin elements cannot effectively distinguish proficient writers. The previous

studies only focused on L2 learners at similar proficiency levels and found positive correlations between the Toulmin element frequencies and writing quality. When the gap between proficiencies is wider, the difference in the use of the Toulmin elements basically must be greater. However, the result of this study does not show much difference by making a contrast between the L2 learners in different grades. In a way, this result does not corroborate the previous studies. The frequency of the Toulmin elements is not an ideal way to differentiate good argumentative writing.

The fourth-year group pay less attention to the detailed description of the examples in Data but spend more words on Warrant-Backing. They have the awareness of audience—an English rhetorical paradigm—to make the inference clear so that the audience can make less effort in trying to understand the argument. The fact that the fourth-year students learned and applied the English rhetorical strategies much better than the first-year students, implies that Warrant-Backing is more teachable or learnable than the other elements, such as Counterargument-claim, Counterargument-data, and Rebuttal.

The argument depth of the fourth-year students is greater than that of their counterparts. The result suggests that they are good at using chain reasoning which is also considered a feature of Chinese rhetoric by Kirkpatrick and Xu (2012). It is hard to speculate whether the fourth-year students are more proficient at using English rhetoric or Chinese rhetoric, or even both, because of cognitive or thinking development. It is the same case with argument width. The fourth-year students can use more “Subclaim+Data” arguments to support their Claims, even though their mean number of Data is similar to that of the first-year group. The structure of “Subclaim+Data” is more complicated than simply presenting Data, which are in fact examples in this study. English and Chinese rhetoric share something in common (Liu, 2015, 2019). For example, to explore an issue intensively and extensively might be the common goal in argumentative writing. The fourth-year students reveal more complicated logic hierarchy, that is, to support the Claim with “Subclaim+Data” argument which in turn is supported with another “Subclaim+Data” argument.

7.2 Counterarguments and rebuttal

We would like to discuss Counterarguments and Rebuttal because the three elements—Counterargument-claim, Counterargument-data, and Rebuttal are rather rare in the essays of the two groups of students.

In effective and sound argument, counterarguments and rebuttals are more likely to go hand in hand. Moreover, the two oppositional structural elements are generally seen as strong evidence of reader consideration and thus the use of these two elements can increase the persuasiveness of their arguments to some extent (Crammond, 1998). Good or effective arguments are typically expressed with multiple sides, thus offering arguers and audiences opportunities to carry out deeper negotiation. Besides, the negotiation process is more likely to be realized when writers consider opinions in opposition to their own (or others’) arguments and integrate them into their overall final positions by presenting counterarguments and rebuttals. However, such studies as Cheng and Chen (2009), Qin and Karabacak (2010), Perkins et al. (1991), Stapleton (2001), and Liu and Stapleton (2014) reveal that far fewer counterarguments and rebuttals were generated by students in their argumentative essays despite their importance. The result of our study is in accordance with their findings. According to Liu and Stapleton (2014), deficiencies in counterarguments and rebuttals, to some extent, were associated with the writing rubric and prompts. In their view, those prompts which offer the outline of students’ products always ignore the importance of counterarguments, such as the writing prompts used in the typical test, Test for English Majors Band 4/8. But this view cannot explain the low frequency of Counterarguments and Rebuttal in our study since our prompt includes two different views. What are the possible reasons for the low frequencies?

We speculate that the reasons are related to argumentation schema. Writers have a variety of schemas in their mind. When they write argumentative essays, argumentation schema is evoked. According

to Wolfe et al. (2009), the argumentation schema is usually “evoked by demands of an assignment, expectations about the audience, and the goals of the author” (p. 185). In this study the two groups had the same demands for the assignment; their audience were the Chinese teachers who taught them English; their goal was to complete the essays as required. Accordingly, the schema they evoked would be the same. Secondly, according to Wolfe et al. (2009):

If one has a minimalist argument schema that has slots for only a claim supported by a single reason, then the important sub-goals of including backing for reasons and rebutting other-side information will be absent...the argumentation schema is a learned, culturally derived set of expectations and questions evoked by argumentative texts...individuals presumably differ in the extent to which they use schema, with a general preference for expending minimal cognitive effort. (pp. 184-185)

For the two groups of students in this study their Chinese argumentation schema might be more accessible than the English one, when writing with time pressure—writing within 40 minutes. Chinese argumentation seldom refutes the opposite view owing to the harmony-oriented culture. This schema is simpler than that of the Toulmin model. It is highly probable for the two groups to evoke this same schema and rely on it.

8 Conclusion

To find out the rhetorical features of proficient student writers, this study compares two groups of student essays by examining the frequency of seven Toulmin elements and investigating the argument complexity in terms of argument depth and width. The results show that the two groups of essays are almost the same in the use of the Toulmin elements except Warrant-Backing. A vast majority of the students in the two groups are largely unable to use Counterarguments and Rebuttal to show their consideration of opposing views. Nevertheless, the fourth-year student essays display far more argument complexity in the four aspects. Our conclusion is that argument complexity, rather than the use of the Toulmin elements, can differentiate proficient writers.

The limitation of this study lies in the failure to include untimed writing and to make a comparison of the timed and untimed writings. Untimed writing might reveal differing results. Future studies should take more things (like untimed writing, learners’ affective factors, and gender differences) into consideration.

Note

This research was supported by the Social Science Department of Ministry of Education of PRC [grant number 16YJA740022].

Appendix

Sample Text

The internet steppes into our lives and it is common to us like radio and television. Newspaper is a ordinary media we contact, however, I believe the impact of the internet will decrease the circulation of newspapers because the internet is quicker and also much more varied than newspaper (Claim).

Firstly, we can get imformation (information) more quickly from the internet than from the newspaper (Subclaim 1). The internet is based on the electronic telecommunication and so one person can send messages on the internet from a place to any other place in this planet in less than a second.

With such advanced technology, we can get news happened in the world quickly as long as there are people writing down news on the internet (**Data 1.1**). Compared with the internet, newspapers have to edit, print and sell and this period wastes a lot of time (**Data 1.2**). When people have the internet, a quick way to see the world, why shall they turn to newspaper still?

Secondly, the internet supplies us with more abundant and varied contents than newspapers (**Subclaim 2**). Because the newspaper has limited place, it cannot offer much details of affairs. On the contrary, the internet has tremendously large places to describe any kinds of affairs (**Data 2.1**). Because the contents on the internet are classified, we can easily find out a serial of results if we are interested in some affairs (**Data 2.2**).

Thirdly, the internet is more creative than newspapers (**Suclaim 3**). The contents on newspaper are fixed, while on the internet we can read closed contents through links (**Data 3.1**). For example, we can comment and also see others' comments on the Internet (**Data 3.2**).

To sum up, the fast developing internet will cause newspapers lots of difficulties and drive them into a predicament.

References

- Abdollahzadeh, E., Farsani, M. A. & Beikmohammad, M. (2017). Argumentative writing behavior of graduate EFL learners. *Argumentation*, 31, 641–661.
- Bacha, N. (2010). Teaching the academic argument in a university EFL environment. *Journal of English for Academic Purposes*, 9, 229-241.
- Cheng, F. & Chen, Y. (2009). Taiwanese argumentation skills: Contrastive rhetoric perspective. *Taiwan International ESP Journal*, 1(1), 23-50.
- Connor, U. (1990). Linguistic/rhetorical measures for international persuasive student writing. *Research in the Teaching of English*, 24 (1), 67-87.
- Cooper, C.R., Cherry, R., Copley, B., Fleischer, S., Pollard, R., Sartisky, M. (1984). Studying the writing abilities of a university freshman class: strategies from a case study. In: Beach, R., Bridwell, L.S. (Eds.), *new directions in composition research* (pp. 19-52). New York: The Guilford Press.
- Crammond, J. (1998). The uses and complexity of argument structures in expert and student persuasive writing. *Written Communication*, 15, 230-268.
- Ferris, D. R. (1994). Rhetorical strategies in student persuasive writing: Differences between native and non-native English speakers. *Research in the Teaching of English*, 28, 45-62.
- Jackson, S. & Schneider, J. (2018). Cochrane review as a “Warranting Device” for reasoning about health. *Argumentation*, 32, 241–272.
- Kirkpatrick, A., & Xu, Z. (2012). *Chinese rhetoric and writing: An introduction for language teachers*. Fort Collins: The WAC Clearinghouse.
- Knipping, C. (2008). A method for revealing structures of argumentations in classroom proving processes. *ZDM Mathematics Education*, 40, 427–441.
- Liu, D. (2015). Moves and wrap-up sentences in Chinese students' essay conclusions. *Journal of SAGE Open*, 5(2), 1-9.
- Liu, D. (in press). Is modern Chinese writing close to contemporary English writing? Keith Lloyd (Ed.). *Routledge handbook of comparative world rhetorics*. Philadelphia: Routledge.
- 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.
- McCann, T. (1989). Student argumentative writing knowledge and ability at three grade levels. *Research*

in the Teaching of English, 23, 62-76.

- Perkins, D., Farady, M., Bushey, B. (1991). Everyday reasoning and the roots of intelligence. In Voss, J.F., Perkins, D.N., Segal, J.W. (Eds.). *Informal reasoning and education* (pp. 83-106). Erlbaum, Hillsdale.
- Qin, J. & Karabacak, E. (2010). The analysis of Toulmin elements in Chinese EFL university argumentative writing. *System*, 38, 444-456.
- Stapleton, P. (2001). Accessing critical thinking in the writing of Japanese university students. *Written Communication*, 15, 230-268.
- Stapleton, P. & Wu, Y. (2015). Assessing the quality of arguments in students' persuasive writing: A case study analyzing the relationship between surface structure and substance. *Journal of English for Academic Purposes*, 17, 12-23.
- Toulmin, S. (2003). *The use of argument*. Cambridge: Cambridge University Press.
- Varghese, S.A., Abraham, S.A. (1998). Undergraduates arguing a case. *Journal of Second Language Writing*, 7, 287-306.
- Voss, J. F. (2005). Toulmin's model and the solving of ill-structured problems. *Argumentation*, 19, 321-329.
- Wen, Q., Wang, L. & Liang, M. (2005). *Spoken and written English corpus of Chinese learners*. Beijing: Foreign Language Teaching and Research Press.
- Whithaus, C. (2012). Claim-evidence structures in environmental science writing: Modifying Toulmin's model to account for multimodal arguments. *Technical Communication Quarterly*, 21, 105-128.
- Wolfe, C. R., Britt, M. A. & Butler, J. A. (2009). Argumentation schema and the myside bias in written argumentation. *Written Communication*, 26(2), 183-209.
- Yeh, S. (1998). Empowering education: teaching argumentative writing to cultural minority middle-school students. *Research in the Teaching of English*, 33, 49-83.

Donghong Liu, is a full Professor of English Department in School of Foreign Languages at Central China Normal University. She got her PhD in Fudan University in Shanghai, China. Her research interests include comparative rhetoric and second language composition, intercultural composition and communication, the teaching of English writing and second language acquisition.

Fang Wan, is a teacher in No. 1 Junior Middle School of Suzhou New District. She was a postgraduate of English Department in School of Foreign Languages at Central China Normal University when she took part in the project of Professor Donghong Liu.