

# Research on the Application of “Tree Analysis Diagram” to the Teaching of English Argumentative Writing of the Chinese EFL Learners

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Received: October 19, 2017 Accepted: February 18, 2018 Online Published: February 21, 2018

doi: 10.5539/elt.v11n3p137

URL: <http://doi.org/10.5539/elt.v11n3p137>

## Abstract

Writing as one of essential skills in English learning is attached more and more importance. English writing involves not only the application of lexicon and grammar, but also the construction of the text and the expression of the thought. For Chinese EFL learners, the common problem in English writing is that they tend to apply the Chinese thinking pattern and organizational pattern to wording, phrasing and even the text construction. In other words, Chinese EFL learners lack English thought pattern. Based on that, the researcher puts forward the “tree analysis diagram” to help Chinese EFL learners acquire the English thinking pattern. The current research compares the differences between the Chinese thinking pattern and the English thinking pattern; analyzes the effect of these differences on English writing and verifies the effectiveness of the “tree analysis diagram” in helping Chinese EFL learners developing the English thinking pattern and improving the quality of English writing by an experiment. The results of the research showed that the Chinese thinking pattern influences students’ English writing and the main problem is that the organizational pattern and the logic of the writing are not clear. After the application of the “tree analysis diagram”, the results showed that “tree analysis diagram” to some extent can help Chinese EFL learners avoid the influence of the Chinese thinking pattern; improve the ability of composing English writings with the English thinking pattern; develop the habit of conceiving and writing in English; arouse the interest for English writing and eventually improve the quality of English writing.

**Keywords:** tree analysis diagram, thinking pattern, English argumentative writing

## 1. Introduction

Writing as one of the four basic skills of learning English, involves not only the basic linguistic knowledge such as the usage of the vocabulary, grammar, sentence structure and etc., but it also emphasizes students’ ability of thinking in English as well as the abilities of developing the essay. Therefore, English writing is difficult to learn and teach. Argumentative writing is a kind of writing in which the writer proposes and defends his/her viewpoint on a controversial issue, convinces the readers of the authorial position, changes the readers’ beliefs, and/or makes the readers take on some new actions. In order to achieve these goals, the writer usually provides evidence to support his/her stance, performs logical reasoning, and addresses the readers’ potential counterarguments on the certain issues.

Argumentative writing plays an important role in university English composition classrooms, especially in the context of China. It exerts an impact on students’ performance in some high-stakes English examinations such as TEM-4 (Test for English Majors Grade 4) and TEM-8 (Test for English Majors Grade 8). Besides, argumentative writing abilities are also tested in some international tests, such as the International English Level Test System (IELTS), the Test of English as a Foreign Language (TESOL), and Graduate Record Examinations (GRE).

### *1.1 The Current Situation of Chinese EFL Learners’ English Argumentative Writing*

Although the importance of English argumentative writing has always been highlighted in different levels of teaching in China, it is still a big challenge for the Chinese EFL teachers and learners. According to the studies done by Chinese scholars, besides the linguistic problems, there are major deficiencies in the structure, cohesion and coherence for most Chinese EFL learners.

### *1.2 Language, Thought and Thinking Pattern*

Concerning the relationship between language and thought, it is useful to raise the question whether people who speak different languages also think in different ways (John et al., 2011). According to the notion of linguistic relativity or linguistic determinism, the differences in language influence the differences in thought. That is, people using different languages have different ways of thinking. Nowadays the most representative and influential term for this notion is Sapir-Whorf hypothesis.

Sapir-Whorf hypothesis was initially proposed in the studies of Franz Boas, a modern anthropologist in the US. He conducted researches on different Native American groups and found that the linguistic structures and views were different. Later, this study was furthered by Boas's student Sapir and Sapir's student Whorf and they proposed that a person who speaks one language thinks differently from a person who speaks another language. This is known as Sapir-Whorf hypothesis. From this, it is obvious that language is seen not only as a tool to communicate ideas and thoughts but also as intrinsic to their formation (John et al., 2011).

Sapir-Whorf hypothesis has two versions, namely, the strongest version and the weaker version. According to the strongest version, one's thought is controlled or determined by the native language (L1). Some scholars critiqued this version by giving the example of bilingual people who can switch between the two languages freely (Fishman, 1977), and Bahar (2001) claimed that "we are able to translate the basic meaning and understanding that exist and can be shared between the two respective languages. Examples of these include scientific journals translated from English into Chinese, the translation of the Al-Quran from the Arabic patterns to the Roman as well literary texts" (p. 22). The weaker version is much more persuasive than the strongest version and it holds the opinion that one's native language influences his /her thoughts.

This hypothesis has always been debated among scholars, and according to Alford (1980), most people tend to believe the weaker version of the hypothesis because they think the strongest version are too strong (Berlin & Kay, 1969; Brown, 1976; Leech, 1974). To some degree, there is a close relationship between language and thought and the language influences one's thought.

Nevertheless, it is inevitable that language and thought are related and influenced by each other. Speaking of thought, we need to mention the notion of thinking pattern, or thought pattern (in this paper 'thinking pattern' is used) --the way we think.

### *1.3 Different Thinking Patterns Between the Westerners and Easterners*

Obviously, the westerners and easterners' thinking pattern are different. These differences are formed under each culture and revealed in their languages. Having been influenced by the Confucianism, Taoism and the Buddhism, Chinese people formed a unique way of understanding the nature and the world: "Heaven-Man Oneness", as in Chinese philosophy. Under this philosophy, Chinese people are more likely to think in a synthetic way which emphasizes unity or totality. Chinese people like to form an idea or picture in their minds by imagination, which is reflected in the use of metaphor, simile and symbols in their writing and speaking. This is also referred as imaginative thought.

Quite differently, western philosophy stresses "Man against Nature". Westerners tend to observe nature and the world scientifically and objectively, and think by logic and reasoning. So westerners have a logic thought (or abstract thought).

### *1.4 Thinking Pattern and Writing Style*

Language and thinking pattern is embedded in culture; it seems we have certain rules or ways in discourse organization when we output the language such as, speaking or writing. The rules or ways that we applied is the thinking pattern which can be directly shown by the way in writing and speaking.

English is always seen as a subject-prominent language, while Chinese is seen as the topic-prominent construction due to the difference between the thinking patterns. English writing focuses on integration, and there will usually be a topic sentence in each paragraph. The content should be closely relevant to the topic. Every sentence and paragraph is connected in a logic way with some cohesion techniques. As for Chinese writing, the arrangement stresses the entirety, focusing on the meaning. A good piece of Chinese writing should contain fertile imagination. The beauty of Chinese writing lies in the poetic imagery, sincere emotions and profound meaning expressed by the Chinese characters and sentences.

The thinking pattern of Chinese is holistic, from the whole to the part. This Chinese philosophic cognition is embodied in the topic-prominent constructions. The Chinese language is more topic-prominent than subject-prominent. In contrast, English speaking westerners are more individualistic and value self-prominence,

which is reflected in their subject-prominent language. The western culture stresses the analytic and logic thinking pattern. It emphasizes individualism and dividedness between man and nature. Their way of thinking is linear and focuses on the analytic process. As a result, the English structure is developed in a linear way. So the westerners always prefer the simple linear pattern in their writing.

On the contrary, Chinese culture stresses entirety, a parataxis of thinking pattern which emphasizes the harmoniousness between subjective and objective; and Chinese is a topic-prominent language. A Chinese writer needs to humble himself or herself in the introduction of the text; and good Chinese writers would often avoid a direct statement of the thesis in the opening sections of the text. The thesis statement, however, is mentioned in the middle of the text or the end, or perhaps never clearly stated at all. This, according to Kaplan (1966), is referred to as an approach of “indirection”, which means that the development of the writing follows “a pattern of turning and turning in a widening gyre. The loops revolve around the topic and view it from a variety of positions, but never address it directly (Kaplan, 1966)”. Chinese writers are more indirect in their text structure than English writers. It suggests that L1 Chinese writing is significantly different from L1 English writing in the focus of arguments, the types of the problem discussed and the types of solution.

Kaplan’s idea draws a close relationship between thinking pattern and the organizational structure, which is similar to the weak version of the Sapir-Whorf hypothesis. Actually Kaplan himself admitted that he was influenced by the weak version of the Sapir-Whorf hypothesis by stating that “My original conception was merely that rhetoric had to be viewed in a relativistic way; that is, that rhetoric constituted a linguistic area influenced by the Sapir-Whorf hypothesis” (Kaplan, 1972).

The transfer of organizational pattern from L1 to L2 has always been a controversial topic. Challenges have been raised since Kaplan’s theory has been criticized for being too simplified to explain the complicated organizational patterns in L2 writing. Researchers also found limited supports for the transfer of organizational pattern from L1 to L2, saying that there were various reasons for the weak L2 organizational pattern and language transfer may not be enough to explain it all (Hirose 2003; Hyland & Milton 1997; Kubota, 1998; Monroy-Casas, 2008). Mohan and Lo (1985) also noted that the students’ problem of rhetorical transfer could be seen as a developmental factor.

Even so, there are still a large number of researchers investigated the contrastive rhetorical features by comparing English with German (Clyne, 1987), Korean (Egginton, 1987), Japanese (Hinds, 1983), and Chinese (Tsao, 1983). The results indicate that culturally specific rhetoric does exist. All of these studies support the concepts that different cultures employ different rhetoric, and that rhetorical conventions do transfer across languages.

### *1.5 Influences of L1 Thinking Pattern on EFL English Writing*

There has been increasing interests in the influence of the thinking pattern on EFL English writing. Many aspects of English writing, such as the choice of words, construction of the discourse, the relations of the sentences, etc. could be affected by the cultural differences. The Chinese readers may think that the beginning is very clear and short, but for the foreign teachers, they may not think so. This is a reflection of the influence of the different thinking patterns.

Alptekin (1988) studied the rhetorical patterns in the expository essays of Chinese students in the USA. The results revealed that thinking pattern did influence the Chinese students because their compositions were written in a non-linear organization. Carson et al. (1990) conducted a study of both Chinese and Japanese students’ English compositions; results have confirmed that there are systematic differences in writing from different cultural backgrounds.

### *1.6 Research Gaps*

From the previous literature, evidence is found for the claim that first language thinking pattern can influence second language writing in different levels and aspects. Although it is still a controversial question, students’ writing are surely demonstrating strong L1 thinking pattern in different levels. However, it is disappointing to find out that scarce research has been done to help students to develop their English thinking pattern. Another gap is the lack of studies on improving EFL students’ writing organizational pattern. A review of the previous literature on EFL students’ writing suggests that most studies have focused on the transfer of rhetorical conventions from L1 to L2 writing and the comparison of the organizational structures of the students’ writing across different languages. However, little research has been done to improve the organizational structure of students’ writing, such as by developing students’ ability to organize their writing in a more native-like way. Some studies also revealed that students lack organizational skills for both L1 and L2 writing (Hirose, 2003).

Besides, there is also lack of studies on EFL students' writing manner. Students' attitudes towards L2 texts are directly linked to their construction of the identities of the writers and their writing cultures (Abasi, 2012). From the recent researches, few studies were done to investigate students' writing manners, either with questionnaires or by interviews.

## 2. "Tree Analysis Diagram"

It is commonly believed that English argumentative writing focus on the integration and the logics. A topic sentence functions as an umbrella shaft that all other parts of the argument have to fall under it. Sentences and paragraphs connect with each other in a strict logic way. It seems readers can analyze English argumentative writing by certain kind of diagram, which indicates the logic and the connection. Even readers can draw a diagram to show the logic, connection, organization by using arrows, thus the author call the diagram the "tree analysis diagram".

### 2.1 Theoretical Basis

Currently, there are four central ways to understand and analyze the logical structure of arguments: the Toulmin Model, Aristotle formal logic's syllogism, Perelman's liaisons, and dialogue logic. These four ways contribute a lot to the analysis and the understanding of the logic of the argument. Among them, the Toulmin Model is the main approach, which will be discussed below.

### 2.2 The Toulmin Model

The Toulmin Model of argument structure, proposed by the British philosopher Toulmin has been widely used in teaching and researching of argumentative writing. Stephen Toulmin proposed the Toulmin Model in 1958 in his book of *The Uses of Argument*. This model was designed initially to analyze the arguments in courtroom. When his model was introduced to the fields of rhetoricians by Wayne Brockriede and Douglas Ehninger, Toulmin began to discuss its rhetorical implications in his book of *Introduction to Reasoning* in 1984. The Toulmin Model as a structure of argumentative writing is more helpful in reading and writing arguments in a systematic way (Rottenberg; Winchell, 2012:22).

Toulmin (1958) indicated three main parts to form an argument: claim, grounds (or data); and warrant. Later Toulmin go on to assert that in an extended argument structure, there may be some second-level element such as backing; qualifier and rebuttal. His model is illustrated in the following diagram.

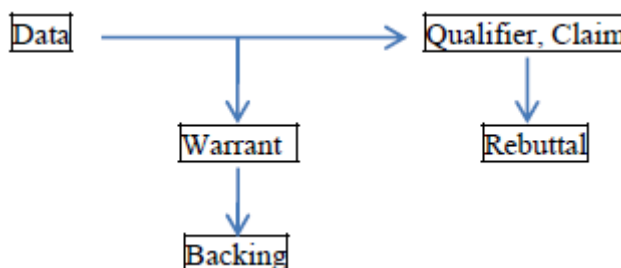


Diagram 1. Toulmin's model of arguments structure

### 2.3 Expansion of the Toulmin Model--- The "Tree Analysis Diagram"

The Toulmin model is both a method of analyzing the argument of others and developing the soundness of one's own argument. This is a useful technique to develop sound argument to make one's argument through the model. In addition, Toulmin's Model offers a basic diagram of the English argumentative writing.

Based on this, students can be guided to draw an outline before they write English argumentative writing. The arrows may show the flow of the writing, and help students to form ideas in a whole picture. The diagram is tree like, so it is called the "tree analysis diagram". Below is the example to show what the "Tree analysis diagram" is.

E.g.: Successful sports professionals can earn a great deal of money than people in other important professionals. Some people think this is fully justified while others think it is unfair. (FROM IELTS6, TEST 2)

Based on this topic, if we think the argumentum could be fair then we can draw a "tree analysis diagram" as below.

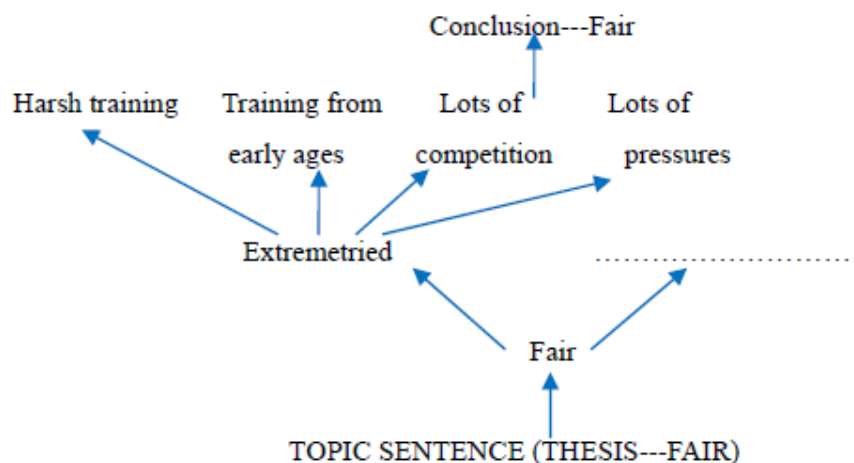


Diagram 2. Basic application of the “tree analysis diagram”

Diagram 2 shows the “tree analysis diagram” of the above topic. As the figures shows the general attitudes towards the argumentum is fair. Then some ideas can gather which support fair such as extremely tried and etc. Under this controlling idea, students can elaborate ideas like hash training.... Therefore, students are guided at the very beginning to draw this diagram until later they can form their ideas in a clear way. Diagram 2 is only a basic diagram, for further use and this diagram can be various.

#### 2.4 The Application of the “Tree Analysis Diagram” in English Argumentative Writing

The application of the “tree analysis diagram” in English argumentative writing can go through the process of writing. In the process of pre-writing, the “tree analysis diagram” helps students to organize their thought in a clear way and make logic argument. To some extent, it can also help students develop their English thinking pattern. In the process of while-writing, the diagram can guide students write in a logic and clear way with the help of the arrows in the diagram. As for the process of the post-writing, it helps students self-check their writing.

Deduction and induction are the two common ways to write English argumentative writing. “The mental process of moving from one statement through another to yet a further statement is called deduction. Deductive reasoning is to start with some assumption or premise and extract form it a conclusion---a logic consequence—that is concealed but implicit in it (Barnet, 2011).” While induction writing starts with the supporting ideas and goes throughout the text, then in the very end of the writing, the main idea is pointed out as a conclusion.

In the above example, the flow of the English argumentative writing is showed in the deductive way and in the following chapters, the examples are showed in the same way. By doing this, the researcher is not saying that all English argumentative writing is all in a deductive way and the “tree analysis diagram” is only suitable for deductive writing. In this paper, the researcher applied the deductive writing style only as an example to show the organizational pattern and the logics in the English argumentative writing.

### 3. Methodology

The current study addressed the following three questions:

- (1) What role does the Chinese thinking pattern play in the EFL students’ writing? Are there any changes after the application of the “tree analysis diagram”?
- (2) What are the students’ common problems and beliefs during the process of their English argumentative writing? Are there any changes after the application of the “tree analysis diagram”?
- (3) Can the “tree analysis diagram” help Chinese EFL students’ improve their English argumentative writing organizational pattern? If helps, to what degree?

#### 3.1 Profile of the Participants

This study was carried out with 81 students’ participation and cooperation. These students are all second year students from English department of Honder College of Inner Mongolia Normal University. Among them, 42 are

from Class 1 and 39 are from Class 3. The English proficiency of the two classes involved in the present experimental research are basically at the same level and it was verified by their English scores of the National College Entrance Exam. Thus, Class 1 and 3 were chosen in this research with Class 1 as an experimental group and Class 3 as a controlled group.

### *3.2 Research Instruments*

Questionnaires and students' writing samples are two main research instruments in this research. Two sets of the questionnaires were used in this research. One was the pre-questionnaire and the other was the post-questionnaire. The pre-questionnaire was consisted of 14 statements and 1 elective question with two choices and it was divided in three categories. The survey of Chinese thinking pattern in English writing as the first category contained 4 statements. The survey of the problems related to English argumentative writing, as the second category contains 7 statements and 1 elective question with two choices. The last category was about the students' attitude toward English writing, which was made up of 3 statements.

The post-questionnaire is the same as the pre-questionnaire except the last category, which contains 4 statements and 1 open question mainly about the students' attitude toward the "tree analysis diagram".

All the statements in the two questionnaires are applied with the five-point Likert Scale, ranging from "strongly disagree" represented by 1 to "strongly agree" represented by 5.

The pre-questionnaires are administered on March 6th, 2016; and the post-questionnaires are done on June 26th, 2016.

In addition to the two questionnaires, the students' writing samples are also used in this research. All the participants were assigned three topics to finish in class within 40 minutes, in week 2, 13 and 18. The three topics of the argumentative writing were all from the IELTS tests.

### *3.3 Data Analysis Methods*

Descriptive statistical analyses are performed on the responses to each of the items on the questionnaire. Percentage as well as means and standard deviations are calculated with statements. Means value of any statement which is smaller than 3 shows an inclination towards disagreeing with that statement, while means value greater than 3 reveals an inclination towards agreeing and SD values shows the different disparity among respondents.

### *3.4 Experiment Procedures and Data Collection*

The experiment officially starts in academic week 2. The researcher delivered the pre-questionnaires to Class 1 and Class 3 respectively during class time with a brief introduction of the questionnaire and explanation about the purpose before answering. Ten minutes is given to the students and the questionnaires are immediately collected after that. In the second period of the class, the researcher asks student to write an English argumentative writing in class and gives them 40 minutes to finish, then collects the writings back.

The application of the "tree analysis diagram" in class 1 lasts for ten academic weeks (week 3-week 12, except for week 10 holidays). In week 3, the researcher introduces the "tree analysis diagram" to students and also explains the Macro-Structure of the English argumentative writing in detail. In week 4, the researcher uses the English argumentative writing sample I in class to analyze it and draws the diagram based on the "tree analysis diagram". In week 5, as in the previous class, the researcher uses the English argumentative writing sample II in class and draws the "tree analysis diagram" with students together.

From week 6 to week 12, the researcher allots some time to students to practice drawing the "tree analysis diagram" based on some argumentative writing samples and gradually, the researcher gives students some topics and asks them to draw their own "tree analysis diagram" by themselves. At this stage, students show great interest in "tree analysis diagram" and actively participate in the class.

In week 13, the students of both the experimental group and the controlled group are assigned a topic and the experimental group is instructed to draw the "tree analysis diagram" before they start to write. They are required to complete the writing in 40 minutes in class and their writings are collected when they finish.

Week 14 to week 17 are practicing weeks, the participants of the experimental group are given some time to practice writing argumentative writing in class by using the "tree analysis diagram" and they can consult the researcher if they get problems in using the "tree analysis diagram".

Finally, in Week 18, all the students from the experimental group and the controlled group are assigned a topic and were instructed to write in class in 40 minutes and their writings were collected after they finished. This time,

the experimental group students were instructed to draw the “tree analysis diagram” according to their own favor. Also, the post-questionnaires are also delivered to the experimental group students at the very end of the class and the researcher surveys the relevant data after collecting their writing samples and the post-questionnaires.

#### 4. Integrated Analysis of the Results

##### 4.1 Analysis of the First Research Question

In the process of conducting pre- and post-questionnaires, all statements are sorted into different categories. The first category mainly focuses on the investigation of Chinese thinking pattern in English writing. Four statements are involved as follows:

- 1) Before writing an English essay, I conceive it in Chinese.
- 2) Before writing an English essay, I translate the Chinese sentences that conceived in my mind into English.
- 3) When I write an English essay, I conceive the organization of the essay with Chinese thinking pattern.
- 4) When I write an English essay, I can write it in a native way with Chinese thinking pattern.

Table 1. Contrast of the Pre- and Post-questionnaire’s results of the controlled group

NO.	Statement	Pre-questionnaire		Post-questionnaire	
		MEAN	SD	MEAN	SD
1)	Before writing an English essay, I conceive it in Chinese.	3.05	1.26	2.97	1.31
2)	Before writing an English essay, I translate the Chinese sentences that conceived in my mind into English.	3.87	1.33	4.10	1.45
3)	When I write an English essay, I conceive the organization of the essay with Chinese thinking pattern.	4.15	1.05	4.18	1.11
4)	When I write an English essay, I can write it in a native way with Chinese thinking pattern.	2.54	1.26	2.28	1.18

Table 1 shows the responses of the students in the controlled group have not changed much during the Pre- and Post-questionnaire. As the means are above 2.5 in the statement 1, 2, and 3, in the pre- and post- questionnaire, which show the number of the students who are not sure or agree with the statement are above the average (2.5). In other words, a lot of students are still employing Chinese thinking pattern (e.g. conceive essay in Chinese, translate the Chinese sentences that conceived in my mind into English, apply Chinese thinking pattern to organize the essay) before they wrote in English although the SD values have warned about the disparity in the students’ attitudes. The SD values of statement 1 and 2 relatively higher than statement 3, reveals those students’ responses, are not concentrated as the means shown in the pre- and post- questionnaire. However the SD of statement 3 values 1.05 (PRE) and 1.11(POST) which is relatively lower compared with statement 1 and 2 and reveals those students’ responses are concentrated on the choice of “agree”.

The means of the statement 3 are 4.15 and 4.18 in pre- and post- questionnaires respectively with SD values 1.05 and 1.11, which indicate that the majority of students tend to agree without big disparity. Obviously, Chinese thinking pattern influences the process of the organization in English. In addition, students’ responses for statement 4 show that their attitude tend to be not sure or disagree with the fact that Chinese thinking pattern can make their English writing in a native way.

Table 2. Contrast of Pre- and Post-questionnaire's results of the experimental group

NO.	Statement	Pre-questionnaire		Post-questionnaire	
		MEAN	SD	MEAN	SD
1)	Before writing an English essay, I conceive it in Chinese.	3.12	1.31	1.90	1.13
2)	Before writing an English essay, I translate the Chinese sentences that conceived in my mind into English.	3.98	1.39	2.83	1.67
3)	When I write an English essay, I conceive the organization of the essay with Chinese thinking pattern.	4.07	1.08	1.60	1.02
4)	When I write an English essay, I can write it in a native way with Chinese thinking pattern.	2.36	1.11	2.05	1.09

Table 2 shows the results of the experimental group in pre-questionnaires are similar to that of the controlled group. This indicates that most students of the experimental group before the application of the “*tree analysis diagram*” also apply Chinese thinking pattern in their English writing and are not sure or disagree with whether Chinese thinking pattern may influence their English writing or not. In contrast, the means of the experimental group in post-questionnaires are much lower than that in pre-questionnaires.

As the results of the statement 1 and 3 in the above table show, after the application of the “*tree analysis diagram*” in the experimental group, most students tend to disagree with using Chinese thinking pattern to organize and conceive their English writing. For statement 2, the mean (2.83) is lower than the previous (3.98), which shows fewer students translate the Chinese word in their mind into English, but the number of such students is still above the average. However, the SD values (1.67>1.39) warned about the disparity in the students' responses. That is to say, although the “*tree analysis diagram*” can help students organize and conceive in English, it still occurs that students translate Chinese into English in composing English writing. Statement 4 is nearly the same form in the means and the SD value the same as the statement 2 in the means and the SD value again and that shows students from both groups want to avoid the influence of their Chinese thinking pattern while writing in English.

#### 4.2 Analysis of the Second Research Question

What are the Chinese students' common problems during their English argumentative writing process? Are there any changes after the application of the “*tree analysis diagram*”? In order to answer these research questions, the second category of the questionnaire focusing on English Argumentative Writing process is to be analyzed.

5) Before writing an English essay, I make an outline.

6) (If you do not make an outline, just skip over this item) If you make the outline, please answer this question. I make the outline in Chinese ( ) / English ( ) (Please tick “√”)

When I write an English argumentative essay, I clearly present a topic sentence.

7) When I write an English argumentative essay, I clearly present the supporting arguments to support the thesis.

8) When I write an English argumentative essay, I write it in a deductive way. (I point out the thesis first then explore the topic in detail with supporting ideas.)

9) When I write an English argumentative essay, I write it in an inductive way. (I present supporting ideas first and then point out the thesis of the essay.)

10) When I write an English argumentative essay, my essay is cohesive.

11) When I write an English argumentative essay, I have a clear mind about how to link the paragraphs and develop the organization of the essay clearly and logically.



Table 3. Investigation of the outline before writing

NO.	Statement	Experimental Group		Controlled Group	
		PRE	POST	PRE	POST
	Before writing an English essay, I make an outline.	N=16 (*N=26)	N=35 (N*=7)	N=16 (N*=23)	N=15 (N*=24)
	(If not making the outline, you just skip over this item) If you make an outline, please answer this question. I make the outline Chinese (/ English () (Please tick “√” your choice)	CH N=10	CH N=4	CH N=9	CH N=7
		EN N=6	EN N=31	EN N=7	EN N=8

\*Notes: N refers to the number of the students. The total number of the experimental group is 42 and the controlled group is 39. CH equals Chinese and EN equals English.

The results above reveal that 62% (N=26) of the students do not use an outline before writing in the experimental group, only 38% (N=16) of the students would like to have an outline before writing. At the same time among these students, writing outline in Chinese is preferred by most students. As for the controlled group, the results are similar to the pre-investigation of the experimental group. Lot of students do not write an outline before writing (PRE N=23; POST 59%, N=24; 62%) and only 15 students (16 students in the post-questionnaire) do so. Writing Chinese outlines is still favored. The analysis mentioned above indicates that students will not use or write an outline to guide their writing. If they need an outline, they still cannot avoid using Chinese to write it and being affected by the Chinese thinking pattern, at the very beginning.

However, after the application of the “tree analysis diagram” in the experimental group, big changes are found. 83% of the students write an outline to guide their writing and 74% of them preferred to write it in English.

Table 4. Contrast the experimental group with the controlled group (PRE-)

NO.	Statement	Experimental group		Controlled group	
		MEAN	SD	MEAN	SD
7)	When I write an English argumentative essay, I clearly present a topic sentence.	2.40	1.20	2.41	1.28
8)	When I write an English argumentative essay, I clearly present the supporting arguments to support the thesis.	4.14	1.16	4.00	1.01
9)	When I write an English argumentative essay, I will write it in a deductive way. (I point out the thesis first then explore the topic in detail with supporting ideas.)	3.07	1.32	3.49	1.32
10)	When I write an English argumentative essay, I will write it in an inductive way. (I present supporting ideas first and then point out the thesis of the essay.)	2.12	1.29	2.05	1.11
11)	When I write an English argumentative essay, my essay is cohesive.	2.33	1.17	2.35	1.27
12)	When I write an English argumentative essay, I have a clear mind about how to link paragraphs and develop the organization of the essay clearly and logically.	2.14	0.99	2.00	1.09

Table 4 shows the results of statement 7 to 12 in the pre-questionnaire between experimental group and the controlled group. Statement 7 and 8 explore whether the subjects will clearly present the topic sentence and support ideas. As for the statement 7, the means values of the two groups are 2.40 and 2.41, showing that the responses are relatively not sure nor negative. That means most students have problems in writing the topic sentence or thesis. The SD values here also demonstrate that some students have the confidence in writing a topic sentence. For statement 8, the students’ responses are positive with the means of 4.14 and 4.00 and SD

values of 1.06 and 1.11. The SD values guarantee most students either “agree” or “strongly agree”. Statement 9 and 10 investigates the writing styles and results show that a lot of students prefer deduction (means, 3.07; 3.49). Statement 11 and 12 point out students are not sure about the cohesion in their writing and they feel hard to link the paragraphs and develop the essay clearly and logically, which is reflected by the means 2.33, 2.35 and 2.14, 2.00. These means reveal the negative attitude of students. The SD values are 1.17 ( $> 0.99$ ) and 1.27 ( $> 1.09$ ), which means more students feel negative with the linking than cohesion.

Above mentioned are the results of the questionnaires on English Argumentative Writing process. The discussion reveals most of the two groups of students do not use an outline before writing; only small amount of the students would like to have an outline before writing; however, writing an outline in Chinese is their first choice. During their writing, most students have problems in writing the thesis statement although they are aware of using some supporting ideas to support the thesis. Cohesion is another problem, because students cannot make their writing in a cohesive way. As statement 12 points out, students also feel hard to link the paragraphs and develop the essay clearly and logically. As for the writing styles, deduction is favored.

After the application of the “*tree analysis diagram*” in the experimental group, the result from the questionnaire is cheerful. Some changes do emphasize that students get aware of the cohesion and linking in their writing and they would apply an English outline during their writing. So far it can be said the “*tree analysis diagram*” to some extent can help student in their writing. For further examination of the “*tree analysis diagram*”, the students’ argumentative writing sample can help us to answer the third research question.

#### 4.3 Analysis of the third Research Question

The students’ writing sample was analyzed only from the perspective of the organizational structure. Therefore, the students’ writing sample is generally divided into three parts: opening paragraph, body paragraphs and closing paragraph, which formed a whole picture of the organizational pattern analysis. In each part, detailed analysis is done. For example, in the opening paragraph (OP used to refer it for short), three aspects: 1. (OP-1) Explicitly stating writer's stance. 2. (OP-2) Generally stating the argument, but no specific writer's stance. 3. (OP-3) Describing the subject matter without answering the argument are further analyzed. The same as the body and closing paragraph is shown below (Adapted Yu-Chuan, Joni Chao, (2006)).

##### Opening paragraph (OP)

1. (OP-1) Explicitly stating writer's stance.
2. (OP-2) Generally stating the argument, but no specific writer's stance.
3. (OP-3) Describing the subject matter without answering the argument.

##### Body Paragraphs (BP)

1. (BP-1) Connecting to writer's stance by supportive details.
2. (BP-2) Implicitly referring to writer's stance by arguing pro and con.
3. (BP-3) Loosely connecting to the argument, or emerging ambivalent/digressive points.

##### Closing Paragraph (CP)

1. (CP-1) Summarizing and concluding points of view.
2. (CP-2) Not concluding the points but developing ongoing argument (including unfinished).
3. (CP-3) Concluding but emerging new remarks.

All of these are used to analyze the students’ organizational pattern. Based on them, further analysis such as the cohesion and logic, is also done within the writing sample. Here the linguistic knowledge such as grammar and lexis is ignored temporarily.

Table 5. Students writing sample analysis

	Pre-Tree analysis diagram	Post-Tree analysis diagram	
	SWS 1	SWS 2	SWS 3
OP-1	12%	41%	93%
OP-2	42%	33%	5%
OP-3	46%	26%	2%

BP-1	*7%	*41%	52%
BP-2	*6%	*22%	41%
BP-3	*84%	*30%	7%
CP-1	51%	62%	87%
CP-2	25%	12%	9%
CP-3	24%	16%	4%

*\*Note: SWS here refers to students writing sample. The total percentage sometimes is less 100% due to the difficulty in sorting as the result, the researcher omit it.*

Table 5 shows the results of the students' organizational pattern in their writing sample 1, 2 and 3. Before the application of the "tree analysis diagram", only 12% of the students can state their stance clearly in the opening paragraph. 42% of the students like the way of "circling" without pointing out the stance. 46% of the students even do not show their stance in their writing. With the application of the "tree analysis diagram", a slight change happen in the SWS 2, for 41% of the students state their thesis at clearly in the opening paragraph. In SWS 3 exciting results are found that 93% of the students write their thesis clearly. Only 7% of the students still have no idea to write their thesis clearly.

As the results shown in the questionnaires, the most serious problem about the body paragraph is that although students are aware of using some supporting ideas to support the thesis, they still cannot connect them logically. Students cannot have a clear mind to develop their writing. In their writing, nearly 84% of the students have such problems in their writing and only 13% of the students can write it clearly and some of them even can support their writing critically with presenting both the pro and con. SWS 2 and SWS 3 show the results that the "tree analysis diagram" can help students develop their writing with a clear logic and by using it students can easily connect the ideas together. The results show that nearly 63% of the students in SWS 2 and 93% in SWS 3 can write their body paragraphs clearly.

Most students can write a good ending paragraph with summaries and conclusion. Compared with 51% in SWS 1, SWS 2 and SWS 3 is 62% and 87% respectively. As results show, the "tree analysis diagram", to a certain degree, can help students remember to conclude their writing without developing ongoing argument and emerging new remarks, though exceptions may occur as the results show.

Table 6. Students writing sample analysis II

	SWS 1	SWS 2	SWS 3
OP-1	16%	19%	15%
OP-2	39%	42%	45%
OP-3	45%	39%	40%
BP-1	*6%	*8%	7%
BP-2	*6%	*12%	10%
BP-3	*85%	*76%	83%
CP-1	42%	39%	44%
CP-2	30%	29%	28%
CP-3	28%	32%	28%

*\*Note: SWS here refers to students writing sample.*

Table 6 shows the students writing sample in the controlled group. Overview the table no big changes happen in their writing. In the opening paragraph the main problem is the thesis statement again. Only 16%, 19%, 15% of the students can write their thesis clearly in SWS1, SWS2 and SWS 3 respectively. Large amount of the students still either state the argument without pointing out the stance or just describe the subject matter without answering the argument.

In the body paragraph most students loosely connect the supporting ideas to the argument or they may give ambivalent points. SWS 1 reveal that 85% of the students do that and 76% and 83% do so in the SWS 2 and SWS 3. Very small amount of the students can develop their ideas in a sensible way.

Compared with the opening paragraphs and body paragraphs, their conclusion paragraph is relative better. 42% in SWS 1, 39% in SWS 2 and 44% in SWS 3 conclude the points they mentioned without giving an odd ending or emerging new marks.

Table 7. Students writing sample contrast

	SWS 3 of Experimental group	SWS 3 of Controlled group
OP-1	93%	15%
OP-2	5%	45%
OP-3	2%	40%
BP-1	52%	7%
BP-2	41%	10%
BP-3	7%	83%
CP-1	87%	44%
CP-2	2%	28%
CP-3	11%	28%

*Note: SWS here refers to students writing sample.*

Table 7 shows the differences happen between the controlled group and the experimental group. The result of OP-1 (Explicitly stating writer's stance) is 93% in the experimental group and 15% in the controlled group. The number of students who is just generally stating the argument or not answering the argument is reduced to 5% and 2% in the experimental group compared with 45% and 40% in the controlled group.

93% of the students in the experimental group develop their body paragraphs in a sensible and good way. 41% of the students can also develop their essay in a critical way by demonstrating both the pro and con. Only 7% of them still cannot write the supporting ideas well. By contrast, 83% of the students from the controlled group have different problems in their writing in writing their topics and conclusions.

For the ending paragraph the experimental group also shows the higher percentage (87%>44%), which reveals students in the experimental group have a better idea to end their essay compared with the controlled group.

All in all, from the questionnaire analysis to students' writing sample analysis, evidences do reveal the "tree analysis diagram" is helpful. The "tree analysis diagram" is carried out as the compulsory content during the writing class, thus, the choice of using it after class and students' attitudes toward it is still unknown. In the next part, the students' attitude toward it is going to be discussed.

#### 4.4 Attitudes Toward the "Tree Analysis Diagram"

In order to understand the students' attitudes toward the "tree analysis diagram", a post-questionnaire with 5 statements has been done at the end of the semester. The 5 more statements are presented in the following.

16) I think the "tree analysis diagram" is helpful for my English argumentative writing, so I will continue to use it.

17) I think the "tree analysis diagram" makes my thinking more logical when I write English argumentative writing.

18) I think the "tree analysis diagram" helps me lessen the influence of Chinese thinking pattern when I write the English argumentative writing to some extent.

19) I think the "tree analysis diagram" is helpful in training my English thinking pattern.

20) My view on the "tree analysis diagram" :

Table 8. Students' Attitudes toward the "tree analysis diagram"

NO	Statement	MEAN	SD
16)	I think the "tree analysis diagram" is helpful for my English argumentative writing, I will continue to use it.	3.09	0.7
17)	I think the "tree analysis diagram" makes the development of thinking to be more logical when I write English argumentative writing.	4.67	0.68
18)	I think the "tree analysis diagram" helps me lessen the influence of Chinese thinking pattern when I write the English argumentative writing to some extent.	3.05	0.92
19)	I think the "tree analysis diagram" is helpful in training my English thinking pattern.	3.4	0.73

Statistics of statements relating to students attitudes towards "*tree analysis diagram*" is shown in Table 8. From the table it can be observed that lots of students show positive attitude towards "*tree analysis diagram*" without great disparity as revealed from the relatively high Means low SD values. For statement 17 mean values 4.67, which indicates that lots of students think the "*tree analysis diagram*" can make the development of thinking more logical. All in all, students' over all comments towards the "*tree analysis diagram*" are positive.

The last question is an open question on the "*tree analysis diagram*", from the questionnaires most students gave a very positive opinion on "Tree analysis diagram" by saying "I like it very much and I will use it all the time" or "I really benefit a lot, and I think this method is really effective and made writing more interesting".... However, some students also say "it is a little bit of time consuming, I may not finish my essay by using it" or "I like it but I spent quite a lot of time to draw it".... Negative responses are also found such as "I don't know how to draw a "*tree analysis diagram*", I found it is harder than writing".... etc.

#### 4.5 Results of Students' Attitudes Toward English Writing

As one of the categories in the questionnaires is about the students' attitude toward English writing which is made up of 3 statements as the following:

13. I think English writing is an important part of English learning.
14. I think English writing is the most difficult part of English learning.
15. I like writing English composition.

Table 9. Students' attitudes toward English writing of controlled group

NO.	Statement	PRE-		POST-	
		MEAN	SD	MEAN	SD
13	I think English writing is an important part of English learning.	4.31	1.01	4.33	1.02
14	I think English writing is the most difficult part of English learning.	3.38	1.08	3.33	1.07
15	I like writing English composition.	2.28	1.4	2.15	1.33

Table 10. Students' attitudes toward English writing of experimental group

NO.	Statement	PRE-		POST-	
		MEAN	SD	MEAN	SD
13	I think English writing is an important part of English learning.	4.64	1.08	4.55	0.89
14	I think English writing is the most difficult part of English learning.	3.45	0.96	2.94	1.12
15	I like writing English composition.	2.67	1.34	3.62	1.07

Table 9 and 10 demonstrate the results of the students' attitude towards English writing. Table 9 shows the similar results from pre- and post-questionnaires and students' responses about English writing is difficult to learn and neutral interest in learning as the same time they rank English writing as one the most important skills. As for the interest of English, writing as shown by the means 2.18 and 2.15 which shows students attitudes towards it is negative, again the big disparity also reveals that some of the students like writing while some don't. Table 10 shows the result of the experimental group. The controlled group students' attitude towards statement 13 is also positive. Differences emerge in statement 14 and 15. As for statement 14, before the "tree analysis diagram" students think English writing is difficult with a means value 3.45 and the SD values 0.96 reveals students' responses are not in big disparity. After the "tree analysis diagram" the means value 2.94 shows some students think English writing is easy with the help of the "Tree analysis diagram", at the same time the SD values 1.12 also warns us the big disparity among students' responses.

## 5. Conclusion and Discussion

In this study, the differences between the Chinese thinking pattern and the English thinking pattern are compared. Then, the researcher makes further investigation on the influence of the different thinking patterns on EFL learners' English writing. Based on the previous researches and relevant theoretical foundations, the researcher proposed the "tree analysis diagram" to assist students' English argumentative writing and investigates the effectiveness of this method by conducting an experiment. In this sense, the "tree analysis diagram" has practical significance for developing Chinese EFL learners' English thinking pattern and improving Chinese EFL learners' English writing skills. It helps Chinese EFL learners form the habit of conceiving and writing the outline in English and become aware of the importance of the cohesion and the logics in English writing, especially English argumentative writing. Lastly, the "tree analysis diagram" achieves better effects in helping EFL learners develop the organizational pattern of the English argumentative writing and arousing their interest in English writing. By drawing the "tree analysis diagram", EFL learners get a clearer idea of how to state the topic sentence, connect the paragraph and develop the supporting ideas logically and conclude their viewpoints. On the other hand, EFL learners can learn to draw the "tree analysis diagram" by themselves, thus it encourages EFL learners to compose English writing positively.

With the positive effects by applying the "tree analysis diagram" in English writing, it can be concluded that teachers should combine the linguistic knowledge with the English thinking pattern then EFL learners' writing ability would be better improved. the "tree analysis diagram" as a new teaching method for English writing, it also attracts the attention of the scholars on investigating the thinking process of Chinese EFL learners in conceiving English texts and yield further researches in this field.

Learning to write in a second language is affected by a number of factors that interrelate with one another. This study sheds new light on L2 writing by improving students' thinking pattern and applied the "tree analysis diagram" (a practical implications for teaching L2 writing). In the light of the findings, pedagogical implications should be given priority to increasing the quality of English writing teaching and learning. Evaluating the effectiveness of giving increased attention to this pedagogical implication will be crucial to the construction of the theory in L2 writing.

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