Finding Reasons for ESL/EFL Argumentative Writing

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ESL/EFL learners are found to be less capable of generating strong reasons in support of their English theses due to different rhetorical traditions. To help students compose more effective arguments, the present study investigated the effectiveness of one heuristics based on classical rhetoric, stasis theory, for helping EFL novice writers to develop persuasive reasons in composing argumentative essays. The results show that participants' essays exhibit considerable gains in the quality and range of reasons, particularly, with regards to a shift from minor, less important reasons to cogent, reader-based ones. Also, students' responses to the evaluation questionnaire in respect to the usefulness of this approach reflect the same trends as in the textual analysis.

Key words: argumentative writing, stasis theory, EFL writing

INTRODUCTION

A substantial research devoted to second language (L2) argumentative writing has documented students' difficulty in producing justifications, generating counterarguments, and rebutting counterarguments (Cai, 1993; Connor, 1996; Hinkel, 2002; Liu, 2005; Wu & Rubin, 2000), skills essential in composing effective English argumentation (Coirier & Golder, 1993; Felton, 2004; Ramage, Bean, & Johnson, 2001). This line of studies has

concluded that the major reason for this failure is that the rhetorical schema acquired in one's native culture influences writing in a second language. That is, ESL/ EFL students of diverse cultural backgrounds transfer their distinct L1 rhetorical conventions to English argumentative writing (Connor, 1996; Hinkel, 2002; Hirose, 2003; Hyland, 2003; Uysal, 2008).

English argumentation based on the Aristotelian rhetoric has the goal of convincing the readers (Connor, 1996), in which there exists a conflict between the beliefs and attitudes of the writer and the reader (Foss & Griffin, 1995). To achieve persuasive communication, the writer needs to consider the point of contention in an issue to decide the most effective way to frame a particular argument for a particular audience at a particular time. In the Western rhetoric tradition, disagreement is valued highly as a way of uncovering alternative courses of action. Without disagreement, rhetoric wouldn't be necessary (Crowley & Hawhee, 1999). By contrast, Chinese rhetoric under the influence of Confucian philosophy and classical Chinese rhetoric aims to achieve general harmony, and to promote social cohesion (Hinkel, 2002; Kaplan, 1966; Matalene, 1985; Wu & Rubin, 2000). As such, Confucian rhetoric entails employing various indirect means of expression to suggest one's claim, supporting one's ideas with appeals to history, to tradition, and to authority rather than one's own individual opinions or beliefs, and avoiding any contentious forms of argument (Cai, 1993; Hinkel, 2002; Hyland, 2003; Matalene, 1985).

Thus, L2 students from Chinese cultural background are often less able to deal with conflicts in discourse and consequently to formulate ideas into cogent reasons to the intended readers in English argumentative writing. Although there exists a good deal of descriptive studies on L2 argumentative discourse (i.e., Hirose, 2003; Liu, 2005; Matalene, 1985; Uysal, 2008; Wu & Rubin, 2000), few studies have addressed the pedagogical needs of developing explicit instructional approaches to foster this aspect of argumentative writing skills for L2 writers. The present study intends to bridge this gap by examining the effect of teaching a reasoning heuristics based on the Western classical rhetorical theory, stasis theory, to help L2

writers generate important and strong reasons to develop their arguments. In the past, several theories of argumentation, such as Toulmin's (1958) model and Walton's (1996) argumentation schemes, have been proposed in the contemporary history of rhetoric. These theories all intend to describe the nature of arguments and advocate a comprehensive model of argumentation. Unlike these models, stasis theory is the major rhetorical model with an exclusive focus on justification, one essential skill in argument construction.

STASIS THEORY

Stasis theory is one of the Western rhetoric invention theories that offer the possible means to discover reasons/proofs appropriate for a specific rhetorical occasion (Crowley & Hawhee, 1999). This theory provides a systematic way of asking questions to determine where the disagreement between the writer and the readers begins. Identifying the point of disagreement is an obvious starting point for rhetorical invention since each argument always begins with some different opinions. According to this theory, the controversial points of each argumentation issue can be generally classified into five types: fact, definition, cause, value and proposal. That is, we can examine each argumentation issue from five different perspectives and teach students to do so for the purpose of defending their claims and elaborating their arguments.

A *fact argument* occurs when persons disagree about the category that a given thing belongs to. A *definition argument* occurs when the category that a person disagrees about needs further definition before people can argue whether a given thing belongs to that category or not. A *cause argument* arises from disagreements about the cause of an event or a trend. These three types of argument are often called reality or truth arguments. In such arguments, people question the way things are, were, or will be; they disagree about the nature of reality. In contrast, *value and proposal arguments* deal with values, what people consider important, good, or worth doing. Most of the time, the value and proposal arguments (higher-order issues) depend on

the writer's solving related reality/truth arguments (lower-order issues) (Ramage et al., 2001).

To illustrate, examples given in Ramage et al. (2001, pp. 188-190) were organized into Table 1 to show how the different types of argument can help students develop reasons to persuade each different audience. In this hypothetical case, Tom would like to convince either his parents or insurance companies to pay for his eye laser operation for curing his near-sightedness. To achieve his purpose, Tom has to analyze what is at stake in his discussions with each of his intended audience because the points of disagreement vary according to the specific audience. Students can develop their reasons based on their response to each question; that is, by re-writing these questions into statements. In addition, it is possible that no relevant reason can be advocated from a certain perspective, as indicated as "NO" in the following table.

TABLE 1
Reason Analysis

Audience	Tom's Parents	Insurance Decision Makers
Fact	Is laser operation safe? Is laser operation effective?	No
Definition	No	Should laser be considered as "cosmetic surgery" or as "medically justifiable surgery"?
Cause/ effect	What causes you to want this operation?	What will happen to insurance rates? What will happen to optometrists and eyeglass manufactures?
Value	Would the results of the surgery be beneficial enough to justify the cost and the risks?	Would it be good for society as a whole if insurance companies had to pay for laser?
Proposal	Should Tom get this laser operation for treatment of myopia?	Should insurance companies be required to cover laser operation?

(Based on Ramage et al., 2001, pp. 188-190)

To strengthen their arguments, students should be able to recognize the

several controversial points critical to the major issue at question. By learning to examine an argumentative issue from these varied angles, students are expected to formulate their reasons in support of their claims based on the potential controversies with regard to an issue. Although this theory appears promising, as indicated in the wide coverage of this theory in several English composition textbooks to teach students the analysis of argumentation (e.g., Crowley & Hawhee, 1999; Rottenberg, 1994), little empirical study, except Yeh (1998), has been conducted to examine its potential effects on facilitating reason generation of either L1 or L2 students.
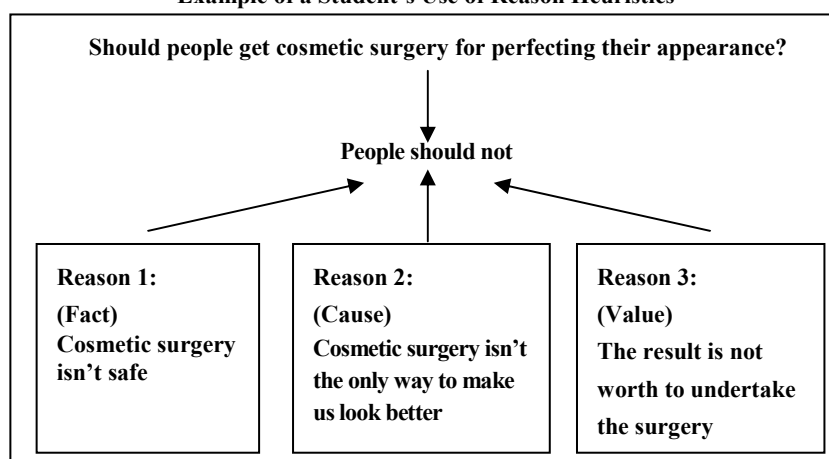
Yeh (1998) applied this theory to teach argumentation to middle school students in the U.S. In order to fit the developmental level of middle school students, Yeh has developed a heuristics by simplifying this theory into three types of controversies: fact, cause, and value claims. Students were taught to elaborate arguments from these three angles, particularly as heuristics for connecting reasons and claim. The results indicated that the heuristics adapted from stasis theory may benefit U.S. middle school students to generate reasons in support of their claim. Nevertheless, Yeh did not examine the specific effect of this heuristics, given that this heuristics was taught as an integral part of argumentation scheme. The assessment of reason strength was embedded in one of the scoring rubrics, Argument Development, which evaluates every aspect of English argumentation beyond reason.

Despite its wide pedagogical acceptance, we still do not know how students will benefit from learning this theory. Most research on the development of argumentive reasoning examined the instructional effect of various educational theories (Felton & Kuhn, 2001; Kuhn & Udell, 2003) and other rhetorical models (Cheng, 2005; Knudson, 1992; Yeh, 1998) on all aspects of argumentive skills (i.e., justification, counterargument, and refutation). Even Yeh (1998) implemented stasis theory as part of instructional approach and as such, did not explore its effect on facilitating students' reason construction.

In the present study, the five types of controversial points were taught to the EFL college students as reason heuristics since college students are

assumed developmentally ready to understand and apply this theory into their argumentative texts. Note that proposal argument (as shown above, "Should Tom get this laser operation for treatment of myopia?" or "Should insurance companies be required to cover laser operation?") is often the major argumentative issue in students' essays and as such, is not taught as one of the reason generation strategies. Based upon a modern version of stasis theory adapted from Ramage et al. (2001) and Yeh's (1998) model, I taught students the following reason heuristics in order to help them generate their reasons by determining what is at stake between the writer and the intended readers. One student example is listed below (See Table 2). This student brainstormed the potential reasons based upon the stasis theory and generated support with regards to fact argument, cause argument and value argument. It should be pointed out that this reason heuristics was taught in combination with other rhetorical strategies necessary to foster students' argumentative writing skills. The other strategies were taught after the 4-week instructional phase of implementing reason heuristics. Yet, the present study will limit the scope to examining the effect of teaching this heuristics on the quality of their argumentative reasons.

TABLE 2
Example of a Student's Use of Reason Heuristics

Should people get cosmetic surgery for perfecting their appearance?

People should not

Reason 1:	**Reason 2:**	**Reason 3:**
(Fact)	**(Cause)**	**(Value)**
Cosmetic surgery isn't safe	**Cosmetic surgery isn't the only way to make us look better**	**The result is not worth to undertake the surgery**

As such, the goal of the present research is to determine to what extent this reason heuristics can help EFL college freshmen develop cogent reasons in support of their thesis as composing English argumentative writing. Specifically, it aims to address two research questions: (1) What are the effects of the experimental treatment on the quality of reasoning exhibited in students' argumentative writing? (2) What are students' evaluations on the usefulness of this pedagogical intervention?

METHOD

Participants

Participants were 18 English-major freshmen of 18-19 years old in the composition course taught by the researcher at a national university in Taiwan. This composition course was taught for two semesters in their first college year and met two hours each week. Prior to this pedagogical intervention, all participants have received at least one-semester formal English writing instruction at college level. In that semester, the instructional focus was on basic English writing structure, such as topic sentence and thesis statement, narrative and comparison/contrast expository writing but not on argumentative writing. The present study was conducted at the beginning of the second semester.

Reason Heuristics

Students received instruction of reason heuristics as a prewriting strategy for four weeks. Specifically, they were taught to develop the reasons in support of their theses based on the following stasis questions as illustrated in Table 3.

TABLE 3
Reason Heuristics

Perspective	Stasis Questions	Examples
Fact	Is X a Y?	Is laser safe?
Definition	Is X a Y?	Should laser be considered as "cosmetic surgery" or as "medically justifiable surgery"?
Cause	Does Y cause X?	
	What (Y) causes X?	What causes you to want this laser operation?
Value	Is X good? Is X right?	Would the results of the surgery be beneficial enough to justify the cost and the risks?

(Based on Ramage et al., 2001, pp. 188-190)

Each stasis question intends to guide students to brainstorm the disagreement between readers and writers from a specific perspective. Students were asked to frame the disagreement in a question format. Then, their answers to these questions can be developed into their reasons. For fact argument, *X* refers to the discussed subject (such as *laser* in the quoted example) while *Y* refers to the category *X* belongs to (such as *safety*). This type of argument seeks to convince the readers that a given condition or phenomenon exists or has existed. Although the concept of arguing a fact seems contradictory in terms, it has to be emphasized that a fact only becomes a fact if it is adequately verified (Mayberry & Golden, 1996). Definition argument is more complex than fact argument since *Y* term is controversial and needs to be defined first. In the quoted example, the writer needs to define what s/he means by "cosmetic surgery" before arguing whether laser meets the definition or not. When arguing causal argument, the writer needs to consider the relationship between *X* (laser) and *Y* (reason for a laser operation). In this type of argument, *Y* can also refer to the effect or consequence of *X* (laser). Value argument seeks agreement about a particular value judgment made by the writer, with regards to the importance, benefit or fairness of *X*. Since this argument type tends to work from personal value systems, it can probably be the hardest of all arguments to argue convincingly.

Procedure

During the four-week instructional phase of the study (See Table 4), students were taught this reason heuristics using the process approach, integrating prewriting, drafting, responding, revising and editing into the composing process. The reason heuristics was taught as a prewriting strategy to generate supporting reasons.

TABLE 4
4-Week Instructional Phase

Week	In-class Activities	Take-home Assignments
1	Introduction to argumentative writing Reason heuristics (Fact/Definition)	Reading and analyzing two articles of pro & con arguments on a given topic
2	Reason heuristics (Cause/ Value) Discuss week 1 reading assignments	Draw a chart based on the reason heuristics Reading and analyzing two articles of pro & con arguments on one given topic
3	Peer response Discuss week 2 reading assignments	Composing one argumentative essay based last week's chart Reading and analyzing two articles of pro & con arguments on one given topic
4	Teacher-student writing conference Discuss week 3 reading assignments	Revising argumentative essay

The instruction of the complete heuristics was divided into two one-hour lesson units. Each argument type in the heuristics was taught in a short mini-lesson to facilitate their understanding of the heuristics. That is, when teaching reason heuristics, students analyzed short reading materials in class to identify each focused argument of the heuristics to ensure they understood the type of the taught argument. Then, they worked in small groups to apply what they have learned by brainstorming a reason based upon the taught argument type as a response to an assigned topic. For example, in teaching fact argument, I asked my students to read a short argumentative essay and to identify the "fact argument" in it. Once they were able to recognize the fact

argument, I would ask them to generate a reason of fact argument in response to a topic different from pre-/posttest and take-home essay topics. These short in-class exercises helped the teacher recognize problems and misunderstandings students might have.

In addition, every week students read pro and con arguments on one given topic as their homework and analyzed the readings using this heuristic. In total, each student wrote approximately six reading-based assignments over four weeks. Furthermore, to familiarize students with application of this heuristics as a prewriting prompt, they were asked to compose one more argumentative essay in response to topics other than those in pre/posttest ones. This take-home assignment was written with multiple revisions following peer and teacher's comments.

Writing Prompts

In the pre-/posttest writing prompts, students were provided with several topics, each of which stated a hypothetical situation with varied topic, audience, and purpose specification and prompted them to persuade the intended readers. The text of the three pre-and posttest writing prompts is illustrated below.

1. Write a letter to your parents trying to persuade them for something you know they won't give to you --- for example, a cosmetic surgery, a credit card, or a study trip to the U.S.
2. Write an essay in which you form an argument about what should be done by our university or by our department in order to improve your learning experience. Your essay will be forwarded to school newspaper.
3. Argue against a popular cultural practice or belief that you think is wrong, or argue for an action or belief that you think is right even though it will be highly unpopular. This essay invites you to stand up for something you believe in even though your view will be highly controversial. Your goal is to persuade your audience toward your position. Your essay will be forwarded to China post, the

local newspaper.

Data

The primary data consisted of pre-/post-essays and students' responses to an evaluation questionnaire on this heuristics. Although students were also asked to complete other written assignments as learning this heuristics, these are not included in the present study to avoid biased data since these writing tasks, including one argumentative essay and six reading-based writing assignments, were completed with input from peers and their teacher.

Participants wrote their pretest essays right before, and their posttest essays right after the four-week period of pedagogical intervention. Note that to achieve control, the pre-/posttest essays were composed only for research purpose without peers' or teacher's comments. Each of their pre-/posttest essays was written in-class for 60 minutes and for about 200-300 words to the same writing topic selected by the students among the three prompts assigned by the teacher/researcher as shown above. Although pre-/posttest essays were written on the same writing prompt, participants were not informed about the writing topics prior to composing the posttest essays and they completed their posttest essays without their pretest texts at hand. As composing their posttests, participants were required to apply the reason heuristics to develop their reasons as a prewriting prompt by drawing a chart similar to the one shown in Table 2.

Once they had completed their posttest essays, they were asked to answer several open-ended questions with regards to the usefulness of this heuristics, their difficulties in learning this heuristics, and their progresses from pretest to posttest essays (See Appendix A). Students were provided with their pretest and posttest essays to evaluate their text quality. Their responses to the questionnaire were written in Chinese and were translated into English verbatim by the researcher before data analysis.

Scoring Rubric

Table 5 shows the rubric used to score the pre-/posttest essays. The present researcher devised this scoring rubric for the purpose of classifying the quality of reason strength in the participants' essays. This analytic scheme is partially hierarchical in that some reason types are judged as more advanced than others whereas other types within the major categories are treated as equivalent. The first broad distinction is between the reasons supporting or being unjustifiable to the major claim. For instance, the reason "I cannot stay with you forever. When one day I have to go abroad to study, I must have my own car, especially in the US" was considered unjustifiable or even irrelevant to the writer's claim that her parents should buy her a car when she studies at a university in Taiwan.

The second broad distinction is among supporting reasons: a) those are relevant or less important (for example, the reason "I am twenty years old now, that is, I grow up. So I know how to protect myself. You cannot worry about my safety" was regarded as relevant but not important to the claim that the writer needs a car at university; b) those that incorporate reasons from lower-order issues (fact, definition, and cause); and c) those that include reasons from higher-order issues (value). Value reason is considered as more effective than other reason types since it involves higher-order thinking skills (Mayberry & Golden, 1996). Students should be able to evaluate whether certain activity is good or right by weighing it against certain criteria.

TABLE 5
Rubric Used for Scoring Reason Strength

Types of Reasons	Features
Unjustifiable reasons	Contradictory or irrelevant reasons
Relevant reasons	Minor or common-sense types of reasons
Important reasons	Reasons categorized as fact argument, definition argument, causal argument.
Strong reasons	Reasons classified as value arguments

Data Analysis

The main focus of the present study is the evaluation of qualitative change in reason strength from pretest to posttest. The entire data was double-coded by the researcher to check intra-coder reliability. In addition, fifty percent of the data were randomly selected and coded by an experienced native-Taiwanese EFL writing instructor to ensure inter-coder reliability. Each coder independently divided the reasons into segments (each segment was either a simple sentence or multiple complex sentences). Each segment was then coded as one of the reason types in the above coding scheme. Correlation between coders over fifty percent of the samples was .83 and the intra-rater reliability for all samples was .95. Then, participants were classified in terms of the highest level of reasons exhibited in the pre-/posttest essays. The qualitative change from pretest to posttest with regards to patterns and frequencies were examined.

Answers to the questionnaire about their perceptions in learning this heuristics were coded with regards to their evaluations of the usefulness of this heuristics, their learning difficulties, and their perceptions of any progresses from pretest to posttest essays. Within each aspect (usefulness, learning difficulty, and progress), several categories were developed based on students' answers. Within the aspects of usefulness/progress, students' comments primarily focused on the quality and range of reasons, organization and writing process. Within the aspect of difficulty, their comments can be categorized into no difficulty, problems to distinguish between certain perspectives, and difficulty in reasoning through this heuristics.

Within each category, their responses were further divided into either positive or negative comments. For instance, if the participant claimed that the reason heuristics helped him to develop persuasive reasons, this response was coded as positive one within the category "quality of reasons."

RESULTS

Pretest/Posttest Reason Levels

Table 6 contains a summary of the pretest and posttest levels of participants' arguments in terms of the analytic scheme in Table 5. Participants were classified in terms of the highest levels of argument exhibited. As can be seen, the great majority of the participants can compose at best relevant reasons in the pretest whereas more than half of the participants could generate important and strong reasons in the posttest. It is also worth mentioning that none of the participants composed any evaluative reasons in the pretest while five of them could achieve this level in the posttest.

TABLE 6
Frequencies of Pretest-Posttest Argument Levels

	Pretest	Posttest
Unjustifiable reasons	2	0
Relevant reasons	13	6
Important reasons	3	7
Strong reasons	0	5

Frequencies and Patterns of Qualitative Change

Qualitative changes in the participants' reasoning were examined when changes occurred from lower-order reasons to higher-order reasons (e.g., from unjustifiable reasons to relevant or important reasons) or vice versa. The former was coded as positive change whereas the latter negative one. Then, participants could be classified into five categories (adapted from Kuhn, Shaw, & Felton, 1997) based on the nature of the change they exhibited: (a) change in a positive direction, (b) change in a positive direction but limited to an increase in range of arguments, (c) a mixture of positive and negative changes, (d) no change, and (e) change in a negative direction. Table 7 summarizes the results in terms of these overall patterns.

TABLE 7
Frequencies in Pretest-Posttest Change Categories

Patterns of Changes	Frequencies
Change in a positive direction	10
Change in a positive direction but limited to an increase in range of arguments	3
Mixed pattern of positive and negative changes	1
No change	2
Change in a negative direction	2

As Table 7 reflects, positive change was the dominant pattern in the participants' posttest essays since over half of the participants (10 out of 18) enhanced their reason quality. Given that changes in reason quality lie not in the number of reasons offered on each occasion but in the kinds of reason offered, the results suggest that participants added higher quality of reasons and dropped lower quality reasons in their posttest. Nevertheless, four participants did not make any positive changes in their reason quality whereas three participants only increased their range of but not quality of their reasons and one student illustrated a mixed pattern.

One Example

The qualitative analyses and results are illustrated next through one set of pre- and posttest essays selected as being representative of the participants' pre- and posttest levels of achievement. The essays were written by an average writer among the participant group in response to the prompt, *Write a letter to your parents trying to persuade them for something you know they won't give to you*. This example illustrates how the reasons were segmented and the strength of reason was analyzed. To facilitate discussion, sentences are labeled according to the analytic scheme.

Pretest. In the writer's pretest essay, reason one was classified as unjustifiable and reasons two and three as relevant. Throughout the whole essay, the writer has been struggling with formulating effective and appealing reasons to support her thesis.

"When I was young, I was fascinated with the car. I have a dream to drive my dad's car to go everywhere. But my parents prohibit me to do it. They think it is too dangerous for me to drive it. Because some reasons, for example, they are afraid of my safety, and they are so superstitious. But I insist my dream, I have to persuade them. Here are my reasons: the convenience what car can bring to me, how I can protect myself, and although I am short, I can control the car.

I can not stay with you forever. When one day I have to go abroad to study, I must have my own car, especially in the U.S. (REASON 1: unjustifiable). Take the U.S. for example, it has wide land. If you don't have the car, it is not convenient to go out. Although there must have the bus, it really takes me much time to wait. It is OK in the day, but if my courses were in the night, there will no bus pass. So I think if I don't have the car, as if I do not have the legs.

I am twenty years old now, that is I grow up. So I know how to protect myself. You can not worry about my safety (REASON 2: relevant). If I can drive, I will drive it slowly. I will be careful at very moment. You are also not so superstitious for what the god told to you. I will not have accidents at any time. To sum up, I will take care of myself.

You always say that I am too short to control the car. But when on driving the car, it is not depend on your height but the driving skill (REASON 3: relevant). So the height will not be the problem at all. Maybe I can not step on the accelerator, but I can use the pillow to let myself higher. It is not the problem.

Finally, I really hope that you can accept my advice. I grow up, I have my own thoughts. If you always prohibit me to do something, I will feel I am not free. I think my reasons can explain exactly what you worry about."

The first reason, "I can not stay with you…I must have my own car...", is not considered related to the writer's claim about the need to have a car when studying at university. There is a great idea jump in this reason so that the reader can't resist asking why her future need will cause her to ask for parents' permission to buy her a car now. This is due to the writer's failure to recognize the target readers' concern about convenience only in the present situation. The readers should be more concerned with the effect this

convenience will bring to the writer's current college life in order to weigh the cost and benefit of this choice.

Even when the writer knew the conflicts between herself and her parents, she was less capable of dealing with such conflicts through exploring the perspectives of the opposing side. Although the second one seems to cater to the parents' major concern about safety, the proposed justification is weak by insisting that "I grow up…You can't worry about my safety" or even blame the target readers by attempting to make them feel stupid, "You are also not so superstitious..." These self-assertions indicated that the writer did not perceive safety as a problem at all and her rhetorical strategy was to deny the importance of her parents' concern. This lack of ability to address the conflict led to the justification being of low persuasive strength.

Likewise, reason three appears to be another parents' concern, "You always say I am too short to control the car," but the writer did not identify the core of the conflict between herself and her parents. If she is so short to even step on the car accelerator, driving skills or her proposed solution can't help her overcome this factual problem, which will bring immense danger to the writer. Once the writer can recognize the cause/effect relationship of this reason, she may be more capable of developing cogent support.

Posttest. The writer provided a more thoughtful response in her posttest demonstrating a degree of sophistication and a more mature understanding of the issue. The writer employed stronger and more elaborated reasons to formulate her argument. Two of the three reasons were classified as important and one as relevant.

Although this reason heuristics did not help her generate more reasons, it enhanced her argumentative quality.

"My parents always prohibit me from driving the car. They have their reasons that they worried about. But I think I grown up, and I have my own thoughts. Driving the car is the thing that I think I am so old that I can do. The following are my reasons: driving a car is safer; cars have the good equipments nowadays; it is convenient to drive the cars.

Driving the car is safer. According to the newspapers, about 90% people who driving is safe (REASON 1: important). The rest of the 10% who have the accidents is because they driving after drunk. Nowadays, the government advocates that people do not driving after drunk, it also lower the probability of the accidents. For me, I will follow every rule that it should be. So parents you don't worry about my safety.

Nowadays, cars all have the good equipments for every kind of person. *I am too short is always the reason you told me. You said that I can not reach the accelerator because my height. But the advanced technology, it is not a problem at all* (REASON 2: important). Many small cars are invented. One of my classmates who is a short person, is less five centimeter than my height. She can control the car very well, just like the professional driving people. And all of the equipments in her car is appropriate for her. She has no restrictions because her height.

Driving the car is so convenient that you can go anywhere. I love travel so I think it is important to me (REASON 3: relevant). If you drive, you can go other places without restrictions. My friend who has his own car always goes places freely. One time, he told me that he wanted to visit the museum after his art class. He wanted to see the painting that teacher mentioned. But hat museum located in Taipei. He really went and saw it. It is really convenient."

Both the first and the second reasons were argued from the target readers' perspectives in the posttest and were greatly justified and strengthened in their argumentative force. Providing the factual evidence in the posttest essay, "according to the newspapers, about 90% people who driving is safe", is a more effective rhetorical strategy, to persuade her parents, than merely denying their concern.

Furthermore, her second reason claiming that modern technology in car manufacturing can adapt to personal needs is considered more compelling than the reason in the pretest, insisting that her height is not a problem.

In addition, the writer elaborated reason one in the pretest, as the third reason in the posttest and made considerable improvement from unjustifiable reason in the pretest to relevant one in the posttest. In the posttest, she emphasized the convenience of driving to persuade her parents to buy her a

car. Despite so, she still struggled with identifying what is at stake between herself and her parents. Parents may not be so much concerned with this convenience point if she failed to demonstrate how such convenience can play a significant role in her college learning. As such, the writer failed to integrate the readers' potential concern, "how such convenience can facilitate her learning at college", into her own perspective. This failure reduced the strength of reason three although improvement in reasoning quality was achieved from her pretest to posttest.

Students' Evaluation on Their Learning of this Heuristics

Table 8 indicates students' responses to the open-ended questionnaire with regards to their learning of this heuristics. The total of the responses to the category "improvement between pretest and posttest essays" does not add up to one hundred percent, given that participants may provide both positive and negative comments. As shown, a large majority of the participants gave positive comments on the usefulness of this heuristics (17 out of 18) and claimed they made improvement from pretest to posttest essays (17 out of 18) although over half of them also acknowledged that they were confused about some argument types or have difficulty in applying the heuristics to generating their reasons (13 out of 18).

TABLE 8
Students' Responses to the Questionnaire

	Positive	Negative
Usefulness	17 (94%)	1 (6%)
Difficulties	13(72%)	5 (28%)
Improvement (pretest/posttest)	17 (94%)	6 (33%)

Generally, the positive comments on the usefulness of this heuristics particularly centered on the increasing quality and quantity of reasons, improved organization and more efficient process in generating ideas. For example, student A stated, "To brainstorm ideas from fact, definition,

cause/effect, and value can help me to organize my ideas. Most importantly, reason heuristics can help me think harder about what to put for reasons--- give me ideas about what to write. It makes me think of some different ideas that I will not be able to generate without the aid of the heuristics."

Another student added, "I think the reason heuristics really benefits me in generating better and more varied ideas so that it reduces the difficulty in brainstorming ideas." By contrast, one participant acknowledged that this reason chart did not provide any writing scaffold in her composing process. She claimed that this could be her own personal problem.

Despite the overwhelming positive comments, over half of the participants still contended that they either have difficulty in distinguishing some of the reason elements (i.e., the difference between fact and definition) or in applying this heuristics effectively (i.e., figuring out ideas from these perspectives). Most of them asked for the use of model essays to exemplify how the authors applied these perspectives. As Emily (pseudonym) stated, "I often confused 'fact argument' and 'definition argument'. I hope the teacher can provide us with more examples in terms of these elements." These responses indicated that extensive exercises are required to facilitate students' understanding of the distinct rhetorical elements.

Only less than one third of the participants indicated that they have no problem in learning this heuristics or have ultimately overcome their struggles in learning through several in-class practices and reading analysis. For instance, Vivian indicated that "at the beginning, these stasis questions are really confusing even with exemplifying sentences. But later on, the teacher offered exercises for us to practice and to analyze some examples. I finally figure out these stasis questions and the reason heuristics."

When asked to evaluate the progress from their pretest to posttest essays, a large majority of the participants emphasized that they were better able to formulate their reasons from different perspectives, develop more persuasive reasons, and take the intended readers' thinking into account in their posttest essays as compared to their pretest ones. The reason heuristics prompted Claire to develop more persuasive reasons because she was able to consider

her parents' viewpoints and to think about what they value in her second draft. Another student stated that "I believe my major progress is that I am better able to understand how to think from the target reader's perspective."

Still, five participants noted some of their reasons are less strong in their posttest essays than in their pretest ones, although they did acknowledge their improvements in text organization or perspective-taking. As Sam contended, "I don't quite think I have made significant progress from pre- to post-essays although I did find it easier to generate reasons." Only one participant was totally disappointed at the quality of both essays. She felt that the reasons advanced in both of her essays are cliché-ridden and the heuristics did not prompt her to develop more genuine ideas.

DISCUSSION

The present results show that this heuristics contributes to considerable change in the quality of reasons exhibited. The primary improvement is an increasing number of important and evaluative reasons. The pretest essays observed in this research did indicate that without the scaffold of reason heuristics, the great majority of the participants were either not capable of identifying what is at stake between the writers and the readers or struggling with addressing the conflicts. As such, they often came up with irrelevant justifications or appealed to common-sense type or writer-based reasons. This finding accords with previous L2 writing research on Chinese students' ability to construct English argumentation (Cai, 1993; Hinkel, 2002; Matalene, 1985; Wu & Rubin, 2000). Although participants in the present study did not appeal to authority or history in their pretest essay, they tended to employ reasons of common-sense type, were less able to argue from the reader's viewpoint and often generated writer-based reasons. After the intervention, except five participants who exhibited regressive or no changes at all, the rest made progressive changes in their reason strength. Participants' responses to the evaluation questionnaire also acknowledged the usefulness

of this heuristics and supported the findings in the textual analysis of their reason strength.

This result is consistent with the earlier empirical research teaching reasoning strategy to minorities or at-risk middle school students in the U.S. (Kuhn & Udell, 2003; Yeh, 1998) and English L1 students (Felton, 2004; Felton & Kuhn, 2001; Wolfe, Britt, & Butler, 2009). These studies have shown that in order to promote the development of argumentative skill, it is necessary to focus students' attention on the argumentative structure behind discourse to support greater awareness to the argumentative goals. In particular, explicit instruction of reasoning strategy to students whose home discourses deviate from the dominant rhetorical patterns can facilitate their development of argumentative skills. The switch from weak to strong reasons observed in this study suggests their increasing ability to recognize conflicts and address readers' concerns within an argumentative issue. After all, to be able to identify and state persuasive reasons is considered a crucial step in the attainment of competence in argumentative writing, as documented in several studies (Coirier, 1996; Santos & Santos, 1999; Toulmin, 1958).

Nevertheless, some of the participants acknowledged that they have encountered difficulty in understanding or applying this heuristics. One reason for this problem is that most reading texts or models employed in class were taken from authentic English argumentative writing and imposed great difficulty for these college freshmen in text comprehension. This might have led to cognitive overload and less attention resources can be attributed to make connections between the model texts and the reason heuristics. Another possible explanation is that they may need more extensive practices to enhance their understanding and application of stasis theory in the idea brainstorming process, as several participants recommended in their responses to the questionnaire. As several studies illustrated, extended exercises of thinking and reasoning skills in a cognitively rich environment can promote argumentive skills (Kuhn, Shaw, & Felton, 1997; Kuhn & Udell, 2003).

Moreover, their difficulties or problems in applying this heuristics do

indicate the limitation of using this heuristics for generating stronger reasons. This heuristics can only elicit the number of different reasons a participant has available in his or her knowledge base on the topic as potential components of an argument. This heuristics might not be useful to students when facing challenging topics with which they have only limited experience and knowledge. This finding is similar to Stapleton's (2001) study. He reported that EFL Japanese students were less capable of thinking critically in composing argumentative writing when encountering less familiar topics. This brings a challenging task to the composition teachers, who should look for topics familiar to his/her students but also interesting enough to prompt more genuine ideas.

One important implication on material development is that the explicit instruction on the thinking processes (i.e., providing the various perspectives to brainstorm potential reasons), as employed in the present study, appears to be more effective than merely asking students to classify their ideas into pro and con types, which is commonly presented in composition textbooks or writing software. Pro/Con strategy is a less effective invention strategy since it does not offer students the multiple perspectives to think through an argumentative issue. Students need help to determine how to find the points of disagreement between the writers' and readers' thought processes in order to compose persuasive reasons to the intended readers.

CONCLUSION

The present study contributes to our knowledge about the potential ways to help L2 students develop cogent reasons. The most striking finding of this research is that EFL freshmen can, in an appropriate learning context, demonstrate considerable progress in formulating effective reasons. Especially, this improvement was achieved in a relatively short period of time, four weeks, indicating that even greater gains can be achieved over a longer period of instruction. The progress made in this study offers hope that

instruction in reason heuristics based on stasis theory may prove effective in raising argumentative skills of low level L2 students.

Nevertheless, due to the lack of a comparison group, no hard and fast conclusion can be established about that an argument not expressed by the participant at the pretest, but expressed by that participant at the posttest, was certainly acquired as a function of the intervention. Hence, it is only on average, and relative to the participants' responses to the questionnaire, I can say that this heuristics has effects on thinking of a positive and significant sort. To substantiate the findings of this study, further research of experimental design is needed with a variety of teachers and teaching styles, and with a larger sample size to investigate the effects of this heuristics on students' abilities to formulate cogent and logical arguments. In line with various L2 writing scholars, the present researcher argues that ESL/EFL instructors cannot expect L2 students to know how to generate persuasive argument in English writing if teachers do not make explicit about the rhetorical differences across cultures.

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APPENDIX A
Evaluation Questionnaire

1. Is this heuristics useful to you in generating ideas? If so, please explain in what ways? If not, why not?
2. Did you encounter any difficulties in learning this heuristics? If so, what are these?
3. Did you make any progress from pretest to posttest essays? Please specify the aspects that you feel you have made improvements.