ARGUMENT STRUCTURE IN LEARNER WRITING: A CORPUS-BASED ANALYSIS USING ARGUMENT MAPPING

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In this paper, corpus-based linguistics (CBL) is applied to the analysis of argument structure in Malaysian written learner English. Botley and Metom (2011) have demonstrated the value of using a corpus of student essays, a "learner corpus", to explore the interlanguage (Selinker, 1972) of learners in the Malaysian university setting. This paper goes further by focusing on the critical thinking and argumentation abilities of students writing in a foreign language. The data consists of a sample of argumentative essays from the CALES learner corpus (Corpus Archive of Leaner English in Sabah/Sarawak). The essays were all written by Malay L1 students at a major Malaysian public university between 2005 and 2011. Because the essays were argumentative in terms of task type, it is reasonable to expect that the data should yield rich information on the argumentation strategies used by the students in writing their essays. In order to study these argumentation strategies, this paper makes use of a graphical representation scheme for arguments, known as "argument mapping" (Horn, 1999; ter Berg and van Gelder, 2007). Argument maps are diagrams consisting of square boxes linked with arrows, which can be used to represent various aspects of argumentation such as conclusions, premises, claims, contentions, reasons and objections. Using the argument mapping technique, this study seeks empirical data on how Malaysian undergraduates may structure their written arguments. This is currently a bottom-up exploratory study with few pre-set hypotheses. Despite this, it is hoped that the findings will lead to useful insights into how the writers of the essays manage, or do not manage, to construct clear, well-reasoned arguments. The findings should also be very helpful to educators and researchers in areas such as English for Academic Purposes (EAP) and critical thinking.

Keywords: learner corpus, CALES, argument mapping, claim, objection, premise

INTRODUCTION

Argumentative essay writing is a powerful pedagogical tool for developing and evaluating the ability of learners to construct sound and persuasive written arguments based on adequate logical support. Such skills are vital for students in

higher education, regardless of whether or not they are L2 learners. Also, the ability to construct and evaluate arguments is one of the basic abilities of a critical thinker, and is an essential component of critical thinking skills programmes.

In Malaysia, as elsewhere, the argumentative essay pattern taught on many programmes is more or less fixed in terms of its rhetorical structure, as can be seen in Figure 1.
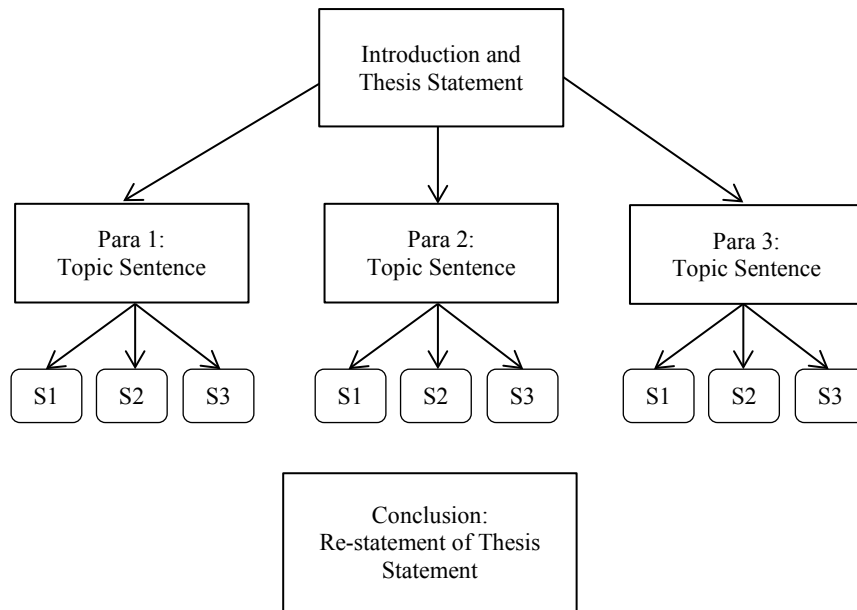

Figure 1: Typical argumentative essay structure in EAP

In Figure 1, we see a typical linear arrangement of rhetorical moves. In terms of argument structure, the Introduction paragraph will include the essay's primary argument or claim, encoded as a Thesis Statement. The Thesis Statement will be supported by three or more main points, each of which are in turn realized as paragraphs with a controlling Topic Sentence and a number of supporting examples, details or statements, ideally reinforced by citations. Finally, there will be a concluding paragraph in which the Thesis Statement and Topic Sentences might be re-stated and reinforced with some closing message, quote or strong statement calling for action (Michael et al., 2010).

Let us now briefly clarify what is meant by an argument in this paper. An argument is a persuasive statement or claim which asserts the truth of something. Arguments usually consist of a conclusion/claim and one or more reasons (or premises) to support the conclusion/claim. Here is an example of an argument where the conclusion or claim is linked to its premise by *therefore*:

1. Astronauts have brought back great amounts of green cheese from the moon. Therefore, the moon must be made of green cheese.

This is a simple argument, but arguments can be much more complex, consisting of several premises and even objections stretching out over a long discourse in a chain of reasoning, sometimes depending on the genre. Because arguments can be so complex, it can be difficult to keep track of their development over an extended discourse, such as an essay, thesis, debate or legal case.

The complexity of arguments in discourse specifically makes it challenging to teach argumentation to students, such as in English for Academic Purposes (EAP) classes, or on critical thinking courses. Students, particularly at university level, are required to identify, produce and evaluate often complex reasoning in their studies, and it may not be enough to simply teach them how to write argumentative essays in a somewhat mechanistic and linear fashion, nor to identify and evaluate arguments using simple and canonical examples from textbooks.

This paper calls for a more empirical approach to the teaching and learning of argumentation, and provides some evidence that such an approach is possible and desirable. It is argued in this paper that the techniques of Corpus Linguistics (McEnery and Wilson, 2001) can help educators to understand how L2 learners actually construct arguments in their essays, so that teaching and learning in this area can be improved. The analytical technique proposed and used in this paper is that of argument mapping (ter Berg and van Gelder, 2007). Argument mapping is a visualisation technique by which the various aspects of the reasoning process in discourse can be mapped out in a clear graphical representation which reveals pedagogically interesting insights into the argumentation skills of learners, as evidenced in real argumentative essays.

Before entering into a detailed discussion of argument mapping, it is necessary to briefly discuss research on writing in Malaysia, followed by an overview of some issues in the study of second language writing, particularly focusing on the comparative rhetoric paradigm. There will then be a discussion of the CALES learner corpus (Corpus Archive of Learner English in Sabah-Sarawak) and some of the research that has been carried out on this corpus.

LITERATURE REVIEW

English as a Foreign Language (EFL) Writing in Malaysia

Writing is a particular challenge because, according to Greenhalgh (1992), it involves practical skills as well as various theoretical issues. In the non-native context, student writers face a bigger challenge as they do not only need to learn

how to synthesise information, to structure it according to conventions that are social, cultural (and somewhat arbitrary) in nature, but also to encode it according to the rules of a foreign grammar, without letting the rules of their native language get in the way.

Many commentators have discussed the challenges faced by learners (and educators) in teaching and learning writing in EFL settings. Normazidah, Koo and Hazita (2012), for instance, point out that these challenges may be cultural or linguistic in nature. Some cultural challenges posed by writing may be more obvious at the higher levels of the education system where students have to internalise genre-specific standards and conventions governing the production of texts such as theses, argumentative essays and journal articles. These genre-related challenges may be a necessary part of the social process of joining a discourse community (Herzberg, 1986: 1) in an academic setting.

Culture may also provide additional difficulties for learners who may have been enculturated in a setting that does not privilege critical thinking, as is arguably the case in Malaysia and some other Asian countries (Koo, 2003). As a result, such students may experience difficulty, even at tertiary level, in grasping concepts like "argument", "thesis statement", "topic sentence" or "premise", which are essential in producing good argumentative prose.

Another possibly cultural challenge that affects Malaysian learners struggling to write in English is the commonly accepted observation that a lack of regular L2 reading practice among learners will have an effect on their L2 proficiency, therefore adding to the difficulties of learning to write in the L2. This is supported by many commentators who bemoan the lack of reading among Malaysians, such as Samsiah (2007), who pointed out that Malaysian students do not tend to read for pleasure, but rather to pass examinations. Added to this, Guthrie (2005) revealed a large number of students who did not read without being told to do so by their teachers, and who did not use reading comprehension strategies in class. The result of this lack of motivated and skilled reading by Malaysian students is that they will not be exposed to what may be called "linguistic best practice"—in other words they will lack experience of examples of well-structured and grammatically accurate prose with a wide lexical variety.

The linguistic challenges faced by learners may be more obviously seen every time an educator has to mark a student's written work. If students lack proficiency in the target language, they are bound to remain in the Interlanguage phase (Selinker, 1972) where they create a temporary, and erroneous grammatical system for themselves, which is often heavily influenced by the L1 and which in some aspects may fossilise, to make certain errors permanent (Ellis and Barkhuizen, 2005). This may lead to the learners failing to reach native speaker competence in the L1, regardless of how much input they have received in the classroom.

The issue of L1 interference has been pointed out in many studies, for instance the error analysis carried out by Maros et. al (2007), which found that

various aspects of English grammar were a problem for Malaysian students in different parts of the country. The most serious errors identified in the study were the misuse of articles, the verb *to be*, and subject-verb agreement. The source of these errors was argued to be first language interference from Malay, which is the native language of many Malaysian students, and also the main medium of instruction in national schools in Malaysia.

Findings like these were obtained in many other studies such as that of Liu, Augustine and Kasawi (2010) who studied errors made by university students in the states of Sabah and Sarawak (East Malaysia) who had attended Chinese-medium schools, and the work of the CALES researchers, described below, who identified a wide range of error classes in argumentative writings at university level in Sarawak and Sabah (Botley et al., 2005), and traced some of the sources of L1 transfer into L2 performance (Botley, Haykal and Monaliza, 2005).

All of these challenges to the English writing proficiency of Malaysian students are serious issues, which need to be addressed urgently. A great amount of emphasis has been placed by the Malaysian government and various academics on the development of writing skills among Malaysian school and university students. Chow (2007: 4) argued that "Writing is such an important learning tool because it helps students to understand ideas and concepts better". Writing is therefore not just a tool for teaching and learning the grammar and vocabulary of a new language, but it is also vital in helping students to develop the higher level thinking skills that will be so important at university. Because of this, it has been the case in Malaysia that written tasks have played a central role in EFL classrooms, at all levels of the education system, and there is no evidence so far that this situation will change.

Second Language Argumentative Writing and Comparative Rhetoric

Malaysian students struggling to write argumentative essays in English may face a further set of challenges arising from the fact that they are expected to internalise and use a set of rhetorical practices that may be entirely foreign to them. It may be the case that the essentially Aristotelian pattern of linear, rational logic being imposed on these students may have serious effects on how they structure arguments in written English.

In order to gain an understanding of these issues, it is necessary to explore briefly how scholars have approached the study of written rhetoric within the context of the study of second language writing. In this regard, one paradigm has been highly influential, that of comparative rhetoric (CR). It was Kennedy (1998) who defined comparative rhetoric as "the cross-cultural study of rhetorical traditions as they exist or have existed in different societies around the world". Liu (2005: 2) defines comparative rhetoric in a general sense, to mean the comparison and contrast of writing across languages and cultures.

A starting point in comparative rhetoric is the work of Kaplan (1966). Kaplan's essential hypothesis was that different cultures across the world display different patterns of argumentation which in turn reflect differences in thought. This strong Whorfian concept can be illustrated by the distinction between the traditional Western linear and rational logical progression from premises to conclusion derived from the ancient Greeks, and so-called "Oriental" patterns of argumentation which are often less direct and more digressional, such as those often found in classical Chinese writing such as the Analects of Confucius.

Kaplan's ideas are usually illustrated by the distinction he makes between the traditional Chinese "8-legged essay" structure of argumentation, where the last four paragraphs provide two sets of parallel and/or logically opposed elements and the argument follows a complex and digressive order, and the more linear inductive or deductive orderings characteristic of American or Western arguments. Kaplan (1972) compared English translations of an eight-legged essay and four ESL essays by Chinese students, then attempted to fit the four ESL essays into the "eight legs" of the Chinese essay. He concluded that although the ESL essays did include Western elements such as an introduction, a body, and a conclusion, there was a great deal of wandering around the topic, resulting in what he saw as a lack of coherence and unity.

Kaplan's work (1966; 1972) was undeniably influenced by the linguistic determinism and relativity of Sapir and Whorf, which in its strongest version argues that people who speak different languages have different ways of thinking and perceiving the world. McLuhan (1989), more than 20 years later, underlined Kaplan's views by arguing for cognitive differences between different languages, such that American English reflected left-hemisphericity (linear and visual thinking) and Chinese was reflective of a more right-hemisphere orientation (simultaneous and acoustic thinking).

A great deal of contrastive rhetoric research has been carried out over the last 40 years or more (for instance Connor, 1996; 2001; Grabe and Kaplan, 1989; 1996; Kaplan, 1966; 1972; 1988; 2001). Kaplan's work sparked a great deal of research, much of it empirical in orientation, into the argumentative writings of EFL students from many different countries throughout the world. Other writers have taken up the banner of Contrastive Rhetoric and have developed it over the years (for instance Oliver, 1971; Kennedy, 1998; Connor, 1996; 2001; 2002). Published annotated bibliographies such as those of Silva and Paiz (2012; 2013), present some of the most recent work in this field, including work on students from Persia/Iran (Abasi, 2012; Fahim and Hashtroodi, 2012) and the Chinese-speaking world (Liu, 2005; Liu and Carney, 2012).

Liu (2005: 2) points out that a great deal of research into second language rhetoric has focused on student writing produced by Chinese L1 learners of English, especially in American universities. In a comprehensive review of the literature on Chinese-English comparative rhetoric, Liu argues that there has been an increasing interest among American researchers in the

rhetorical patterns and styles found in the written work produced by Chinese L1 ESL students. In recent years, Chinese-English comparative rhetoric research has grown, largely focusing on ancient Chinese rhetoric (Kennedy, 1998; Lu, 1998), as well as focusing on modern rhetorical patterns of ESL students from Chinese-speaking backgrounds.

According to Liu (2005), most research on modern Chinese-English comparative rhetoric has been based on text analysis. This has included work which has studied written ESL texts produced by Chinese students (Kaplan, 1966; 1972; Cai, 1999) as well as instructional materials (Wang, 1994; Kirkpatrick, 1997). Liu points out that comparative rhetoric involving text analysis, whether in English or Chinese has a major drawback, in that it is difficult to establish whether texts being analysed actually represent rhetorical features of specific genres in the writer's L1. Also, some research, especially that on English and Chinese instructional texts, was carried out on older source texts rather than a modern corpus. However, Liu's (2005) paper does attempt to adopt a corpus-based methodology by comparing sample texts from two collections of online instructional materials on argumentative writing (American and Mainland Chinese).

Another major recurring theme in this area of research is the identification and comparison of rhetorical patterns/structure or organisational structures that are supposed to be characteristic of English and Chinese argumentative traditions. Returning to Kaplan's original paper in 1966, there seem to have been three major academic positions on this issue, which may be given as follows:

1. That Kaplan's strongest claims about underlying rhetorical pattern differences are supported.
2. That some of Kaplan's claims can be supported.
3. That there is not much difference between English and Chinese rhetorical patterns.

Firstly, Kaplan's findings were corroborated by Matalene (1985) who found that Chinese students' EFL persuasive essays, and "arguments" contained in Chinese newspaper texts, tended to put forward assertions rather than proofs and seemed to follow a pattern: "an opening description of a specific incident, a look back at the usually unfortunate history of the issue or practice, an explanation of the current much improved state of affairs and a concluding moral exhortation" (Matalene, 1985: 800).

Alptekin (1988), using translated expository compositions written by Chinese graduate students in the US, identified some "rhetorical patterns": a non-linear rhetorical organisation, complementary propositions with Yin-Yang attributes, analogies, and a global perspective of the topic as an essentially indivisible entity. Alptekin argues that these patterns arise from the Chinese

worldview that life moves in a cyclical pattern, in a universe with no fixed starting point, where synchronicity is valued over causality and dualism is harmonised (Alptekin, 1988).

More than a decade later, Cai (1999) studied six argumentative essays in English written by a single Chinese student in the US. His findings concurred with Kaplan's, in that the traditional eight-legged essay structure was a strong influence on the way in which the student organised his arguments. He also found evidence of a characteristically Chinese narrative structure that eschews the Western topic—support structure.

An example of a study that appears to support some but not all of Kaplan's strong position is that by Taylor and Chen (1991), who compared scientific paper introductions written in different disciplines by three groups of physical scientists (written in English by native speakers of English, written in English by Chinese scientists and written in Chinese by Chinese scientists). It was found that an underlying rhetorical structure was shared in the writings of all three groups and disciplines. Taylor and Chen also found differences between Chinese scientists and (Anglo)-American ones, notably that the American scientists seemed to prefer elaborated structures, while the Chinese scientists, in English and Chinese, tended to omit a literature review and used a simple, unelaborated rhetorical pattern.

Finally, some researchers have set themselves against Kaplan's approach by questioning whether certain rhetorical patterns are unique to the Chinese at all. For instance, Kirkpatrick (1997) looked at five Chinese textbooks published between the 1960s and the 1990s, and concluded that the books reflected the Anglo-American rhetorical style more than traditional Chinese pattern. Kirkpatrick also doubted whether the "eight-legged essay" pattern was still likely to influence the writing patterns of modern writers in Mainland China.

In a later article on argumentative writing advice in Chinese textbooks, Kirkpatrick (2002) found that the inductive argument pattern was likely to be preferred, and that advice given in the Chinese textbooks seemed to follow a linear (Western) pattern. Similarly, Cahill (2003), in his work on Chinese and Japanese scholarship on essay writing, argued for the existence of universal rhetorical characteristics in school essays, concluding: "The possibility that the school essay has universal characteristics presents a theoretical challenge to the founding premise of contrastive rhetoric that writing across languages necessarily contrasts" (Cahill, 2003: 187).

Contrastive rhetoric can also be challenged on a number of other fronts. Mao (2003) pointed out that firstly, some contrastive rhetoric scholars have been guilty of resorting to a "deficiency model", assuming that the argumentative traditions of (primarily non-Western) societies are in some way lacking compared to those of the dominant West. Contrastive rhetoric has fallen foul of the attempt to impose universal rhetorical features on discourses across cultures, again largely based on Western models, despite the fact that many societies, such as

those in Asia and the Middle East, may display a great deal of diversity in their rhetorical traditions. Finally, Mao points to the tendency of some scholars in this area to identify certain principles or concepts which are used to compare non-Western with Western rhetorical traditions, effectively imposing those concepts, sometimes without any empirical basis.

Finally, the contrastive rhetoric programme needs to be challenged in terms of the empirical validity of its claims. Many of the studies reviewed above appear to have been based on relatively small samples of data, making it difficult to generalise the findings. Also, studies have been carried out on texts from many different genres, making true comparison and contrastive analysis difficult. Clearly, a large, well-designed, representative and up-to-date corpus of academic English, Chinese or other languages would be a desirable tool in comparing the rhetorical features of different cultures and making a serious and empirically-sound contribution to our knowledge of written argumentation in an educational setting.

Indeed, as Connor (2004: 298) states: "The rigor introduced by corpus linguistics into design, data collection, and analysis is a welcomed standard for intercultural studies. An important concept has emerged from these studies, namely equivalence or *tertium comparationis*. In contrastive analyses, it has been important to compare items that are comparable".

Whatever the strengths or weaknesses of the contrastive rhetoric approach, the practical and pedagogical outcome is that students of English from China, or the Arab world, may experience a disconnect between their own culturally-bound argumentative traditions, and the Western (and possibly dominant) patterns they are expected to learn in order to be successful in academic English courses. This may even be the case in countries like Malaysia, where students come from a diversity of cultural traditions such as Malay, Chinese, Indian and other ethnic groups all of which may provide challenges for students mastering academic argumentation. Grammar is not the only challenge to learners who must master the art of writing good essays. They also must become conversant with the preferred rhetorical traditions of the genre as embedded in the culture they are working in, in order to become successful members of a discourse community (Swales, 1990; 2004).

To summarise, it can be said that the poor state of writing proficiency in English among Malaysian school and university students is a clear and present challenge for the Malaysian education system. The same can be said for the standard of genre knowledge of rhetorical structure among students. Despite the fact that there is a relative paucity of large-scale research on student writing in Malaysia, the studies that have been carried out all seem to agree that Malaysian students in schools and universities have serious difficulties in writing good, high quality essays in the English language. It also appears that many students in Malaysia lack the necessary critical thinking skills to lift their writings up to the required standards at undergraduate level and beyond.

However, there are still debates concerning the causes of all this, and about what can be done to address the issue. This paper does not set out to offer concrete solutions, apart from offering the contention that it is better to have debates based on concrete empirical evidence than debates based on intuitions and untested beliefs. Therefore, in this paper, the corpus-based methodology is put forward as the best way of throwing light on the writing proficiency issue, particularly how to teach written argumentation to learners of English. The next two sections of this review will focus on the corpus approach which is used to fulfil the aims of this paper.

The CALES Learner Corpus

This paper uses data from the CALES learner corpus (Botley and Metom, 2011). CALES stands for Corpus Archive of Learner English in Sabah-Sarawak, and contains just over 480,000 words of argumentative essays collected from university undergraduates studying in four institutions of higher learning in the East Malaysia states of Sarawak and Sabah (namely UiTM's Sarawak and Sabah campuses, Universiti Malaysia Sarawak and Universiti Malaysia Sabah).

The data was collected using a methodology derived from that of the International Corpus of Learner English (Granger, Hung and Petch-Tyson, 2002) in that students were asked to write argumentative essays on topics chosen from a list (for instance "Money is the root of all evil, discuss"). Essays were written in class under timed conditions, and all essays were accompanied by a Learner Profile instrument that served the dual purpose of providing personal, pedagogical and sociolinguistic information about the students, and that of giving formal permission from the students to use their work in the project.

According to Botley and Metom (2011), almost all of the data in the corpus contains essays written by students at Diploma and Bachelor Degree levels, in roughly equal proportions (51% by Degree students and 48% by Diploma students). Also, the majority of essays were written by *bumiputera* (native) students from Sarawak (47.4%), the Malay Peninsula (19.9%) and Sabah (16.1%). In terms of ethnicity, the largest group were Peninsular Malays (19.8%), Sarawak Malays (18.4%), Chinese (14.4%) and Ibans (12.3%). The majority of essays were written by female students (68.2%). Finally, in terms of self-reported native language, almost 40% of the essays were written by students who reported their L1 as Peninsular Malay or Sarawak Malay, with the rest spread across a wide range of languages and dialects such as Iban, Bidayuh and Chinese (see Botley, 2010 for a discussion of the issues involved in approaching native language from an empirical perspective).

The English proficiency level of the students was not established by a formal test, as this was seen as impractical. However, the Learner Profiles in Botley and Metom (2011) recorded two measures of English proficiency, namely the student's Sijil Pelajaran Malaysia (SPM) or Malaysian Certificate of

Education scores in English, and their attainment in the Malaysian University English Test (MUET). In terms of SPM scores, the SPM English grades for a large number of the CALES respondents were average to poor, with only around 21% scoring the top 1A and 2A grades. However, the distribution appears to be fairly evenly spread across the rest of the grades.

The SPM may not be a completely valid measure of university students' English proficiency, due to the time distance, around seven months, between taking the SPM examinations and the commencement of university study. For this reason, the CALES corpus also recorded the MUET scores of the respondents, as the MUET exam is taken by Malaysian university students either before they enter university, or while they are taking their Diploma before starting their Degree course. In terms of the MUET scores, the students in the CALES study seemed to do reasonably well, with most achieving Band 3 (Modest User) or 4 (Competent User). Only around 7% achieved the top Bands 5 (Good User) and 6 (Very Good User). However, it must be pointed out that these figures largely applied to Degree-level students, because many of the Diploma students in the CALES study had not yet taken their MUET.

Research Using the CALES Corpus

The CALES corpus is fairly new, however some research has been carried out using data extracted from it. The CALES research has generally followed a blend of two methodological strands as described in Granger 2002, 11–14. These are Contrastive Interlanguage Analysis (CIA) and Computer-Aided Error Analysis (CEA). Firstly, CIA involves painstaking analysis of the interlanguage (Selinker, 1972) of different learners of a target language. The interlanguage refers to the linguistic knowledge, strategies and performance characteristic of learners of a second language at particular points in the learning process. The way to gain insights into the interlanguage is through observing the errors made by learners of a target language.

CIA therefore involves comparison between non-native corpus data and native corpus data, sometimes using a carefully-selected control corpus of native speaker language to provide a benchmark. One example of such a benchmark is LOCNESS (The Louvain Corpus of Native English Essays) collected by Granger (1998) and Granger, Hung and Petch-Tyson (2002). LOCNESS contains essays written by British and American university undergraduates, and has become a widely-accepted benchmark for studies of learner language performance.

Botley (2010) compared a sample of argumentative essays from the CALES corpus with a sample of similar essays from the native benchmark LOCNESS corpus. The analysis revealed frequent use of a relatively limited range of multiword units in the CALES learner data, and also found that there were significant differences in the frequency of use of particular multiword units between the two samples. In particular, the CALES essays displayed heavy

overuse of certain idioms in comparison to the LOCNESS data, especially idioms which were directly translated from the L1, such as "in this world" and "as we all know".

The second methodological strand utilised in the CALES research programme is Computer-aided Error Analysis (CEA). This approach differs from, yet is built upon, traditional Error Analysis (EA) (James, 1998; Ellis and Barkhuizen, 2005) except that it utilises computer technology, it allows more standardisation in the analysis of errors and it discusses errors in context, alongside forms which are not errors. Crucially, CEA also is capable of analysing very large amounts of data.

According to Granger, Hung and Petch-Tyson (2002), CEA can be carried out in two ways. The analyst can either scan a learner corpus for all examples of a particular error category such as subject-verb agreement, using text-retrieval software such as a concordancer. This method is relatively fast, but limited only to those features that the analyst thinks are problematic[1].

CEA can also be carried out by applying a bespoke set of error categories to a learner corpus, so as to categorise and count all examples of errors in that corpus, or a sample of it. This method is labour-intensive (Botley et al., 2005) but very powerful, in that it reveals a great deal of interesting details about errors that may have been predicted, as well as unexpected results. Furthermore, this kind of work can be made easier with the use of user-friendly error tagging software such as the UCL (Université Catholique du Louvain) Error Editor (Dagneaux, Denness and Granger, 1998).

An example of this was Botley et al. (2005), who analysed a 90,000 word sample of CALES collected at UiTM Sarawak, using the error analysis tagset proposed by Dagneaux, Denness and Granger (1998). The study found significant differences between two samples of essays written by Iban and Malay students in terms of the frequency of a wide range of errors, especially noun number, articles and lexical choice. Also, it was found that both sets of students frequently over-used articles such as *the* and *a* and make much use of redundant words and phrases.

This was taken further by Botley, Haykal and Monaliza (2005), who identified a range of ways in which the Malay language rules of grammar are transferred into L2 performance. For instance there was abundant evidence of negative transfer (errors), over-use and avoidance (under-use) of various language features such as articles, and these could be directly linked back to grammatical features of the Malay language (L1).

Most of the observations made from the CALES corpus could probably have been predicted by any experienced Malaysian English educator using their intuitions about common errors made by Malaysian students. However, the value of the CALES findings so far lies in the fact that they were based on real-life authentic examples, collected in a corpus, rather than using teacher intuitions,

which may not always be reliable or objectively verifiable (McEnery and Wilson, 2001).

Now that we have reviewed the major issues surrounding the status of writing in Malaysia, and how it can be studied, we will now move onto the major topic of this paper, that of how to describe arguments in a visual form.

ARGUMENT MAPPING

Argument mapping is predicated on the assumption that arguments can be represented visually so as to make complex reasoning as clear as possible. This is analogous to how a geographical map helps a pilot or traveller to make sense of different surface features of the Earth. Argument mapping is not a new concept. According to Austhink, some sort of argument mapping was carried out by Charles Wigmore in the early 20th Century (cited in http://austhink. com/reason/tutorials/Overview/what_is_argument_mapping.htm). Wigmore produced graphical representations of legal arguments that resembled electric circuit board diagrams. An example is shown in Appendix A.

Wigmore's maps, though detailed, were rather difficult to follow and did not seem to conform to a theoretical model of reasoning or argumentation. It was not until the work of Toulmin (1958) that a more philosophically-feasible approach to argument description was put forward. Toulmin's influential model of arguments was an empirical response to the traditional teaching of logic in terms of formal syllogisms, for instance "All Englishmen love football, Dr. Simon is an Englishman, therefore Dr. Simon loves football". Toulmin noted that in real life, people rarely argue in a syllogistic manner, therefore he focused his interest on why and how people actually construct arguments, rather than carrying out a dry analysis of formal logic.

In order to achieve this, Toulmin proposed a model of argumentation which aimed to dissect arguments into component parts which could then be visually represented, or mapped. Such a map would then enable the argument to be analysed for its validity. Toulmin's model broke arguments down into six categories, as follows:

1. Claim
2. Grounds (data)
3. Warrant
4. Backing (support)
5. Qualifier
6. Rebuttal

Firstly, the Claim is the actual persuasive statement at the heart of an argument. It constitutes the basic statement of what a speaker or writer wants someone else to accept. An example would be:

1. You should go on a diet.

The next component, the Grounds, provides support for the claim, in the form of facts, premises or other proofs, for example:

2. Over 70% of men your age die of heart attacks because they are obese.

Next, the Warrant is what links the Grounds to the Claim, by showing how relevant the Grounds are. It answers the question of why the supporting data means that the Claim is true. Here is an example:

3. If you are less obese, you will live longer.

Next, the Backing provides additional support for the Warrant, potentially removing any doubt about it, as can be seen in this example:

4. You can join a diet club in your town.

The Qualifier is a modality marker which allows the person making a Claim to adjust the strength of a Claim, as in:

5. If you are less obese, you will *probably* live longer.

Finally, the Rebuttal allows the arguer to deal in advance with any anticipated counter-claims that may crop up, as in this example:

6. If you are afraid to go on your own to the diet club, you can take a friend with you.

Toulmin's approach allows analysts to take arguments apart and to see clearly the relationships between the different parts of an argument, and establish the validity or otherwise of an argument. Also, Toulmin's method results in reasonably clear argument maps that can be used to track realistic arguments. One of these is reproduced in Appendix B. In recent years, argument mapping has become more sophisticated and colourful, largely due to advances in computer technology and the increasing popularity of visualisation techniques in cognitive psychology and education such as Mind Mapping (Buzan, Buzan and Harrison, 2010). Two notable directions that argument mapping have taken are in the work of Horn (1999) and the work upon which this paper is based (ter Berg and van Gelder, 2007).

Horn (1999) is one of the modern pioneers of argument mapping, and has developed complex visual representations of intellectual problems, sometimes acting as a consultant to government and industry. Horn's unique approach is to combine text and visual images into a "visual language" with its own syntax and semantics. This language allows complex and difficult real world problems to be

presented in a clear and vivid visual form. One example is Horn's maps for exploring the question of whether or not computers can think (Horn, 1999). Please refer to Horn's website on http://www.stanford.edu/~rhon/index.html for examples, which cannot be reproduced faithfully in this paper.

Against the background of Horn's work, the argument mapping approach put forward by ter Berg and van Gelder (2007) is the approach that is adopted in this paper. Essentially, ter Berg and van Gelder have produced a visual technique for mapping arguments using relatively simple box-and-arrow diagrams. These maps incorporate the philosophical and empirical merits of Toulmin's method along with the visual clarity and cognitive feasibility of Horn's and Buzan's approaches. The resulting system (which will be described in detail below in the Methodology section) is aimed at making it easier to "...articulate, comprehend and communicate reasoning, thereby promoting critical thinking" (Austhink.com, n.d.). Furthermore, van Gelder's argument mapping technique has been implemented as a software tool for analysing arguments in texts (used in this paper), and is described in full on the website http://austhink.com/critical/index.htm.

Now that we have given an overview of different approaches to argument mapping, let us describe how the ter Berg and van Gelder/Austhink approach to argument mapping can be used to gain empirical insights from a corpus of argumentative essays.

METHODOLOGY

The argument mapping technique of ter Berg and van Gelder (2007) uses diagrams comprising labelled boxes linked together with arrows to show relationships and dependencies between the main claim of an argument, and its supporting premises and opposing objections. In Figure 2, taken from the Austhink.com website, we can see clearly where the premises and objections link to the main claim that "Macbeth was evil".
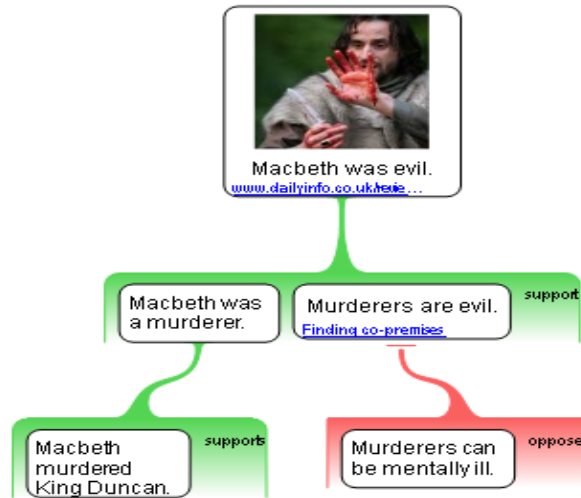
Figure 2: Simple argument map
Source: www.austhink.com

As well as relatively simple maps like Figure 2, the Austhink approach also allows for much more complex maps to be produced, as in Figure 3.
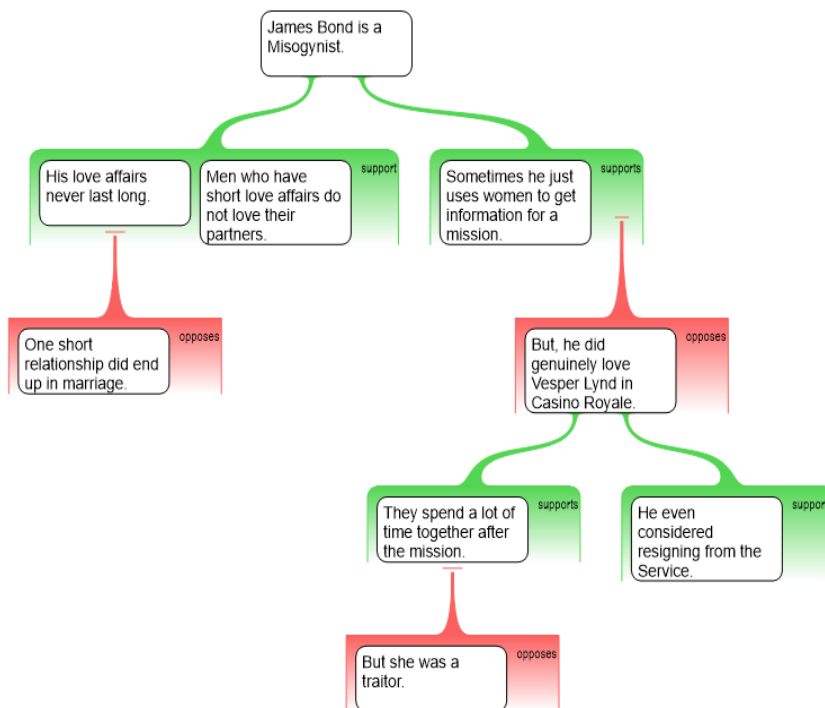
Figure 3: A more complex argument map

Maps like these can be created quickly (and manually) using the Rationale 2.0 mapping software. This software was used for this paper to create an initial mini-corpus of argument maps for ten argumentative essays written by Malay L1 students of English at a higher education institution in Sarawak, Malaysia. The data was sampled from the CALES corpus (Botley and Metom, 2011). The essays were manually analysed using the software and the maps were examined to identify interesting patterns in the argument structures found in the essays.

The argument mapping approach described here assumes a number of basic concepts in the study of arguments, which are broadly similar to the model of Toulmin (1958). These concepts, effectively the components or rhetorical structure elements of an argument, are as follows:

1. Claim—a statement or argument in the form of a declarative sentence ("The moon is made of green cheese.")
2. Contention—a simple argument consisting of one claim and one reason/premise ("The moon is made of green cheese, because the rocks smelled of cheese.")
3. Premise/Reason—Any sentence that supports the claim ("The moon rocks were green and smelled of cheese.")
4. Co-premise—premises that work together to support a claim or contention ("The rocks were green. The rocks smelled of cheese.")
5. Objection—Any sentence that provides evidence against a claim or contention ("But most of them were made of granite.")

All of these argument components have their own colour-coded box or arrow in the Rationale maps. Each box contains a single declarative sentence which may be a claim, objection, contention, premise or co-premise. As well as this, the Austhink argument mapping approach is governed by a number of rules, such as the following:

1. All contentions, premises and objections must be complete declarative sentences. This means that questions, imperatives and telegraphic utterances cannot be counted as argument components. Presumably it also means that all argument components must be grammatical.
2. All contentions must have at least one premise and/or at least two co-premises. Single unsupported claims do not constitute arguments in this model.
3. The same applies to objections, which can also function in turn as claims and premises.
4. Some premises are not stated. This presumably refers to cases of hidden assumptions.

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This study is a bottom-up, corpus-based investigation which is not deliberately driven by any formal hypotheses, and effectively follows a hypothesis-finding CEA orientation. However, a number of tentative research questions were drawn up, to guide the analysis, as follows:

1. Does the lack of English proficiency have an effect on the ability to construct or evaluate arguments?
2. How many premises are typically used to support claims?
3. How simple/complex are the most common argument structures?
4. How often do the learners provide objections to the claims, and how?
5. How well supported are the claims and contentions in the arguments?
6. Is there a clear relationship between premises and contentions?
7. Is there evidence for the use of co-premises, or are reasons isolated?

The next section will present some findings and observations from the small data sample, so as to arrive at tentative answers to some of these questions.

FINDINGS AND OBSERVATIONS

Figure 4 shows an argument map constructed for one of the essays in the sample, coded Arg1.

It can be seen that the map, in terms of its topology, differs vastly from the ideal argumentative essay structure outlined above. For one thing, almost the entire map consists of premises and co-premises originating in the initial claim at the top of the diagram, with only one objection shown four layers down from the main contention box.

Interestingly, the main set of premises seems to sprout not from the main claim, but from a subordinate statement situated five levels lower down the tree. This would seem to be the introduction of the essay, with a series of linked statements leading to the thesis statement.

The essay that Arg1 is based on is included as Appendix C to show the sentences that form this structure. The essay shows that the writer has not started to support the main claim in the way normally taught in EAP and writing classes, instead he or she has produced a string of single statements that seem to follow directly from one another, leading to an objection which itself constitutes a claim supported by two reasons, one of which is supported by a further claim supported by four premises, each with their own support structures. The conclusion is added at the end almost as an afterthought.
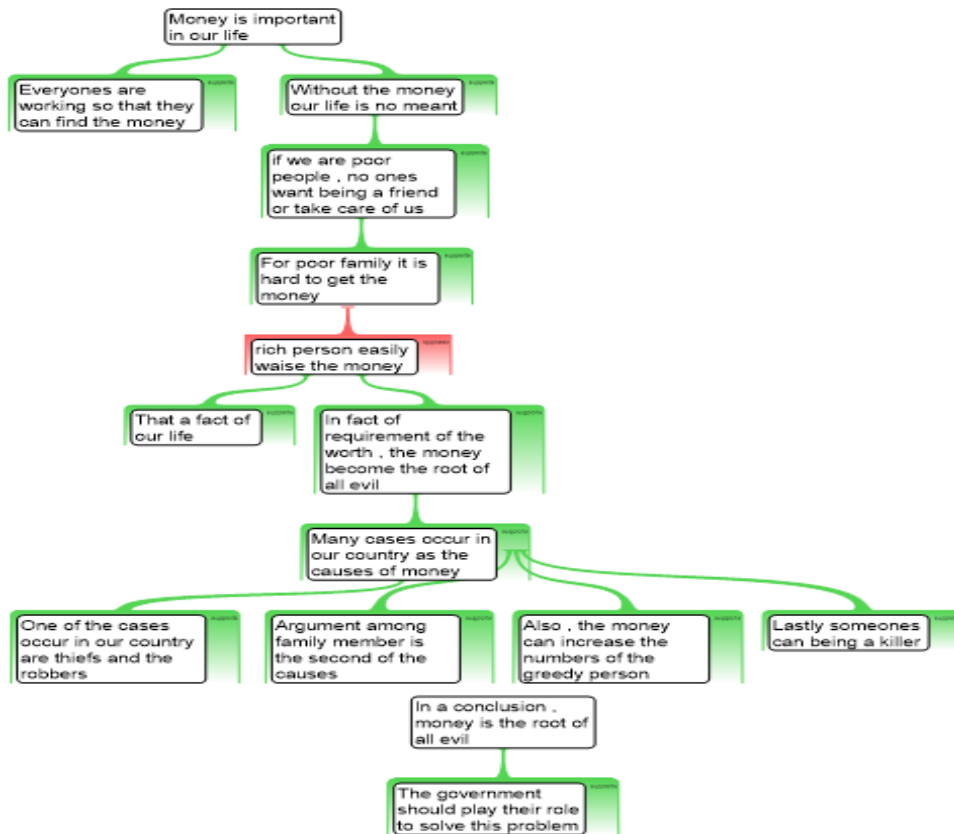
Figure 4: Partial argument map for essay Arg1
(Topic: "Money is the root of all evil, discuss")

There is something fundamentally "ill-formed" about this map, which shows clearly where the writer's reasoning is going, or not. Although the basic components are there—there are claims, premises, objections and a conclusion—the way these are arranged and patterned differs widely from the accepted norm. Argument maps such as this are clearly very useful pedagogical tools as well as providing direct insights into the way in which L2 writers construct their arguments. In this way, such argument structures are analogous to learner errors, where surface language features do not conform to some kind of native speaker grammar.

Now that we have seen how the argument structures differ from common norms taught in class, let us consider the tentative research questions mentioned above, and how the data helps us to answer these. We will take each of the questions in turn, followed by some observations from the five maps produced for this study.

1. Does the lack of English proficiency have an effect on the ability to construct and evaluate arguments?

Because the essays in the corpus were written by non-native speakers, they are characterised by a wide range of frequent language errors, suggesting that the written proficiency of the writers was not particularly high. This will have had a damaging effect on the ability of analysts to evaluate the arguments, and in many cases it even impedes the ability to identify them in the first place, as can be seen in the example given in Appendix C.

If we follow the Selinker (1972) Interlanguage Hypothesis, the errors found in the essays will reflect the state of knowledge of target language grammar and vocabulary reached by the learners. If the Interlanguage is not at an advanced stage, learners may have difficulty in constructing clear arguments because university-level reasoning requires a good grasp of target grammar and vocabulary.

Therefore, based on the frequent errors identified in the data for this study, the effect of language proficiency on the ability of the learners to evaluate and produce clear reasoning is great, although the question of how great must be deferred to future research. Also, another consequence of grammatical errors in the arguments is that some statements may in fact be incomplete or overly complex, making it a challenge to identify them as claims, reasons or premises.

2. How many premises are used to support claims?

Based on the admittedly small data sample under analysis, claims are generally supported by from one to six main premises (see Table 1). Also, there seems to be a marked lack of discipline in some cases—some writers are not keeping their main premises to below three, making for some highly unbalanced argument structures, as we see in Arg1.

3. How simple/complex are the most common argument structures?

The answer to this varies across the data sample, and a wider sample will reveal more meaningful observations in this respect. However, it would appear that some claims/contentions in the essays have only one premise, others have many more. There is no apparent dominant pattern that can be identified at this stage.

4. How often do the learners provide objections to the claims, and how?

Across the data sample, there are not many examples of objections to claims, although in one essay, Arg2, objections occur four times (see Figure 5). In Arg2, it seems that three of these claims have objections that in turn make them into counterarguments. Despite this, there is little evidence of complexity, where objections themselves become claims that are supported by reasons, apart from in Arg1. One final observation is that mostly, where learners do make objections to a contention, they rarely seem to object to the main contention, only to subordinate ones.

5.   How well-supported are the claims and contentions in the arguments?
Despite a number of problems with the argument structures, the essays analysed so far reveal plenty of claims and contentions that are well-supported by premises. However, there seems to be a lack of depth and complexity of illustrative examples in all the data analysed so far and examples, where they occur, tend to be highly anecdotal, without much evidence of wide background knowledge of the topic. Furthermore, some premises are often unclear, largely due to language errors.

6.   Is there a clear relationship between premises and contentions?
In many cases, the relationship between contentions and the premises that support them is not clear, and it is not easy to identify exactly how a premise links to its governing contention, as can be seen in Arg2, third branch on the right (see Appendix D). Frequently, the main contention in an essay has two or three clear supporting premises, but below that level in the diagram, there is sometimes a lack of clarity, which may be due to language issues.

7.   Is there evidence for the use of co-premises, or are reasons isolated?
It is often hard to distinguish co-premises from premises, as some writers simply throw in statements that seem to support a claim but do not clearly function as a co-premise. This is seen in Arg4 (see Appendix E), and the first topmost part of the diagram in Arg1.
    To complete this section, Table 1 will present some summary statistics on some identifiable aspects of the 10 argument maps so far analysed.

Table 1: Summary statistics for all 10 argument maps analysed

Map	Main claims	Subordinate claims	Premises per claim	Premises per sub. claim	Depth	Objections	Co-premises	Isolated or unsupported reasons	Conclusion: Supporting items
Arg1	1	1	1	4	9	1	0	6	1
Arg2	1	0	3	0	9	4	0	2	0
Arg3	3	2	3	3	7	1	0	1	1
Arg4	1	0	6	0	4	1	0	1	0
Arg5	1	0	4	0	6	0	1	1	0
Arg6	1	0	5	0	7	4	1	1	1
Arg7	1	0	4	0	5	0	1	1	2
Arg8	1	1	4	0	6	1	2	2	0
Arg9	1	0	4	0	6	1	2	2	0
Arg10	1	0	6	0	4	1	3	3	0
Avg.	**1.2**	**0.4**	**4**	**0.7**	**6.3**	**1.4**	**1**	**2**	**0.5**
TOTAL	**12**	**4**	**40**	**7**	**63**	**14**	**10**	**20**	**5**

Although the amount of data analysed is small at present, Table 1 shows some notable facts about the argument patterns displayed in the 10 essays. Firstly, it is hardly surprising that most essays in the sample have one main

claim—presumably the traditional thesis statement. However there was one essay where the writer seemed to be making a thesis statement, followed by two more subordinate statements that each seemed to constitute a main argument. This may be due to simple lack of planning on the part of the student, rather than evidence of the influence of a non-linear rhetorical pattern, but more data needs to be examined before firm conclusions can be drawn.

We can also see that the average number of premises or reasons per main claim is four, not much more than the pedagogical ideal of three, but nevertheless, some essays in our sample had as many as six supporting reasons.

The "depth" measure in Table 1 denotes the number of levels of nodes and sub-nodes in the argument maps. This is supposed to give a rough idea of how complex and deep the reasoning goes in each essay. As we can see from the table above, the average number of levels on the argument "trees" was about six, though some essays had as many as nine levels. This is not to say, however, that there is an ideal "depth" for an essay's rhetorical structure—depth is here meant as a descriptive tool only and not for evaluation.

The number of objections was, as has been mentioned above, fairly low at 1.4 on average, with a couple of texts displaying four objection statements. This is interesting, as the amount of objection made by the writer can be seen as a measure of critical thinking ability. So far, it seems, the essays under analysis show relatively little activity in this regard, with some notable exceptions such as Arg2 and Arg6.

In terms of the reasons and premises included to support the main claims, on average, co-premises are few and far between with an average of 1. Perhaps more disturbingly, there is slightly more evidence of un-supported statements in the data—in other words, the level of elaboration of supporting points brought forward by the student writers seems to be low.

Finally, the conclusions, where they are included at all, seem to be made up of a simple statement to re-state the main claim and in some cases hardly more than one supporting element. In the experience of this writer, conclusions seem to be problems for students, who find it challenging to produce conclusions that summarise the main points of the essay as well as provide some action points or attention-grabbing finishing touches. The data here gives some empirical support for the claim that conclusions at least need some attention in L2 writing classes.

CONCLUSIONS

The data so far analysed suggests that learners are definitely capable of constructing arguments and writing basic essays, but they would benefit from the insights of argument mapping to help them produce concise, clear and well-supported arguments that fit into a compact paragraph structure. The essays in the

mini-corpus under analysis also show plenty of evidence of a linear rhetorical style where a main claim is supported by at least one reason or premise.

However, there is much evidence of non-preferred rhetorical structures in the essays. The reasons for this are unclear at the moment, but would warrant further research. It is not clear at this stage whether or not these deviations from the pedagogically privileged norm are due to culturally-bound patterns exerting themselves or other factors, such as the nature of the task situation, in which the students were given a fixed time to complete the essays.

It would on balance appear unlikely that the essays analysed in this study show rhetorical patterns characteristic of some kind of "Malay argument pattern" analogous to Kaplan's Chinese 8-legged structure. This is because the students who produced the essays, although they were all Malay L1 students, have been drilled and trained in a Western English language rhetorical tradition ever since their primary education. There is perhaps something else at work here, which further work on a larger corpus sample may reveal.

A major observation of this study has been that the highly frequent occurrence of grammar errors in the essays may influence clear reasoning, or the interpretation of it. This is because it is often difficult to identify claims and premises amongst such error-ridden data. This would tend to support the close link between language proficiency and the ability of learners to construct good arguments in writing. More work needs to be carried out in order to explore this link using a larger data set.

The main contribution of this paper is to demonstrate that an empirical corpus driven approach to argumentation in learner writing has great theoretical and practical possibilities, and can lead to a rich harvest of pedagogically relevant findings about argumentation, just as it has with the study of grammatical errors by Botley and Metom (2011) and others. This paper has attempted to show how it is possible to carry out error analysis for rhetorical structures, as well as grammar and lexis.

Despite this, however, there are some challenges and unresolved analytical issues involved in doing such work, such as:

1. Identifying contentions, premises and objections that are not clearly stated.
2. Dealing with overloaded arguments (where a claim has too many premises).
3. How to deal with essays where the grammar is so poor as to make the essay unreadable.
4. How to decide whether a statement is a premise or not.
5. Deciding where to place the conclusion on the map, as it does not follow on from any contention or premise.
6. The issue of whether we should make separate maps for the Introduction, Body and Conclusion.

These are largely notational and analytical issues which can undoubtedly be resolved with more analysis using the argument mapping technique.

The argument mapping approach itself has both advantages and disadvantages. Firstly, the maps manage to provide clear graphical images of the structure of arguments which can form the basis of an empirical corpus-based description of argument strategies among L2 writers of English. Such a description can in turn lead to qualitative and quantitative data which may be useful in testing and developing theories of second language writing.

This leads on to the second advantage of the maps—they are potentially effective tools for teaching students how to argue clearly when planning and constructing essays in class. The Rationale 2 software used to create the maps even incorporates some graphical labels and options which are aimed at supporting pedagogy.

A final advantage of the argument maps is that they seem to be grounded in theory, and are based on a set of clear governing principles. This confers a degree of external validity on the observations made using the maps, as well as allowing different analysts to provide consistent and reliable analyses of rhetorical structures.

However, despite these advantages, the mapping approach used in this paper is not without its problems. Firstly, if one takes a corpus-based perspective, it appears to be difficult at present to automatically derive frequency statistics on argument complexity, the number of premises or objections, and other variables. The analytical work is almost entirely manual (and time-consuming to produce) at the moment. This is because the maps are not the same as corpus annotations which can be automatically identified, sorted and counted.

Another issue is that the argument maps make it much easier to describe inductive arguments, which run from main contention or conclusion to premises or reasons, compared to deductive arguments, where there may be one or more premises followed by a conclusion. This seems to be caused by the rules underlying the maps—at the moment, it is only possible to insert one single contention at the top of each map, making it seemingly impossible to describe arguments where inductive and deductive reasoning may be carried out within the same essay.

Furthermore, it is not clear from the way the maps are currently drawn exactly how to treat the final conclusion in a simple "Thesis Statement—Three Premises—Conclusion" type of argument which is commonly taught in Malaysian university courses. At the moment, the analyst is forced to represent the conclusion as an added-on "mini-map" at the bottom, with the conclusion statement shown as a new contention box, with any additional comments as premises. This is a somewhat inelegant solution.

One final problem with the mapping approach, rather than the maps themselves, is that some of the elements such as contentions, premises and reasons are sometimes difficult to identify and distinguish because of the

challenging English found in the essays. There was one example, in Arg3, where the student seemed to be putting forward two contentions, both of which seemed to be supported by the same set of premises. Situations such as this provide challenges that the argument maps at the moment cannot meet.

Let us finish off this paper with a consideration of future research directions in the corpus-based study of argument structure. Firstly, this study has been exploratory and relatively small in scope, making its findings at best tentative. Therefore, a more wide-ranging study with larger scope would be a desirable future direction. Another potentially fruitful area would be comparative analysis between a suitably analysed corpus of learner data and a similarly analysed corpus of native speaker data such as the LOCNESS corpus (Granger, Hung and Petch-Tyson, 2002). Finally, it would be interesting to carry out argument mapping on different argumentative genres and task types, e.g., exam scripts and term papers to see if there are any substantive differences between these.

The Malaysian national goal to produce a human resource pool skilled in English and with strong critical thinking skills is a laudable one which is perhaps more of a journey than a destination, considering the serious challenges to be faced. It is clear that developing nations such as Malaysia need their workers to be linguistically and cognitively ready to face the challenges of a rapidly changing world. One can only hope that detailed empirical research on the performance of Malaysian students as well as their skills in critical thinking can contribute to theory by helping educators and researchers to understand the problems faced by learners in producing academic discourse. Empirical corpus based research can also serve to sweep away emotion and intuition from the national conversations on the standard of English and its causes and solutions. What will be left will be reasoned and well-supported argumentation.

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NOTES

1. And in doing this, an analyst may miss out important features which are not initially thought of as problematic.

REFERENCES

Abasi, A. R. 2012. The pedagogical value of intercultural rhetoric: A report from a Persian-as-a-foreign-language classroom. *Journal of Second Language Writing* 21(3): 195–220.

Alptekin, C. 1988. Chinese formal schemata in ESL composition. *British Journal of Language Teaching* 26(2): 112–116.

Austhink.com. n.d. Critical thinking on the web. http://austhink.com/critical/index.htm/ (accessed 5 September 2012).

Botley, S. P. 2010. Linking interlanguage to sociolinguistic variables: Some Borneo challenges. Paper presented at the 7th International Malaysian Studies Conference (MC7), Universiti Sains Malaysia. 16–18 March.

Botley, S. P. and L. Metom. 2011. A corpus-based investigation of the interlanguage of university students in East Malaysia. Final project report, Research Management Institute, Universiti Teknologi MARA, Malaysia.

Botley, S. P., C. De Alwis, L. Metom and Isma Izza. 2005. CALES: A corpus-based archive of learner English in Sarawak. Final project report, Unit for Research, Development and Commercialisation, Universiti Teknologi MARA.

Botley, S. P., Haykal Hammaad Zin and Monaliza Sarbini. 2005. Lexical and grammatical transfer by Malaysian student writers. Paper presented at the 10th International Conference on Translation, Universiti Malaysia Sabah, Kota Kinabalu. 2–4 August.

Buzan, T., B. Buzan and J. Harrison. 2010. *The mind map book: Unlock your creativity, boost your memory, change your life*. London: Pearson Education Ltd.

Cahill, D. 2003. The myth of the "turn" in contrastive rhetoric. *Written Communication* 20(2): 170–194.

Cai, G. 1999. Texts in contexts: Understanding Chinese students' English compositions. In *Evaluating writing*, eds. C. R. Cooper and L. Odell, 279–297. Urbana, IL: National Council of Teachers of English.

Chow, T. V. F. 2007. The effects of the process-genre approach to writing instruction on the expository essays of ESL students in a Malaysian secondary school. PhD diss., Universiti Sains Malaysia, Penang, Malaysia.

Connor, U. 2004. Intercultural rhetoric research: Beyond texts. *Journal of English for Academic Purposes* 3: 291–304.

_____. 2002. New directions in contrastive rhetoric. *TESOL Quarterly* 36: 493–510.

_____. 2001. Contrastive rhetoric redefined. In *Contrastive rhetoric revisited and redefined*, ed. C. G. Panetta, 75–78. London: Lawrence Erlbaum Associates.

_____. 1996. *Contrastive rhetoric: Cross-cultural aspects of second-language writing*. New York: Cambridge University Press.

Dagneaux, E., S. Denness and S. Granger. 1998. Computer-aided error analysis. *System: An International Journal of Educational Technology and Applied Linguistics* 26(2): 163–174.

Ellis, R. and G. Barkhuizen. 2005. *Analysing learner language*. Oxford: Oxford University Press.

Fahim, M. and P. Hashtroodi. 2012. The effect of critical thinking on developing argumentative essays by Iranian EFL university students. *Journal of Language Teaching and Research* 3(4): 632–638.

Grabe, W. and R. B. Kaplan. 1996. *Theory and practice of writing*. London: Longman.

_____. 1989. Writing in a second language: Contrastive rhetoric. In *Richness in writing: Empowering ESL students*, ed. D. M. Johnson and D. H. Roen, 263–283. New York: Longman.

Granger, S., ed. 1998. *Learner English on computer*. Harlow: Addison-Wesley Longman.

Granger, S., J. Hung and S. Petch-Tyson, eds. 2002. *Computer learner corpora, second language acquisition and foreign language teaching*. Amsterdam: John Benjamins.

Greenhalgh, A. M. 1992. Voices in response: A postmodern reading of teacher response. *College Composition and Communication* 43: 401–410.

Guthrie, J. T. 2005. Engagement and motivation in reading instruction. University of Maryland. http://www.temple.edu/lsslLivingDocuments/pdFlguthrie_summary.pdf/(accessed 24 October 2005).

Herzberg, B. 1986. The politics of discourse communities. Paper presented at the CCC Convention, New Orleans, La. March. Quoted in Swales 1990, 21.

Horn, R. 1998. Using argumentation analysis to examine history and status of a major debate in artificial intelligence and philosophy. Paper presented at the Fourth International Conference of the International Society for the Study of Argumentation. Amsterdam, The Netherlands. 16–19June.

Horn, R. E. 1999. Personal website. http://www.stanford.edu/~rhorn/index.html/ (accessed 5 September 2012).

James, C. 1998. *Errors in language learning and use: Exploring error analysis*. Harlow, Essex: Addison-Wesley Longman.

Kaplan, R. B. 2001. Forward. In *Contrastive rhetoric revisited and redefined*, ed. C. G. Panetta, vii–xx. London: Lawrence Erlbaum Associates.

_____. 1988. Contrastive rhetoric and second language learning: Notes toward a theory of contrastive rhetoric. In *Writing across languages and cultures: Issues in contrastive rhetoric*, ed. A. C. Purves, 275–304. London: Sage.

_____. 1972. *The anatomy of rhetoric: Prolegomena to functional theory of rhetoric*. Philadelphia: Center for Curriculum Development.

_____. 1966. Cultural thought patterns in inter-cultural education. *Language Learning* 16: 1–20.

Kennedy, G. 1998. *Comparative rhetoric: A historical and cross-cultural introduction*. Oxford: Oxford University Press.

Kirkpatrick, A. 2002. Chinese rhetoric through Chinese textbooks: Uniquely Chinese? In *Chinese communication studies: Contexts and comparisons*, ed. X. Lu, W. Jia and D. R. Heisey, 245–260. Westport, CT: Ablex.

———. 1997. Traditional Chinese text structures and their influence on the writing in Chinese and English of contemporary Mainland Chinese students. *Journal of Second Language Writing* 6(3): 223–244.

Koo, Y. L. 2003. Multicultural meaning makers: Malaysian ways with words and the world. In *Adult Education in the 21st Century*, ed. P. Kell, S. Shore and M. Singh, 71–87. New York: Peter Lang.

Liu, L. 2005. Rhetorical education through writing instruction across cultures: A comparative analysis of select online instructional materials on argumentative writing. *Journal of Second Language Writing* 14: 1–18.

Liu, Y. and W. Carney. 2012. Multi-competence at the discourse level: A comparison of persuasive essays by Chinese college and high school EFL students. *Journal of Language Teaching and Research* 3(6): 1061–1070.

Liu, M. S. M., E. C. Augustine and A. S. Kasawi. 2010. *An error analysis of the English language proficiency of the future HR pool: A comparative study of Bumiputera students from Chinese schools and Bumiputera students from government schools in Sabah and Sarawak*. Shah Alam: Research Management Institute, Universiti Teknologi MARA (UiTM).

Lu, X. 1998. *Rhetoric in ancient China, fifth to third century B.C.E.: A comparison with Greek classical rhetoric*. Columbia, SC: University of South Carolina Press.

Mao, L. M. 2003. Reflective encounters: Illustrating comparative rhetoric. *Style* 37(4): 401–425.

Maros, M., K. H. Tan and Khazriyati Salehuddin. 2007. Interference in learning English: Grammatical errors in English essay writing among rural Malay secondary school students in Malaysia. *e-BANGI: Jurnal Sains Sosial dan Kemanusiaan* 2(2): 1–15.

Matalene, C. 1985. Contrastive rhetoric: An American writing teacher in China. *College English* 47(8): 789–808.

McEnery, A. M. and A. Wilson. 2001. *Corpus linguistics*. 2nd ed. Edinburgh: Edinburgh University Press.

McLuhan, M. 1989. *The global village: Transformations in world life and media in the 21st century*. New York, NY: Oxford University Press.

Michael, G. R. D., Paramjeet Kaur Dhillon, Haliza Hirza Jaffar, S. Umadevi, Roszanaliza Askandar, Nurzeti Ghafar, Angelina Subrayan @ Michael and Sathiyaperba Subramaniam. 2010. *Crossing borders: A comprehensive guide to English for academic purposes for effective academic writing*. Malaysia: Pearson Malaysia Sdn. Bhd.

Normazidah Che Musa, Y. L. Koo and Hazita Azman. 2012. Exploring English language learning and teaching in Malaysia. *Journal of Language Studies* 12(1): 35–51.

Oliver, R. T. 1971. *Communication and culture in ancient India and China*. Syracuse: Syracuse UP.

Samsiah Mustaffa. 2007. Reading attitudes among the students of two selected schools in Kota Bharu, Kelantan. http://ktbc.kelantan.gov.my/kertaskajian/drsam.doc/ (accessed 21 August 2007).

Selinker, L. 1972. Interlanguage. *International Review of Applied Linguistics* 10: 209–231.

Silva, T. and J. M. Paiz. 2013. Selected bibliography of recent scholarship in second language writing. *Journal of Second Language Writing* 22: 87–93.

_____. 2012. Selected bibliography of recent scholarship in second language writing. *Journal of Second Language Writing* 21: 306‒ 316.

Swales, J. 2004. *Research genres, explorations and applications*. Cambridge: Cambridge University Press.

_____, ed. 1990. *Genre analysis*. Cambridge: Cambridge University Press.

Taylor, G. and T. Chen. 1991. Linguistic, cultural and subcultural issues in contrastive discourse analysis: Anglo-American and Chinese scientific texts. *Applied Linguistics* 12(3): 319–336.

ter Berg, T. and T. van Gelder. 2007. *Critical thinking. Reasoning and communicating with rationale*. Netherlands: Pearson ELT Benelux.

Toulmin, S. 1958. *The uses of argument*. Cambridge, England: Cambridge University Press.

Wang, X. 1994. Writing concepts in Chinese writing instruction. *Issues in Applied Linguistics* 5(2): 211–229.

APPENDICES

Appendix A: A Wigmore Argument Map

Issue: Did U. Kill J.?
Prosecution's Case

Appendix B: A Toulmin Argument Map (from www.Austhink.com)

Harry was born in Bermuda → So, presumably, { Harry is a British subject

Since

A man born in Bermuda will generally be a British subject

Unless

Both his parents were aliens/ he has become a naturalised American/ ...

On account of

The following statutes and other legal provisions:

Appendix C: Sample Essay (Arg1)

Money is important in our life. Everyones are working so that they can find the money. Without the money our life is no meant because if we are poor people, no ones want being a friend or take care of us. For poor family it is hard to get the money but the rich person easily waise the money. That a fact of our life. In fact of requirement of the worth, the money become the root of all evil. Many cases occur in our country as the causes of money.

One of the cases occur in our country are thiefs and the robbers. They aim to get the luxuries by thief or rob because it is a short way to find the money. With one operation they can relax then usually the robbers find the bank or the richmens' houses and the large shop so that they can get alot of money as them can than the small shop or ordinary person's houses. Some of the thief injuring victims. This always happen during the festival seasons such as Hari raya Aidilfitri, Chinese New Year or Deepavali Day.

Argument among family member is the second of the causes. For example, if the father is passed away, his worth must be transfer to the children and his wife. This will make a difficult to get the agreement among them. This always happen in our society. because the distributenent of the luxuries are not fair. Also it can cause fight among the family. When bad attitude influence in distributed the worth, the relationship of the family will break.

Also, the money can increase the numbers of the greedy person. This always happen in our nation especially the seller, shopkeeper or the private clinic. They want to collect more the money than the money they might to get. For example the seller cheats in the charge or total amount that the costumer must to pay. Sometimes, they increasing the price of the certain goods such as subsitute goods and compliments goods. If the government does not control the price of this goods, the consumer may be suffered.

Lastly someones can being a killer. As in fact of the money, they able to kill somebody to fullfill their desires or needs. The number of the kidnappers also increase. This case is the easy way to get the luxuries. A richman and well known person always being the aim of this person to get the money.

In a conclusion, money is the root of all evil. The government should play their role to solve this problem.

Appendix D: Argument Map for Essay Arg2

Nowdays , can you see?? The most university courses are to theoretical and do not prepare students for the real world

The university courses in Malaysia just do theoretical examples UIAM , USM , UTM , UM and also of university except UITM — **supports**

Firstly can you see the courses in university , the certain courses do prepare the real world — **supports**

Secondly , we can understand the theory how its happen . — **supports**

it is another courses especially the Plantation of Management do *not just theoretical* — **supports**

In my opinion , more the courses have advantange between disadvantage because the same are important in our life — **supports**

but the most courses are to *theoretical* — **opposes**

Forthermore , if the study theoretical if we not understanding , we can read another book involve the another courses and do to see the lecturers give *lecture* . — **supports**

but it is many prepare students for the real world . — **opposes**

But if we do prepare for the real world in this case we can get the most experience compare we just *study theoretical* . — **opposes**

I feel it can not enough compare when do prepare the real world . — **supports**

Beside that , I think the more important as well as too theoretical and do prepare students for the real world . — **supports**

In this case can you see one of university courses are to theoretical and do not prepare students for the real world . — **supports**

If the prepare for the real world we can get chances to the job. because we are many experience . — **supports**

Highly problematic!

The nearest of our examples UiTM the certain courses can do prepare the real world — **supports**

So the more is important to our life — **supports**

but another courses more than *theoretical* — **opposes**

If we study theoretical , we know how , why , where , when , who something happen examples if we take of the science *courses* . — **supports**

When we study science courses it more the theorical examples when we study for chemical , we can look how happen organic nature ? Who can do it ? Where are doing ? and something else — **supports**

Appendix E: Argument Map for Essay Arg4