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The Semantics of Logical Connectors: *therefore, moreover and in fact*

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Abstract

When teaching English words, teachers and textbooks may place more emphasis on 'content' words (nouns, verbs, adjectives, adverbs) than on words that contribute to the 'textual' aspect of English, such as logical connectors. A consequence is that even if a student has some mastery of grammar and the use of 'content' words, they may not be able to produce cohesive texts or construct logical relations. Teaching the meanings of logical connectors is not easy, and the traditional use of synonyms and examples of use are not always helpful. Using synonyms in English or supposedly equivalents in the student's first language is not ideal because the student may end up understanding the word from the perspective of another word or, worse, another language. Using examples of use may be helpful to a certain extent but this method does not spell out the invariant meaning of the logical connector in question and the student is expected to draw their own conclusions on the basis of a few examples. To overcome such pedagogic obstacles, some scholars advocate the use of a maximally clear and minimally ethnocentric metalanguage, the natural semantic metalanguage (NSM), to capture word meaning. In this paper, the NSM methodology, founded by Anna Wierzbicka, is used to capture the meaning of three logical connectors, *therefore*, *moreover* and *in fact* for English language teaching purposes.

Keywords: *logical connectors, therefore, moreover, in fact, natural semantic metalanguage, academic writing, language pedagogy*

Семантика логических коннекторов: *therefore, moreover и in fact*

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Аннотация

В работе над английской лексикой учителя и учебники уделяют больше внимания 'содержательным' словам (существительным, глаголам, прилагательным, наречиям), чем словам, участвующим в создании 'текстового' аспекта английского языка, таким как логические коннекторы. Следствием этого становится то, что, даже если студент имеет определенный уровень владения грамматикой и использования содержательных слов, он может не уметь производить связные тексты и строить логические связи. Объяснить значения логических коннекторов в преподавании нелегко, и традиционное использование синонимов и примеров употребления здесь не всегда помогает. Исполь-

зование английских синонимов или возможных эквивалентов в родном языке студентов может привести к тому, что они станут понимать это слово с позиции другого слова или, что еще хуже, с позиции другого языка. Использование примеров до определенной степени может быть полезным, но этот метод не объясняет инвариантного значения логического коннектора, и при этом студент должен сам сделать выводы на основе нескольких примеров. С целью преодоления таких препятствий в процессе преподавания некоторые ученые предлагают использовать для объяснения значения слов максимально понятный и наименее этноцентричный метаязык — Естественный Семантический Метаязык (ЕСМ). В этой статье подход ЕСМ, основанный Анной Вежбицкой, используется для толкования значения трех логических коннекторов английского языка *therefore* (тем не менее), *moreover* (более того) и *in fact* (фактически) с целью преподавания.

Ключевые слова: логические коннекторы, *therefore*, *moreover*, *in fact*, естественный семантический метаязык, академическое письмо, методика преподавания иностранных языков

1. INTRODUCTORY REMARKS

As I am sure many English language teaching (ELT) practitioners can testify, discourse in ELT and related topics is often dominated by discussions on aspects of grammar and vocabulary, or aspects which are ‘tangible’. Much less emphasis seems to be given to the more ‘textual’ aspects of English, such as the use of logical connectors to link different parts of a text. As far as I can remember, when I was a student, no English teacher ever taught me how to use logical connectors like *moreover* and *in fact* to connect ideas. Obviously, no one is saying that grammar and vocabulary are unimportant but the fact seems to be that readers of an English text can usually forgive a non-native user of English for the occasional mistake in grammar and odd expression, as long as it does not impede understanding; the reader may recognize something as a local error and move on. However, something similar may not be said of logical connectors; the misuse of a logical connector may not be seen as simply a linguistic error, especially if it is associated with a student writer proficient in grammar; the wrong or inappropriate use of a logical connector could result in something that is seen as a logical fallacy and the apparent logical fallacy could raise questions about the student writer’s reasoning or even basic thinking skills. The challenges faced in the use of logical connectors are not limited to ESL or EFL students, but to students who speak a nativized form of English from a country that uses English as an official language (e.g. Singapore students).

Despite the importance of connectors in the construction of logical relations, it seems remarkable that most, if not all, of the English modules and books I have come across, first as a classroom English learner and later as an English teacher, do not specifically teach students the ‘logic’ underlying the use of logical connectors. Whatever the reason, if grammatical markers like tense-markers and agreement-markers, which appear to be semantically empty and whose non-Standard use in low numbers do not adversely affect understanding, are given much attention in many English language programs, there is no good reason why logical connectors, which contribute to textual integrity, should be marginalized.

However, explaining the meaning of a logical connector is not easy. Using synonyms in English or supposedly equivalents in the student’s first language is not ideal because the student may end up understanding the word from the perspective of

another word or, worse, another language. Providing examples of use may be helpful to a certain extent but this method does not spell out the invariant meaning of the logical connector in question and the student is expected to draw their own conclusions on the basis of a few examples. What we need is a rigorous method which allows us to clearly state the meaning of a logical connector and present it to students.

This paper addresses the gap by studying the meaning of three logical connectors, *therefore*, *moreover* and *in fact*, and shows how a statement of meaning couched in maximally clear and minimally ethnocentric metalanguage is helpful for English teaching purposes. The connector *therefore* seems particularly problematic. It is a relatively common connector found in university student writing but many university student writers do not seem to understand the nature of the causal effect that the word represents, even though many of the students were exposed to the use of this connector and the logic underlying its use in high school. A number of them think that, despite grammatical differences, the word is synonymous with *because*. The word *moreover* is also problematic but in the sense that it is often mistaken to be a word that introduces yet another idea. For example, a student might use it to introduce the final point of a list of points they want to highlight, even when these points are not presented to support an argument. As for connector *in fact*, even though it is an important connector in scientific discourse (Wierzbicka, 2006), in my experience, it seems to be rarely used by students, including overseas students, which is a problem in itself. It is probable that students are generally not familiar with this connector.

In addition, this study showcases a methodology that can be employed to explain or explicate meaning and presents it as a pedagogical approach aimed at teaching English learners complex concepts using concepts that are simple, intuitive and universal. This methodology is built on over forty years of research into semantic universals (Wierzbicka, 1972) and has been used extensively in semantics and cultural linguistics for the purposes of explicating meaning and explaining cultural norms by a number of scholars including Peeters (2006), Goddard (2006; 2008; 2011), Wierzbicka (2006; 2013) and Ye (2017).

2. PROBLEMS FACED BY LEARNERS

In this section, difficulties with the logical connectors *therefore*, *moreover* and *in fact* that students may face are highlighted and exemplified. One underlying problem may have to do with unfamiliarity with what it means to be logical. Another problem seems to be that dictionaries are not always helpful and in some instances misleading.

Let us begin with examples of inappropriate use of the connector *therefore* and the semantically similar *hence* among student writers (with examples from EFL student writers before Singapore student writers). In the following example, the causal relationship as implied by the connector *therefore* is not apparent or not made explicit. The student writer first states that there are different theories and concludes that more experiments are needed. It is not stated that the theories need to be verified and so it is not understood why more experiments are needed to verify them. There seems to be a missing link.

This topic has been debated for a long time. Based on different theories, we may finally draw different conclusions. Therefore, more experiments are needed to verify those theories.

In the next example from a critique, it is obvious that the statement introduced by the connector is not dependent on the context or reason given. Before the connector, a problem regarding the methodology section of a paper is identified and, after the connector, a suggestion is offered. However, it is not explained why the paper would be more comprehensible given the solution.

In Methods, it suffer from a number of limitations. First, the method or materials to conduct for this study are absent in this part. However, the authors mention the methodology in the introduction section. Therefore, the article would be more comprehensible if the authors moved the methodology in introduction part to the Methods' section.

In the following example, the student seems to imply that conducting a case study of epistemic qualifiers is the logic consequence of the importance for students to know how to use them. Although a kind of causal relationship seems obvious, the given cause is not a sufficient one and the effect is not inevitable. In this particular case, connecting the cause and effect with *because* ("Because it is important for us...") would seem to be a better choice than *therefore*.

It is important for us to know how to use epistemic qualifiers. Therefore, we present a case study...

The problem evident in all the examples above may be summarized in this way: some English learners write 'X; therefore Y' even though Y is not a logical consequence of X. In some cases, the relationship between X and Y is at best tenuous, which suggests that some students do not fully understand the meaning of the word. Here is a final example from an EFL student.

Also, there are some differences among the results of this article and some other articles as stated by authors. However, authors of this study didn't give some reasonable explanation. Therefore, authors of this article should explain their results in the results section much more clearly and organize the lengths of each section well.

This example comes from a critique of a paper. Commenting on the part that discusses the results, the writer says that the author of the paper does not explain something and therefore he should explain it. It is like saying, 'They didn't do it. Therefore, they should do it.' My explanation to the student and the class was that the need to explain something is independent of what the writer has or has not done. Thinking that it might help them see my point, I additionally asked them to translate the text into their native language. Here is what happened. The Chinese students (from China) of this particular class translated *therefore* into Chinese Mandarin as 所以 (suóyǐ), which in my opinion is the best translational equivalent. This answer did not surprise me. What surprised me was that, while some of them could understand my point, they insisted that the relationship worked in Chinese. In other words, according to some of my students, one could say something like, 'He didn't do it, therefore, he should do it' in Chinese! I insisted that whether one should do something did not depend on whether one did it but they maintained their stand that it was fine to say it in Chinese.

As mentioned, Singaporean students, many of whom speak Singapore English, a non-Standard form of English that is shaped by Southern Chinese cultures (Wong, 2014), as their dominant language, do not always get it right either. Here is an example from a literature review.

Thirdly, the authors should revise the literature review of previous studies. Although a lot of detailed information is provided, the organization is not clear. *Therefore*, it could be better if the authors can reorganize this part and link it to the objective of this study. Moreover, no citations in the first two paragraphs are included to support the figures presented.

In this last example, it is not clear how poor organization could lead to what the authors could do.

Below is an example from a reflective piece. In this following example, the logical connector is simply extraneous.

Though it is essential to have the technical expertise to solve a problem, expressing technical knowledge in an inappropriate manner will bring about unfavourable outcomes. *Hence*, this illustrates the inter-dependence between communication skills and technical knowledge.

Let us now consider a final example from an introduction to a paper written by a Singapore student.

As we can see in the example, the English translation and the original meaning of the proverb is totally different. *Therefore*, the Malay students would rarely use Malay proverbs in SMS. This is due to the change in meaning after the translation and the fact that they do not know how to express it properly when the proverb is translated into English. Even if the proverbs are used in English SMS, it is partly to show cultural identity.

This example is particularly problematic. Usually, the reasons or arguments that guide the author to a conclusion are presented *before* the connector is used. However, in this case, a reason is presented afterwards. Also, the cause and effect is not clearly established.

It is not just learners who face challenges with the word *therefore* and similar words. English teachers who are non-native speakers could also use the word in ways that do not fully conform to Standard English rules. Here is an example from an email written by an ethnically Chinese teacher of English from Malaysia. The writer is a lecturer (but not the coordinator) and is writing to other lecturers of the same module.

Due to the small number of students in group [X] and some other groups, we have closed down group [X] which I had been assigned to teach. [The coordinator] suggested that the students go to their respective re-assigned groups starting today. I am *therefore* writing to inform you of the additional students in your groups, as follows...

In this example, the writer's class is closed and the students who signed up for that class have been assigned to other classes and the writer is writing to other lecturers to tell them they will have more students in their classes and who the students are. However, one would have expected the coordinator to email lecturers about this matter. As a British consultant puts it, the use of *therefore* here, while 'not totally out of order',

is nonetheless ‘a bit weird’ (email, 2012). According to the consultant, the one who should have written the email was the coordinator of the module, not one of the other lecturers. If there are changes in a module and all the lecturers of the module need to be informed, one would expect that the coordinator, not another lecturer, writes to all. In short, only the coordinator of the module could rightfully say, ‘I am therefore writing to inform you...’

There is evidence to suggest that some learners of English from China do not view logic the way Anglo English speakers do. When a Chinese speaker uses a logical connector to describe a relationship, at least in an informal setting, they may be less strict about whether the logic is watertight than their English counterparts. I once asked a post-graduate student from China to explain the difficulty to me (November, 2011) and here is what she wrote (followed by a translated version, by me).

在中国文化和社会的情景下，我们往往不是很严格遵循句与句之间的因果关系。也就是说，在中文中，当我们把两个句子用因为，所以，因此等表示因果关系的连接词联系在一起时，这两句句子有时并不存在严格的因果关系而只是有某种联系性而已。在口语中，我们对于句与句的因果关系的处理更随意。有时，用因此等词连接起来的两句句子间甚至都没有逻辑意义上的关系，而只是一种大家约定俗成的，情理层面上的联系。于是，当我们把这种中国式的观念运用到英文写作中（尤其是 scientific writing）时，问题就产生了。在上英语课时，Jock 时常指出我们错误地运用了 therefore 这个词。许多中国学生表示不理解。其分歧在于，老外只在两件事间有强烈而直接严格的因果关系时才会用 therefore 这个单词。使用一个数学词汇来说就是，therefore 的主句必须是从句的充分条件。

下举一例：

The samples of this study are not representative enough. Therefore they need to collect data which are representative.

X: The samples of this study are not representative enough

Y: They need to collect data which are representative.

这句话中 therefore 的用法是错误的，也许我们会觉得它看上去是成立的。原因在于，只要是做研究，就必须收集具有代表性的数据。而不是因为研究刚开始的时候收集的数据不合适，作为弥补，才要去收集有代表性的数据。一句话，X 和 Y 不存在直接的因果关系，X 不能推出 Y。

而如果我们说：

The samples of this study are not representative enough. Therefore its result is not reliable.

X: The samples of this study are not representative enough

Y: its result is not reliable

这句话中的因果关系成立，therefore 的用法正确。因为样本不具代表性，所以结果可靠。他们之间的因果关系是直接的。即 X 能充分地推出 Y。

Here is the English translation.

In the Chinese context, we do not have strict rules in observing causal relations between sentences. In other words, when Chinese people use connectors such as *because*, *so* or *because of this*, to link two sentences in writing, it is not necessary that these two sentences have a strict causal relationship, as long as they express a kind of relationship. In oral communication, we are even less mindful of causal relations; sometimes two sentences linked with causal connectors have no logical relationship at all; the relationship is understood by the addressee by convention. When we apply these Chinese perspectives to writing (especially scientific writing), problems emerge. In class, Jock often pointed out that we used the word ‘therefore’ wrongly, but we did not understand why. The reason is that in English, ‘therefore’ is used when two sentences have a strong, direct and strict causal relationship. In mathematical terms, the former clause should be a sufficient condition for the emergence of the latter.

Here is an example to explain my point:

The samples of this study are not representative enough. Therefore they need to collect data which are representative.

First clause A: The samples of this study are not representative enough

Second clause B: They need to collect data which are representative.

In this sentence, the use of ‘therefore’ is wrong. The reason is that researchers need to collect representative data for their study. It is not because they did not do well enough that they needed to collect representative data. In short, there is no direct causal relationship between X and Y. X does not lead to Y.

Here is another example:

The samples of this study are not representative enough. Therefore the results are not reliable.

First clause X: The samples of this study are not representative enough

Second clause Y: the result is not reliable

The connector ‘therefore’ is correctly used here. There is a direct causal relationship between X and Y; X leads to Y.

This explanation accounts for many of the odd uses of the word *therefore* that I have come across. The implication seems to be that students can use a connector that implies a strong logical relationship to describe a weak one. This could partly explain why, in some examples, while students do not always get it totally wrong, they do not always get it right either. Such examples can appear odd.

While the explanation above may help us understand why English learners from China find the learning of logical connectors challenging, it may be more difficult to understand why English learners from Singapore, at least students of science, find it challenging. The fact seems to be that Singaporean science students read mathematics in high schools and are thus exposed to the use of *therefore* and other semantically similar connectors like *hence*. In mathematics textbooks, logical connectors are often used in illustrations, as the following example from Ho & Khor (2010, p. 65) show.

Show that the roots of the equation $x^2 - 2x + 2 = p$ are real and distinct if $p > 1$.

$$x^2 - 2x + 2 = p \Rightarrow x^2 - 2x + 2 - p = 0$$

Here $a = 1$, $b = -2$ and $c = 2 - p$. Now,

$$\begin{aligned}b^2 - 4ac &= (-2)^2 - 4(1)(2 - p) \\ &= 4p - 4 \\ &= 4(p - 1)\end{aligned}$$

If $p > 1$, then $p - 1 > 0$ and so $b^2 - 4ac > 0$

Therefore, the roots of the equation are real and distinct if $p > 1$

This example and many others suggest that Singaporean students who have read mathematics in high school are expected to understand logical relationships but a number of Singaporean engineering students, all of whom have read mathematics at high school, do not appear to fully understand the meaning of *therefore*.

Another problematic connector is *moreover*. As an academic writing teacher, I have not come across a single student, Singaporean or overseas, who has used the word correctly before I explain to them how the word is to be used. A number of students seem to use it to mean something like *also*, as the following two examples suggest.

Figure 1 shows the percentages of treatments using non-donor eggs that resulted in pregnancies, births and single births by age of woman. As can be seen the success rates are consistently below 50%. Apparently, the patients should be mentally prepared for failure of their ART treatments. *Moreover*, women in their 20s and early 30s enjoy higher success rates, and women suffer decreasing rates after their mid-30s. Since age is a significant factor on pregnancies and births, women should take their own age into consideration. Notably, there is a gap between the curves of total births and single births, indicating that women in age of 22 to 36 have a good chance to get multiple births.

Among the statins, pravastatin is one of the first introduced and has been extensively studied on the market. Pravastatin can selectively inhibit cholesterol synthesis in the liver and small intestine, but not in peripheral cells. Furthermore, recent studies suggest that pravastatin has neuroprotective effects from experiments on rats with acute ischemic stroke as a result of cholesterol-independent mechanisms. *Moreover*, pravastatin can improve endothelial nitric oxide synthase-mediated vessel relaxation and anti-inflammatory effects.

Generally, students use *moreover* to introduce a final point about something, which is not necessarily an argument.

But there are several shortcomings the authors should address. Firstly, the authors chose six traditional groceries, yet only one specialty grocery was selected as the comparison. It would be better if the authors choose more specialty groceries. Also, the authors should describe how they identify the 8 characteristics. Thirdly, there is no mention of how the data are analyzed. *Moreover*, it could be better if the questionnaire was included as an appendix.

The materials section has two major problems. Firstly, authors didn't given evidences to show that different level video game has different level of violence. They set this scale merely according to their assumption. Secondly, there is no specific method about how the four groups were divided and how many individuals were involved in each level of violence. *Moreover*, it is still puzzling how many men and how many women were involved in each investigation.

It is evident in all these examples that learners do have some idea on how to use the word *moreover*. Firstly, they know that the connector is an adverb, not a conjunction.

They also know that its meaning is similar to *in addition* and is used to introduce an idea, usually expressed in the form of a statement or a declarative. However, what they know appears to be incomplete. This may be problematic in the sense that it could confuse the reader in ways that a blatantly wrong use would not; it might lead the reader into believing that they have missed something (e.g. a claim to be supported) and re-reading the preceding part, as I do sometimes when I read my students' writing.

As mentioned, examples of *in fact* are less commonly attested but here are two examples from a single paragraph that is written as a data commentary.

Figure 1 shows the average percentage of student's performance to do all tasks at different temperatures. As can be seen, in general, the most stable performance is shown in 23.5 °C temperature condition within 3 hours. *In fact*, in the first session 20 °C is the best performance than the others. Otherwise, in 3 hours session 20 °C temperature condition become slightly decrease for the student's performance. These results suggest that the temperature should be increase from 20 °C to higher temperature after 60 minutes session. Furthermore, in overall, after 3 hours session, the student's performance slightly decrease in all temperature condition. *In fact*, after 2 hours, 23.5 °C temperature condition shows the best performance. This result suggest that in 1 session do not more than 120 minutes per session and the acceptable temperature condition is in average 23.5 °C.

This preceding example comes from an Eastern European student who speaks English rather fluently. Their use of *in fact* does not appear to be governed by any discernible semantic rule. Below is another example, this time from a Chinese student, commenting on the findings of an experiment that shows that people give the speaker of Standard Singapore English (SSE) higher ratings than the speaker of Singapore colloquial English (SCE) on the basis of a number of traits (e.g. status, honesty), without knowing that the two speakers are the same person.

Figure 1 shows the mean ratings from 75 Singaporean NUS [National University of Singapore] students of the two recordings by trait. As can be seen, SSE [Singapore Standard English] receives higher ratings than SCE [Singapore colloquial English] in most of traits. Especially in the traits of Status components, SCE gets almost half ratings compared with SSE. Besides, the ratings of SSE are constantly high while SCE are not. SCE just receives approximate ratings in Solidarity components compared with SSE. And only the ratings of honest are the same in both SCE and SSE. *In fact*, SSE may receives much more respect than SCE especially in the aspect of status. However, since two recordings are from the same speaker, it seems that the bias of different languages may exists. Therefore such association between characteristics of the people and language they speak should not be encouraged.

Again, it is difficult to see the role of *in fact* in this last example. While one could at least perceive some learner rules underlying most instances of non-Standard use of *therefore* and *moreover*, one could hardly say the same thing about *in fact*. This suggests that while many learners have a rough and incomplete idea of what *therefore* and *moreover* mean, a number of them may have no clue regarding the meaning of *in fact*.

It is important for English learners to master the use of logical connectors. Such words are especially important for learners who are pursuing a post-graduate program and need to write a thesis in English. They help them construct sound arguments and present ideas logically and rationally in ways that are acceptable to the academic community.

3. METHODOLOGY FOR TEACHING

It is not uncommon for English teachers to help students understand the meaning of a word by using another word. This approach may be called the ‘lexical equivalent’ approach (Wierzbicka, 1986, p. 521). Even students use this approach. For example, when I ask my students what the word *highlight* means, the answer I usually receive is a one-word *emphasize*. The approach is also commonly used in English dictionaries. A few examples are in order. To define the word *therefore*, the online Merriam-Webster dictionary gives two definitions¹, the first of which comprises three expressions and, the second, one.

- 1a. for that reason: consequently
- b. because of that
- c. on the ground
2. to that end

The Free Dictionary, which cites The American Heritage Dictionary of the English Language and the Collins English Dictionary, has two entries, each of which has two sub-entries or words²:

thus, hence...
consequently, as a result

Answer.com also has two entries, each of which has two alternative expressions³:

For that reason or cause; consequently or hence.

The problems with the lexical equivalent approach are obvious from these examples. Firstly, the approach does not attempt to look for the invariant meaning of a word. Instead, they provide several near synonyms or synonymous phrases in the hope that the learner can somehow grasp the meaning from them. These various definitions clearly reflect a failure to capture the semantic invariant of the word. Secondly, the near synonyms and synonymous phrases given are, strictly speaking, not definitions. They are interchangeable in many contexts but not all, which means that they are not semantic equivalents. Consider this example from The Free Dictionary (with added punctuation) and the follow example in which the connector is replaced with near synonyms:

Those people have their umbrellas up. Therefore, it must be raining.

Those people have their umbrellas up. *Consequently/As a result, it must be raining.

Many dictionaries fail by giving the incorrect impression that different words (e.g. *therefore* and *consequently*) are exact synonyms. This is obviously not the best way to learn the meaning of a word.

Further, a problem with this approach has to do with circularity (Goddard, 2011; Wierzbicka, 1996), as when a word is defined in terms of words which are in turn defined in terms of the original word. To use an example, according to the online Merriam-Webster dictionary, one of the meanings of *therefore* is *consequently*. One of the

¹ <http://www.merriam-webster.com/dictionary/therefore>

² <http://www.thefreedictionary.com/therefore>

³ <http://www.answers.com/topic/therefore>

meanings of *consequently* is *accordingly*⁴. One of the meanings of *accordingly* is *so*⁵. Finally, one of the meanings of *so* is *therefore* and another one is *consequently*⁶. In this case, there are two ‘circles’:

therefore → *consequently* → *accordingly* → *so* → *therefore/consequently*.

Finally, some lexicographers do not seem to recognize a useful explanation when they see one. An example comes from The Free Dictionary. Somewhere below the definitions for *therefore*, there is a description in the thesaurus that says ‘used to introduce a logical conclusion’ in brackets. I find this a helpful explanation, much more descriptive than all the rest, but it is not presented among the given definitions. Instead, it is presented in brackets, which diminishes its importance.

Some scholars like Allan (1986) and Goddard (2011) suggest that a good way to state the meaning of a word is the use of paraphrase. The use of a paraphrase to attempt to explain meaning may be considered a ‘common sense’ approach (Wierzbicka, 1986, p. 529). It is, after all, an approach that is commonly found in dictionaries. However, one has to be careful and ensure that the paraphrase fulfills a certain criterion, as spelt out by Wierzbicka (1996, p. 11): ‘to understand anything we must reduce the unknown to the known, the obscure to the clear, the abstruse to the self-explanatory.’ This criterion of clarity in a semantic paraphrase is also echoed elsewhere: ‘Any explanation of a word-meaning worth its salt must be framed in terms of simpler, more easily understood words’ (Goddard, 2011, p. 33). Other scholars in the past have also recognized the potential of using a kind of ‘core vocabulary’ for English teaching purposes (Carter, 1987), although none has studied the area as extensively as Wierzbicka, Goddard and colleagues have.

For it to have explanatory power, the paraphrase should ideally compromise only or mainly simple words. The simpler the words used to construct a paraphrase, the more explanatory power the paraphrase has. A paraphrase that uses simple or simpler words is called a ‘reductive’ paraphrase (Goddard, 2011, p. 64). One advantage of explaining meaning using a reductive paraphrase is that it could help learners ‘predict the appropriate range of use of a word’ and meet descriptive adequacy (Goddard, 2011, p. 37). A reductive paraphrase could also help the instructor aim for precision and the learner grasp the meaning of the word to be learned.

Ideally, a reductive paraphrase should be constructed from words the meaning of which is inherently simple and intuitive clear. Studies (Goddard & Wierzbicka, 1994; Goddard & Wierzbicka, 2002; Peeters, 2006; Yoon, 2005) have shown that some words are so simple that they resist all attempts to define them in simpler terms. Such words are called semantic primes. Additionally, studies have also suggested that semantic primes are also semantic universals, in the sense that every semantic prime has a counterpart in every natural language. At this stage, research has established over 60 semantic primes (Goddard, 2011).

⁴ <http://www.merriam-webster.com/dictionary/consequently>

⁵ <http://www.merriam-webster.com/dictionary/accordingly>

⁶ <http://www.merriam-webster.com/dictionary/so>

Obviously, words alone are not enough. Words need to be combined into meaningful phrases and clauses. However, it is understood that language-specific grammar, which is used to combine words, can also be semantically complex (Wierzbicka, 1988). To allow for maximal clarity, it is important to steer clear of complex meaning generated by grammar. Studies have shown that certain word combinations have meanings that are easy to understand and can be rendered in all languages. For example, a certain combination of the semantic primes *I, want, you, do* and *this* can yield the clause *I want you to do this*, which can be rendered in any language and the meaning of which is maximally clear.

Semantic primes and their universal combinations thus constitute a metalanguage that can be used to formulate paraphrases to explain meaning with maximal clarity. As this metalanguage is universal, any paraphrase it constructs may be translated into any other natural language with maximal ease. Practicing scholars call this metalanguage ‘natural semantic metalanguage’ (NSM). The use of NSM and its offshoot Minimal English (Goddard & Wierzbicka, 2018), which includes an expanded vocabulary and comprises near-universally used English words, could conceivably help learners understand English (or another other language) from the inside. This means that NSM can be used for pedagogic purposes (Goddard & Wierzbicka, 2007). However, to the best of my knowledge, this idea has rarely been put into practice. This study possibly represents one of the first attempts at using NSM and Minimal English for ELT purposes.

4. THE MEANING OF *THEREFORE*

As discussed, definitions of *therefore* from dictionaries include ‘for that reason’, ‘because of that’, ‘consequently’, and ‘as a result’. The common theme appears to be one of cause and effect. This is consistent with the findings of scholars who describe the connector as reflecting a ‘causal’ or ‘causal-conditional’ relationship (Celce-Murcia & Larsen-Freeman, 1999, p. 530; Halliday & Matthiessen, 2014, p. 619). All this seems to suggest that the meaning of *because*, the semantic prime that designates a causal relationship (Goddard, 2011), is prior to the meaning of *therefore*; we need the word *because* (or its allomorph *why*) to define *therefore*. Halliday and Hassan (1976, p. 232), for example, claim that the word *therefore* is ‘roughly equivalent in meaning’ to *because of this*. Examples from the online Webster dictionary suggest that the concept of *because* is important in defining the word:

The cell phone is thin and light and *therefore* very convenient to carry around.

Payment was received two weeks after it was due; therefore, you will be charged a late fee⁷.

Paraphrasing the sentences with *because* seems to yield very similar meanings:

The cell phone is very convenient to carry around because it is thin and light.

You will be charged a late fee because payment was received two weeks after it was due.

⁷ <http://www.merriam-webster.com/dictionary/therefore>

It therefore seems tempting to define *therefore* in this way:

X; therefore, Y =

because of X, it is like this now: Y

However, the word *therefore* appears to be semantically more complex, even if, according to an anonymous reviewer, it functions syntactically as a near converse of *because of this*. It does not merely describe a causal relationship. Consider these two hypothetical examples:

John cried because his colleagues called him names.

John's colleagues called him names. Therefore, he cried.

They obviously do not mean the same thing. In the first example, the word *because* explains why John cried, whether the reason is acceptable to people in general. However, in the second sentence, the implication (roughly speaking) seems to be that crying is a logical consequence of what the colleagues did. In the first example, the addressee might think that there is something wrong with John, whereas in the second example, the addressee might think that there is something wrong with the speaker for drawing that relationship. A British consultant succinctly describes an important difference between *because* and *therefore*. According to him, 'I think perhaps there is more emphasis on causation in 'because'. I caught a cold because it was raining. It was raining therefore I caught a cold seems more inevitability'.

The keyword seems to be *inevitability*. The connector reflects a sense of inevitability, which seems to be compatible with the idea of a logical consequence. Celce-Murcia and Larsen-Freeman describe the relationship in a similar fashion, saying that, *therefore*, 'when used with causes, tends to be used when listeners/readers are in a much better position to come to the conclusion on their own' (1999, p. 534). However, they also add that the word 'is also used in such a way as to invite listeners/readers to construct an inference of a noncausal type, which is again like to be easy for them to construct based on the fact given' (Celce-Murcia & Larsen-Freeman, 1999, p. 534). Here is their example:

The gun was under the bed; Smith had a guilty look on his face; *therefore*, it is likely that Smith committed the crime. (Celce-Murcia & Larsen-Freeman, 1999, p. 534)

This is interesting because the authors imply that *therefore* does not necessarily reflect a causal relationship but possibly an inferential one. The (online) Free Dictionary also says that the word is 'used to mark an inference on the speaker's part'. However, it may be argued that an inferential relationship must in a way be causal in nature. If someone can infer Y from X, it may be said that X is the reason why someone can arrive at Y: because of X, you now know why it is Y. The following example from The Free Dictionary (online) helps illustrate this point⁸:

Those people have their umbrellas up: therefore, it must be raining.

⁸ <https://www.thefreedictionary.com/therefore>

In this example, the speaker sees people having their umbrellas up. Even though there can be other reasons for having one's umbrella up, the most rational explanation is that it is raining, because that is what umbrellas are usually associated with.

In sum, the paraphrase or explication to describe *therefore* must be compatible with both a causal and an inferential relationship. In other words, the explication must describe these two situations. Also, it should reflect the notion of inevitability. Here, I present a proposed statement of meaning of the connector *therefore*:

X. Therefore, Y =

I want you to know it is like this: X

because of this, you now know why it can't not be like this: Y

This explication could be explained in two parts. The first part refers to the 'reason' given and the second part refers to that which is perceived to be inevitable. The explication reflects a causal relation, which could explain why the connector is often defined as 'because of' or said to express a 'causal relationship'. In addition, the part 'it can't be like this' expresses a sense of inevitability (as discussed above), which means that the connector embodies more than a mere causal relationship. This is compatible with Goddard's observation that the connector is related to speech acts, in particular 'I conclude' (email, Dec 2010).

The explication can be tested against an example provided by John Wakefield, who was responding to my request for a review of my explication. Here is his example:

I'm crazy busy at the moment, but I find this to be a very interesting challenge. I will 'therefore' work on this later and tell you my thoughts.

Here is the explication:

I want you to know it is like this:

'I'm crazy busy at the moment, but I find this to be a very interesting challenge.'

because of this, you now know why it can't not be like this:

'I will work on this later and tell you my thoughts.'

This particular example is interesting because, whereas in many other examples Y refers to something observable and perhaps even a foregone conclusion sometimes, here Y refers to a future act not yet observable. Nevertheless, the connector may be used because the addressee is expected to be able to see why this has to be the case, that is, why the speaker can only do it in the future.

5. THE MEANING OF *MOREOVER*

The connector *moreover* may prove to be more challenging for learners than *therefore* if only because it is rarely used in everyday speech. According to the online Longman Dictionary of Contemporary English Advanced Learner's Dictionary (LDCEALD)⁹, the word is 'very formal and not common in spoken English'. As a British consultant admitted to me, 'I don't use it very often' (email, Dec 2011). When I commented to him, 'I read that it's a formal word that is rarely used in conversations', he

⁹ <http://www.ldoceonline.com/dictionary/moreover>

responded: ‘Yes — *moreover* is quite a literary word, used in formal writing. You can use it in speech but it sounds literary.’ Perhaps because of this, the LDCEALD encourages readers to use ‘**besides** or **also** instead’ (original bold).

However, asking learners to use *also* and *besides* instead of *moreover* is hardly helpful from a pedagogic perspective and, furthermore, the words have different meanings. Two self-proclaimed native speakers, who go by the handles *lizzeymac* and *kaylee*, discuss their semantic differences online in WordReference.com¹⁰.

While people may use [‘moreover’] interchangeably with ‘also’ in casual (sloppy) English it does not mean also or in addition to, it means ‘what is more important (than those facts I have already stated)’ or ‘what is of greater impact’. Greater than, not in addition to. (*lizzeymac*, May 17, 2006)

I would not use *moreover* and *besides* interchangeably, but maybe you can in AE¹¹, or maybe I am wrong!

I would use **besides** if making another point that perhaps is slightly off topic, whereas I would use *moreover* for if I was making a point that was stronger than the last one.

Eg I don't want to go to the party and **besides**, there are no buses to take me.

or

I don't want to go to the party and **moreover**, why is she even having a party in the middle of exam leave?

However, in informal spoken language I would not use *moreover* at all. (*kaylee*, May 17, 2006)

As the writers suggest, *moreover* implies that the idea it introduces is somewhat more important than the one presented before. This is consistent with what my consultant Emlyn-Jones says, ‘So I think it is saying, that even if there's any doubt about the first statement, the second one overrides the doubt’ (email, Dec 2011). This meaning is presumably not expressed by the connectors *also* and *besides*.

There have been various attempts to define the word. Some examples can be found on an online dictionary *wordswarm.net*¹², which presents a list of definitions from various dictionaries and here are some of the given definitions.

[more and over.] Beyond what has been said; further; besides; also; likewise. (Webster, 1828)

(introducing or accompanying a new statement) further, besides. (Oxford Reference Dictionary)

[More + over.] Beyond what has been said; further; besides; in addition; furthermore; also; likewise. (...) Syn: Besides, Moreover. Usage: Of the two words, *moreover* is the stronger and is properly used in solemn discourse, or when what is added is important to be considered. (Webster, 1913)

You use **moreover** to introduce a piece of information that adds to or supports the previous statement. (Collin's Cobuild Dictionary)

¹⁰ <http://forum.wordreference.com/showthread.php?t=151856>

¹¹ It is not certain what the author means by ‘AE’ but it could be ‘American English’

¹² <http://www.wordswarm.net/dictionary/moreover.html>

All these definitions, or in some instances near synonyms, do tell us something about the word, even if they mostly do not precisely capture its semantic invariant and are not particularly helpful from a pedagogic point of view. It seems obvious that the connector means more than ‘in addition’, as implied by its morphological makeup *more* and *over*. The Collin’s Cobuild Dictionary is right in saying that it is used to introduce something in support of something previously said, like a kind of reason. As similarly stated in various online source: the connector is ‘used to introduce information that adds to or supports what has previously been said’¹³, to ‘supplement an argument’¹⁴, and ‘suggests that you are about to give an additional reason’¹⁵.

All these explanations tell us that the connector allows the speaker to introduce something to support an idea, as the following example from one of the sources referred to above shows.

I don't like that car; it's too small to fit all of us into. Moreover, it's green, and I hate green.

In this example, the speaker states that he does not like the car and explains why. Firstly, the car is too small. Secondly and presumably more importantly, the car is green, a colour he proclaims to hate. This important aspect of the meaning of the connector is exemplified in the following dictionary examples.

The cameras will deter potential criminals. *Moreover*, they will help police a great deal when a crime actually is committed. (Webster online)

Swimming alone is against the rules and, *moreover*, it's dangerous. (Webster online)

The rent is reasonable and, *moreover*, the location is perfect. (LDCEALD)

The source of the information is irrelevant. *Moreover*, the information need not be confidential. (LDCEALD)

A fairly good description of the word comes from Celce-Murcia and Larsen-Freeman (1999, p. 533), who write, ‘*Moreover* is used primarily in arguments where several premises are used to support a conclusion of some sort’. More specifically, however, supporting ideas are given and the connector introduces a *final* supporting idea that is positioned as being more important than the previous ones. Here is a good example given by Celce-Murcia and Larsen-Freeman (1999, p. 533).

Smith probably committed the crime. He had a guilty look on his face. *Moreover*, the police found a gun under his bed.

This is a good example, as it clearly reflects the meaning of the connector. There is first and foremost a statement (‘Smith probably committed the crime’). It is followed by a supporting idea (‘He had a guilty look on his face’) and another, *final*, supporting idea that appears to be more important than the former one (‘the police found a gun under his bed’).

¹³ <http://www.ldoceonline.com/dictionary/moreover>

¹⁴ http://wiki.answers.com/Q/What_does_the_word_moreover_mean

¹⁵ <http://www.english-test.net/forum/ftopic33893.html>

Interestingly, the connector *moreover* is different from *therefore* in one important respect. In the case of *therefore*, the claim that the speaker wants to make appears after the connector and the supporting idea(s) before. By contrast, in the case of *moreover*, the claim that the speaker wants to make appears before the connector, while the supporting ideas, before and after. Here is the proposed meaning of *moreover*.

X. Moreover, Y. =

I said something because I wanted you to know how I think about something
at the same time, I wanted you to know why I think it is like this
because of this, I said, ‘X’
I now want to say one thing more
I want to say it because I want you to know why I think it has to be like this
I say, ‘Y.’
I don’t have to say anything else now
After this, I think that you will think that it has to be like this

This explication tells us that the connector is used to support an idea (e.g. a stand, an argument). It implies that the speaker has already said something to support the idea but is introducing something of greater significance than the previous ideas. We can now test this formulation against the example from Celce-Murcia and Larsen-Freeman (1999, p. 533).

Smith probably committed the crime. He had a guilty look on his face. Moreover, the police found a gun under his bed. =

I said something because I wanted you to know how I think about something:
‘Smith probably committed the crime.’
at the same time, I wanted you to know why I think it is like this
because of this, I said, ‘He had a guilty look on this face.’
I now want to say one thing more
I want to say it because I want you to know why I think it has to be like this
I say, ‘The police found a gun under his bed.’
I don’t have to say anything else now
after this, I think that you will think that it has to be like this.

It might be added here that this is a particularly good example because the claim (‘Smith probably committed the crime’), a first reason for the claim (‘He had a guilty look on his face’) and a more important reason (‘the police found a gun under his bed’) are all given. In many other examples presented in dictionaries, the claim is implicit.

6. THE MEANING OF *IN FACT*

A distinction should be made between two meanings of *in fact*, one of which is the object of this study. One meaning allows it to be used to introduce a phrase (e.g. noun phrase, adjectival phrase), as exemplified by the following example:

...that sleek slab levitating in midair is *in fact* a bed, and it is floating unsupported — though lightly tethered at its four corners...¹⁶

¹⁶ http://www.beedictionary.com/meaning/in_fact

This is presumably different from saying, ‘(...) *In fact*, that sleek slab levitating in midair is a bed’, where *in fact* introduces a clause, thus functioning as a connector. As a connector, *in fact* has an additive sense. As we shall see, the connector introduces an idea in support of something. When *in fact* is used to introduce a phrase, it does not appear to have this additive sense.

According to Halliday and Hassan, *in fact* belongs to the class of connectors the meaning of which is something like ‘as against what the current state of the communication process would lead us to expect, the fact of the matter is...’ (1976, p. 253). The connector expresses an ‘adversative relation’ and its meaning may thus be described as ‘contrastive’ (Halliday and Hassan, 1976: 253). Roger Woodham, on a webpage in the BBC World Service website (‘Learning English’)¹⁷, says something similar. According to Woodham, the connector ‘can be used to modify or contradict a previous statement’, as the following example from the same webpage shows:

Well, it may sound very straightforward to you, but in fact it’s all very complicated.

However, the same BBC webpage points out that the connector has another use. Apparently, it ‘can also be used to introduce more detailed information or to make things clearer or more precise’, as the following examples given suggest:

I got so bored with what he was saying that *in fact* I fell asleep.

I’m going to take on a bit more responsibility now that Kevin’s left.
John, that’s wonderful news.

Yes, well, *in fact* I’ve been promoted to senior sales manager.

Here is another, longer example of this other use from James Chartrand’s blog. The details might be necessary to reveal the meaning of *in fact*.

(...) I really, really wanted to make this work.

But I was still having a hard time landing jobs. I was being turned down for gigs I should’ve gotten, for reasons I couldn’t put a finger on.

My pay rate had hit a plateau, too. I knew I should be earning more. Others were, and I soaked up everything they could teach me, but still, there was something strange about it...

It wasn’t my skills, it wasn’t my work. So what were those others doing that I wasn’t?

One day, I tossed out a pen name, because I didn’t want to be associated with my current business, the one that was still struggling to grow. I picked a name that sounded to me like it might convey a good business image. Like it might command respect.

Instantly, jobs became easier to get.

There was no haggling. There were compliments, there was respect. Clients hired me quickly, and when they received their work, they liked it just as quickly. There were fewer requests for revisions — often none at all.

Customer satisfaction shot through the roof. So did my pay rate.

And I was thankful. I finally stopped worrying about how I would feed my girls. We were warm. Well-fed. Safe. No one at school would ever tease my kids about being poor.

¹⁷ <http://www.bbc.co.uk/worldservice/learningenglish/grammar/learnit/learnitv247.shtml>

I was still bringing in work with the other business, the one I ran under my real name. I was still marketing it. I was still applying for jobs — sometimes for the same jobs that I applied for using my pen name.

I landed clients and got work under both names. But it was much easier to do when I used my pen name.

Understand, I hadn't advertised more effectively or used social media — I hadn't figured that part out yet. I was applying in the same places. I was using the same methods. Even the work was the same.

In fact, everything was the same.

Except for the name. (...)

What all this seems to suggest is although *in fact* is often used in a counter-argument, it does not have to be. It could also be used to elaborate or support an argument or a proposition. Nonetheless, these two uses seem to have something in common; in both cases there seems to be a strong implication or indication that the speaker wants to support what they have just said with a piece of fact. This means that any difference is more contextual than semantic and we may thus not need to posit two meanings for this connector.

It should be mentioned that the meaning of *in fact* is complex because it embodies the meaning of the word *fact*, a quintessentially English word; one needs the word *fact* to define *in fact*. The word *fact* will not be discussed in any detail here because Wierzbicka (2006, p. 43) has defined the word (in the plural form):

facts =

people can know that it is like this

they can know it as they can know that something is in a place if they see that place

if someone wants to know that it is like this they can do something

other people can do the same thing

What this essentially means is that facts constitute knowledge and are knowable to people. They have to do with what one knows, not what one thinks. Facts are also expected to be accessible to anyone in the sense that it does not depend on any one individual's opinion.

Another important characteristic of *in fact* seems to be that, unlike *therefore* and *moreover*, the user is not exactly trying to provide evidence to support a given claim. Rather, they are trying to introduce a piece of fact which says something broadly similar or something that entails what the speaker wants to say. For example, when one says, 'I got so bored with what he was saying that in fact I fell asleep', the speaker is not exactly presenting the fact that they fell asleep as evidence that they were bored. Rather, they are saying broadly similar things when they say 'I got so bored' and 'I fell asleep'. However, the latter ('I fell asleep') is presented as a fact and, being a fact, it gives weight to the claim. Additionally, the idea that 'I fell asleep' (in this context) entails the idea that 'I got so bored'.

The idea that *in fact* is used to introduce a fact that says something similar or something that entails a given idea is important, because this means that one semantic component of *in fact* is 'if you know this fact, you will know why *I said* that it is like this'

rather than ‘if you know this fact, you will know why it is like this’, which implies a kind of cause and effect relationship.

It is proposed here that the meaning *in fact* may be explicated in this way, with the word *fact* acting as a semantic molecule.

In fact, X =

I said about something: it is like this

I now want to say something more

this something is a fact

if you know it, you can know why I said that it is like this

the fact is this: Y

This formula seems to have some descriptive adequacy.

I got so bored with what he was saying that in fact I fell asleep =

I said about something: it is like this, ‘I got so bored with what he was saying.’

I now want to say something more

this something is a fact

if you know it, you can know why I said that it is like this

the fact is this, ‘I fell asleep.’

It is not entirely clear at this stage why this connector is not often used by learners of English, especially those who do not speak any variety of English as a native language. One hypothesis is that they are not familiar with the quintessentially English word *fact*, which is not just an English word, but a scientific word as well. Many languages do not have a semantic equivalent for this word. In fact, it might be said that the word *fact* is another challenging area in the area of English language teaching.

7. PEDAGOGIC IMPLICATIONS

Ultimately, the objective of this study is to present the NSM approach, developed by Wierzbicka and colleagues, as a pedagogic method to help learners acquire meaning. However, as mentioned, this method has rarely, if ever, been put into practice in the ELT classroom, much less tested. In this study, there is some evidence to suggest that NSM is helpful for ELT purpose.

In the test, I asked students what they thought of the following example (Celce-Murcia & Larsen-Freeman, 1999, p. 534). I labeled the two reasons X and Y.

Smith probably committed the crime. He had a guilty look on his face (X). Moreover, the police found a gun under his bed (Y).

Opinions were divided; some students said it was a good example while others disagreed. Whether they thought it was a good example or not, their reasons suggest that they did not fully understand the meaning of the connector. Here are three comments from students regarding the above example.

1. Good example because Y is support for X.
2. Not a good example because Y is more important than X. Y and X should be interchangeable.
3. Not a good example; X and Y should be parallel and Y has additional information about X.

Suffice to say here that Y is not meant to be a support for X, and neither should X and Y be interchangeable or of equal status.

On another occasion, I first asked students to look at three examples of use of the word *moreover* and asked them to say which examples were good examples and which were not. All the examples were not supposed to be good examples but the answers from students were all different, without any discernible pattern. The only interesting thing was that no student said that the examples were all not good examples. Here are the examples shown to the students.

Table 1 shows percentages of NUS international students' attitude towards writing and activities related to writing. As can be seen, generally, all the entire students agree that they cannot write well in English and also, seventy five percent did not like to write at all. Moreover, they prefer to write in their native language rather than write in English. This kind of trend may suggest that there is specific indication where international students have such difficulties in writing ability. In overall, to help them learning to write in English, compared with their classmates' comments, they prefer to have comments and grammar editing from their teacher. In addition, they prefer not to give comments on their classmates' writing either. Our results suggest that all the students need to have more time to discuss their writing difficulties with their teacher.

Table 2 shows percentages of NUS international students' attitude towards blogging as a writing activity. As can be indicated, overall, most of the students agree that blogging is fun and it is a good way to improve their writing. Moreover, they all agree that blogging is a form part of their writing course because their blogging partner encourages them to write more often. They also like to receive feedback from their teacher rather than their classmates in their writing blog. Our result may suggest that blogging have a good correlation with students' writing attitude because it encourages students to write more. Furthermore, as can be seen, seventy to eighty percent of the students are not afraid of receiving feedback from their teacher and classmates on their writing blog. All of them agree that looking for mistakes in their blog or their classmates' blog is a good learning experience in writing. These results may suggest teacher to be more active in blog to encourage students to write and learn.

These tables collectively suggest that, in NUS, teacher should be encourage international students more often to write and give their student time to have discussions and grammar editing in their essays for their English writing difficulties. Moreover, it could be said that blogging is one way to encourage students to write more often and learn from their teacher and classmates.

On both occasions, however, after the explication of *moreover* was shown to the students and each semantic component carefully explained, the students were soon able to judge the representativeness of the examples. On the second occasion discussed above, for example, the students were able to see that all the three examples were not particularly good examples. These two exercises constitute a piece of evidence to suggest the NSM approach is helpful for ELT purposes.

Immediately after one of these occasions, the students were asked to write examples of how the connector is to be used. Here are some of their examples.

Students like to write blogging. They are not afraid of making mistakes in blogs. Moreover, they can communicate with each other by blogging.

I like academic research. This is because that it can be my job in the future. Moreover, academic research contributes to the development of human society.

NUS is a world leading university. The equipments in NUS are advanced. Moreover, NUS has a high rank in the world.

Smoking in the classroom is impolite to the other students. Moreover it is against the law.

While some of these examples may not be the most convincing examples, it is observed that each example has an idea to be supported, which may be implicit, a supporting idea and another, presumably more important, supporting idea. This is another small piece of evidence to suggest that the NSM paraphrase is helpful.

However, it should be mentioned that the victory appeared to be rather short-lived. In a subsequent assignment, some of the students seemed to have forgotten how to use *moreover* and used it like they did before. Then again, perhaps this should not be seen as a shortcoming of NSM. The reason is that such a phenomenon happens rather often; all too often, English learners make mistakes in grammar even when they apparently know the rules. In my experience, it is not uncommon for students to make grammatical mistakes (e.g. agreement) even though they can say what the problems are when pointed out to them. In fact, even teachers (non-native speakers of English) are guilty of this. If this can happen in the area of grammar, there is no reason to assume that it cannot happen in the area of meaning. It might take time for rules to be internalized.

8. CONCLUDING REMARKS

One of the hallmarks of academic writing is the use of logic connectors to construct an argument but many non-speakers of a traditional variety of English seem to have problems with them. If this author's experience as a classroom English learner is anything to go by, despite their importance, logical connectors are seldom given as much attention as aspects of grammar.

An English language teacher needs a sound methodology with which to teach the meaning of logical connectors and one such methodology may be found in NSM, which research suggests can explicate meaning with a high degree of clarity and precision. As a pedagogic tool, NSM is rarely exploited but numerous studies have suggested that it is a useful tool for the teaching and learning of meaning. This paper advocates the use of the NSM approach to complement and supplement other ELT approaches.

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Bionote:

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ДЖОК ОНН ВОНГ преподает семантику, прагматику и академическое письмо в центре Коммуникации английского языка в Национальном университете Сингапура. В сферу его научных интересов входят семантика, прагматика, язык и культура, преподавание английского языка, сингапурский английский, англо-саксонский английский. Его публикации включают работы по сингапурскому английскому, англо-саксонскому английскому и преподаванию английского языка. В своей книге 'The Culture of Singapore English' (2014, Cambridge University Press) он рассматривает, как в данном варианте английского языка отражены сингапурская языковая картина мира, а также значения и ценности. Он придерживается мнения о том, что в изучении языка важно не только овладеть грамматикой, но и стремиться к пониманию культуры.

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