Student Writers’ Categories of Construals and Sense of the English Preposition on: A cognitive linguistics study

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Abstract—This study aims to investigate the categories of construal’s and senses of the English preposition ‘on’ used by Indonesian and American student writers in their master’s and doctoral theses and to examine the similarities and differences in their construal’s and senses of the preposition. This study was based on the cognitive theory of Tyler and Evans, namely the polysemy of prepositions and the categorizations of construal’s and senses were based on Brenda. The method used was primarily qualitative and the data were collected from two sources: The Indonesian data were taken from the library of a private university in Jakarta and the American data from two American websites; all of which were classified into prepositional phrases and clauses using the concordance software Antconc 3.4.1.0 developed by Anthony. Findings indicate that there are more construal’s and senses found in American master’s and doctoral theses than in Indonesian master’s and doctoral theses. This study reveals that some of the categories used for the English preposition ‘over’ developed by Brenda were suitable for preposition ‘on’.

Keywords—construal; landmark; preposition; sense; trajector

I. INTRODUCTION

Much linguistic work has been written on the syntax and semantics of nouns, verbs and also adjectives, to a lesser extent [1]. Prepositions, on the other hand, have been relatively less researched than nouns, verbs, and adjectives because they are more difficult to investigate due to their polysemic nature [1]. Being polysemic or polysemous makes the senses of prepositions difficult to examine because of their semantic complexity; even one English preposition such as ‘in’, for instance, has 18 senses [2,3].

It is clear that prepositions should not be neglected for a number of reasons. First, learners of English prepositions have long considered prepositions to be one of the most difficult features to master [4]. One of the reasons why this feature is deemed to be difficult is because there is a lack of descriptive research that clarifies how to use prepositions. Second, prepositions need to be researched because they constitute a productive grammatical resource in English and in many other languages. According to Fang as cited in Girju, there is one preposition in ten English words in a corpus of one million words [5].

Thus far, there has been much research on English preposition carried out by linguistic scholars. Coventry, Carmichael and Garrod investigated the semantics of spatial prepositions aiming to specify general factors of a functional geometry as also examined in Coventry and Garrod, Coventry and Olivier, and Coventry [6-9]. Another study was undertaken Girju which examines the syntax and semantics of prepositions in the context of the interpretation of nominal phrases and compounds based on cross-linguistic evidence from a set of six languages: English, Spanish, Italian, French, Portuguese, and Romanian [5]. Meanwhile, Tahaineh conducted a cross-sectional investigation on interlingual and intralingual errors of the use of English prepositions by Arab-Jordanian undergraduate students [10]. This study merely classified data into interlingual and intralingual errors.

From an ESL perspective, Boquist investigated the use of English prepositions by second learners of English [11]. He focused on developing a strategy for teaching English prepositions to second learners by using a visual approach as suggested by Tyler and Evans [2]. He used a cognitive approach in his study, but his focus is more pedagogical than linguistic. Thus, Boquist has a different focus from this present study which examines the categories of the construal’s and senses the English preposition on by Indonesian student writers and American student writers from a cognitive linguistic perspective [11].

This current study aims to investigate the construal’s and senses of the English preposition on by Indonesian master’s and doctoral students compared to their American counterparts as reflected in their master’s theses and dissertations. This study is to a certain extent similar to Ferrando [12], Brenda [13], and Kamakura [14] in terms of its linguistic analysis, namely by using the cognitive theory of the two principal entities in spatial configuration, namely the ‘trajector’ and the ‘landmark’ proposed by Langacker [15] and Langacker [16], which has been further developed by Tyler and Evans [2].

In contrast to those studies, this study is designed to reveal the categories of construal’s and senses of the English preposition on used by Indonesian and American student writers in academic texts. The novelty of this study lies in its attempt in making an in-depth cognitive description of the categories of the construal’s and senses of on that occur in academic texts produced by both American student writers and Indonesian student writers. In addition, this study examines the extent to which Indonesian student writers’ use of construal’s and senses of preposition on are similar or different from that of American student writers as indicated in their master’s theses and doctoral dissertations.

The central issue raised in this study is whether the categories of the polysemous construal’s and senses of the English preposition on found in the data produced by Indonesian student writers are similar or different from those produced by American student writers. Therefore, the present study seeks to reveal the categories of construal’s and senses of preposition on are used by American student writers and Indonesian student writers in their academic texts.

II. METHOD

A. Research Design

This study employs a qualitative method in the form of a computer-aided text analysis of written corpora [17]. This study is qualitative in the sense that it aims to investigate the qualitative aspects of language, namely meaning. Thus, instead of focusing on the formal aspects of language, this cognitive research attempts to discover the hidden meanings of linguistic formal features in the form of construal’s and senses.

This study is a cognitive semantic one which uses the theory of the polysemy of prepositions of Tyler and Evans [2] and Brenda [13]. This theory essentially says that all senses of prepositions that are polysemous are rooted in their original senses. The term “polysemy” refers to the condition of words having more than one meaning, but still semantically related [2].

Under Tyler and Evans’ framework, the data were analyzed by the TR-LM configuration system which enabled a close investigation of the construal’s and senses of the preposition on. The TR-LM configuration is a powerful tool of analysis commonly used in cognitive semantics research [2].

To analyze construal’s and senses, I referred to Langacker [15], Langacker [16] and Tyler & Evans [2]. Langacker [15] actually is the originator of the dual concepts of trajectory and landmark called trajectory/landmark organization. Tyler and Evans [2] however, further developed these concepts and abbreviated them as TR and LM in their analyses. Tyler and Evans [2] call it TR-LM configuration.

To categorize the construal’s and senses of on, I used Brenda [13] who came up with a number of categories of the senses of over, such as relative orientation and the temporal.

B. Data Source

The source of the data for this study was students’ master’s theses, and doctoral theses from a private university in Jakarta obtained through its library in the form of pdf, which were converted to txt for the sake of convenience for analysis using AntConc. This study used 10 master’s theses and 10 doctoral dissertations written in English for Indonesian data and 10 master’s theses and 10 doctoral dissertations written by American students for my native speaker data.

C. Data Collection

The data of this study consisted of occurrences of preposition on in phrases, clauses on sentences retrieved from 10 Indonesian master’s theses, 10 Indonesian doctoral dissertations, 10 American master’s theses and 10 American doctoral dissertations.

I decided to choose the preposition on instead of other English prepositions based on my preliminary study of 10 undergraduate students, 10 master’s students and 10 doctoral students. It was found that preposition on is the second most frequently used preposition among 14 English prepositions with the total frequency of 6715.

The number of senses of on significantly stands out compared to those of other prepositions. Having the most senses, the preposition on may appear to present more difficulty for those who learn it. Thus, it would be useful to examine it to help English learners understand its senses better.

Meanwhile, to facilitate my analyses of the corpora collected from 40 theses produced by both Indonesian and American students, I employed AntConc 3.4.1.0 which proved to be a powerful tool for analyzing corpora data created by Laurence Anthony [18].

D. Data Analysis

The construal’s and senses of preposition on were classified into categories based on their common semantic characteristics. These categories were developed based on Brenda [13]. Some fitted well with Brenda’s [13] categories, while others were not suitable and therefore new categories were created.

III. RESULTS AND DISCUSSION

This section presents some findings of the research on the categories of both construal’s and senses of preposition on used by both Indonesian and American student writers. The major tool of analysis used was the TR-LM configuration to discover both construal’s and senses of on that are assumed to reflect the students’ cognition of the preposition as revealed in their academic texts.

A. Categories of Construals and Senses of Preposition on

The following table presents the answer to the first research question, namely about the categories of construal’s and senses
of preposition on. These categories are classified based on their types in tabular form as follows.

<table>
<thead>
<tr>
<th>No</th>
<th>Types of Theses</th>
<th>Indonesian students' texts</th>
<th>Number of categories &amp; construals of Indonesian students' texts</th>
<th>American students' texts</th>
<th>Number of categories &amp; construals of American students' texts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Master’s</td>
<td>relative orientation (1), relation of arguments (3), by means of technological devices (1), the locative (1), cognitive/affective (2), the temporal (1), responsibility (1), showcase (1), primary (1), functional (3), outcome (1)</td>
<td>11 categories 15 construal And 15 senses</td>
<td>relative orientation (14), relation of arguments (3), by means of technological devices (7), force dynamics (3), the locative (4), functional (1), cognitive/affective (4), the temporal (1), range (2)</td>
<td>9 categories, 39 construals, and 39 senses</td>
</tr>
<tr>
<td>2.</td>
<td>Doctoral</td>
<td>relative orientation (3), relation of arguments (2), by means of technological devices (3), force dynamics (1), the locative (1), cognitive/affective (6), range (2), functional (1), primary (2), grouping (2)</td>
<td>10 categories, 23 construals and senses</td>
<td>primary (2), functional (3), developmental (1), cognitive/affective (2), relation of arguments (4), relative orientation (7), force dynamics (3), the temporal (2), by means of technological devices (6), representational (1), behavioral (1), metonymic expression (2), range (7), the locative (2)</td>
<td>14 categories, 43 construals and 43 senses</td>
</tr>
<tr>
<td>3.</td>
<td>Master’s and Doctoral Texts</td>
<td>Total number of categories and senses from Indonesian texts</td>
<td>21 categories 38 construals 38 senses</td>
<td>Total number of categories and senses from American texts</td>
<td>23 categories 82 construals 82 senses</td>
</tr>
</tbody>
</table>

The research question of the study pertains to construal categories of on that were used by Indonesian student writers and American student writers.

It is evident that American student writers’ use of construal categories and senses outnumbers that of Indonesian student writers. American student writers used 23 categories of construal’s and senses, 82 construal’s, and 82 senses of on. Meanwhile, Indonesian student writers only used 21 categories of construal’s and senses, 38 construal’s, and 38 senses. It is fair to say that in terms of the number of construal’s and senses, American student writers far outperformed Indonesian student writers in their employment of construal’s and senses of on with a difference of 44 construal’s and 44 senses.

It is interesting to note such a significant difference in the number of construal’s and senses used by the two types of student writers. However, this finding makes sense because obviously American student writers have been exposed to more English than Indonesian student writers. American student writers use English much more extensively than their Indonesian counterparts both in spoken and written modes even though some of them might have not been born in the U.S.

B. The Distribution of Construals and Senses of on in Texts

The distribution of the construal’s and senses of on in all the texts shows a similar pattern, namely the distribution indicates a sharp contrast in the number of occurrences from one group of construal’s and senses to another. There are those construal’s and senses that always have the highest frequencies of occurrences, there are those in the middle and there are also those which have the lowest frequencies of occurrences, namely below 10.

Those senses and construal’s which have the highest frequencies of occurrences need special attention because, to a certain extent, they actually characterize the use of on in academic writing. There are 5 basic senses of them, namely of reference, concerning, focus of attention, influence, and reliance. Meanwhile, the construal’s are TR uses LM as a reference, TR pertains to LM, TR targets at LM, TR causes LM to change and TR relies on LM. It appears that all these senses and construal’s not only always occurred in all the texts under examination, but also showed the highest frequencies of occurrences.

C. Discussions

The first research for my discussion is a study conducted by Ferrando [12]. It is a study on a Cognitive Semantics analysis of three prepositions, namely at, on, and in. Ferrando formulates his findings in terms of how the senses of the preposition are viewed from their general conceptual schema consisting of three elements, namely the trajectory, the landmark, and the force dynamic configuration [12].

If the findings of the current study are compared to those of Ferrando, it appears that there are differences as well as similarities due to the different theoretical frameworks used. Ferrando came up with a generalized set of seven basic construal rules of on by analyzing the occurrences of on in the Brown Corpus of American English [12].
One of the major differences between the two findings is that Ferrando did not make any classification of construal’s into clear-cut categories, but rather he established a set of general rules of construal’s governing the mechanisms of the trajectory, landmark, and the axis relating the trajectory and landmark [12]. This construal’s are not clearly labeled, but referred to as different perspectives such as using the bases of the trajectory, the landmark and topological configuration.

The current study, however, classifies the construal’s of on into categories based on their construal features. I referred to Brenda in classifying construal’s into their types [13]. For example, for the construal’s of “TR is transmitted on LM”, “TR is electronically kept on LM”, “TR is projected onto LM” with their senses derived respectively, namely “broadcast”, “storage”, and “projection”.

Due to the different frameworks used there are also differences in the construal’s generated from the research. Ferrando came up with 58 construal’s and senses of on which are spread into three types, namely non-metaphors, metaphors, and metonymy [12]. This current study has generated 43 construal’s and 43 senses altogether. In terms of the number, this study is not as numerous as Ferrando [12]. This is probably because the data of this study were specific, namely academic texts whereas Ferrando used a larger corpus, the Brown Corpus of American English [12]. In this study, for instance, I did not find expressions such as “The drinks are on me” because there is no way to find such an expression in an academic context.”

The second cognitive study needed to discuss the findings of the current study is Kamakura. Kamakura investigated the relationship between the senses of the prepositions over, into, and through and the combined forms of their TRs and LMs with the hypothesis that the TRs and LMs, the co-occurring nouns, can predict the senses of those prepositions [14]. Kamakura’s [14] study was based on the theories of preposition meaning from Langacker [15] and Taylor [19].

Kamakura discovered that there is a relationship between the senses of prepositions and their co-occurring nouns along with specific linguistic features inherent in the noun-preposition-noun configurations [14].

This current study does not seem to support Song’s claim that non-native speakers find it a continuing problem in using English prepositions [20]. In fact, the Indonesian student writers in my data were proficient in using preposition on in their academic texts.

Finally, it turns out that this current study also does not provide evidence on the phenomenon of interference or negative transfer from L1 to L2 as proposed linguists such as Gass and Selinker [21]. Presumably, it is useful to touch upon this issue because it seems that the topic of interference or negative transfer has been a major trend for a good number of years in the field of language acquisition.

Yuan found occurrences of the misuse of the prepositions in, on and at by Chinese students to refer to the Chinese expression “在” which is used in Chinese to indicate time, place, space, to be present and to be in the process of [22]. Yuan’s study clearly shows that these errors in the use of the three English prepositions constitute evidence of L1 transfer from Chinese to English [22]. This evidence confirms Yuan’s predecessor, namely Liu [22,23].

IV. CONCLUSION

This study indicates that there are more construal’s and senses found in American master’s and doctoral theses than in Indonesian master’s and doctoral theses. This study also shows there are a number of overlapping construal’s and senses apart from the different ones found in those texts. This study reveals that some of the categories used for the English preposition over developed by Brenda [13] were suitable for preposition on. One of the implications of this study is that there are a number of construal’s and senses of on that should be taught by English teachers and lecturers because they were not found in the Indonesian student writers’ texts.

The findings of this current study are similar to Ferrando [12], but there are also some differences. Ferrando [12] did not make any classification of construal’s into clear-cut categories, but rather he established a set of general rules of construal’s governing the mechanisms of the trajectory, landmark, and the axis relating the trajectory and landmark. This construal’s are not clearly labeled, but referred to as different perspectives such as using the bases of the trajectory, the landmark and topological configuration.

In addition, Ferrando [12] came up with 58 construal’s and senses of on which are spread into three types, namely non-metaphors, metaphors, and metonymy. This current study generated 43 construal’s and 43 senses altogether.

In general, the Indonesian student writers used prepositions in the ways that conform to the general semantic rules, but they lacked in the richness of construal’s and senses of on used in their academic texts. This is probably due to a lack of exposure to English academic texts which can potentially make use a broad range of construal’s and senses of on.

REFERENCES