THE COGNITIVE THEORY OF SPATIAL PREPOSITION AND ITS APPLICATION TO TEACHING ENGLISH AS A FOREIGN LANGUAGE AND TRANSLATION

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Abstract
The dichotomy of function and content words has for so long, precisely since Fries (1952), positioned the preposition as a subject of marginal interest in linguistic studies from the perspective of both formal and functional school of linguistics. If any, such studies have generally resulted merely in the description of its function and position. Yet, in English for instance, function words are not stressed in utterances and, therefore, considered to play a minor and an unimportant role in conveying messages in a communication. The paper does not discuss all types of preposition but focuses its discussion on the spatial preposition. This paper discusses (i) what cognitive aspects drive and motivate the emergence of the lexical meaning of spatial preposition, (ii) how English and Bahasa Indonesia differ and share the use of spatial preposition, and (iii) how TEFL and teaching translation can take advantage of the answer of the second question. The first question forms the theoretical foundation of the discussion based on the Cognitive Linguistics perspective. The second question discusses the differences and the similarities of the spatial preposition in English and Bahasa Indonesia based on the above theoretical foundation. The third question is related to how TEFL and teaching translation can benefit from this comparative study between English and Indonesia spatial preposition. Finally, the discussion also shows that the lexical meaning of spatial preposition demonstrate how language, culture, and mind are intertwined.

Keywords: Cognitive Linguistics, spatial preposition, TEFL, translation

Introduction
Space is one of essential entities in human life (Brenda, 2014; Svorou, 1994). Yet, space is thought of as “a universal cognitive primitive” in Kant’s phylosophy (Hickmann & Robert, 2006, p. 1). Further, Kant stated that “space …… constitutes an important part of the background for all conceptualization and meaning” (Zlatev, 2007, p. 320). Levinson and Wilkins (2006: 1) stressed strongly that “spatial cognition is a fundamental design requirement for every mobile species with a fixed territory or home base. And there is little doubt that it plays a central role in human thinking and reasoning”. This is why “[T]he language of space becomes an important focus of research” (Levinson and Wilkins, 2006: 1).

Due to the existence of space, all inter-entities relationship in various kinds of configurations in this world may take place. The existence of the human being itself constitutes part of the inter-entities relationship and appears to be the result of this kind of relationship. Human cognition enables man to be aware of (i) his/her existence, (ii) space, and (iii) his/her existence within a space. Man’s awareness of his/her existence does not only encompass his/her physical existence but also his/her unique posture and configuration. Man’s unique posture and configuration refer to facts that man has a certain posture of standing on this earth, that man has different
parts with different functions, that man has the ability to move from one point to another point, man changes physically over time, and so forth. Therefore, spatial cognition can be thought of as “a set of fundamental and central cognitive abilities that enable a variety of conceptual processes, both non-verbal and verbal” (Glanzberg dan Silters, 2015:1)

Human being’s awareness of (i) his/her existence, (ii) his/her relationship with other entities, and (iii) the relationship among entities in the space is actuated by two human’s properties. They are (i) the perception which is primarily connected to his/her senses and (ii) the cognition which is primarily connected to his/her brain and his/her thinking ability. The relationship among entities which human being becomes part of it, hence, directly experiences it, and which he/she witnesses in various kinds of spaces constitute bodily based experiences in his/her life. The relationships among various entities in various spaces taking place around in every single second which human being both physically experiences and witnesses do not just pass by and leave nothing to human cognition. Rather, all those relationships are caught by human perception as certain meaningful configurations which create various concepts in his/her cognition.

For instance, we can take the emergence of the concept of containment in human cognition. The concept of containment emerges from the physical or bodily experiences that we as human being are connected with every day. When we awake every morning, we find ourselves being confined in space with six flat barriers comprising wall, ceiling, and floor. Hence, we are being contained in the so-called bed room. Then, we get up and move from the bed room into the dining room, next to the kitchen, and finally to the bath room. What we experience is that we move from one kind of container to another kind of container. When we open the refrigerator in the kitchen, and take a can of milk from it, basically we open a big container and find another small container in the bigger container. When we pour the milk into the glass, we transfer an entity from one container to another container. These all examples of what we bodily experience everyday build a concept of containment in our cognition (Tyler dan Evans, 2003:25; Svorou, 1994:6).

In addition to the concept of containment, the relationships among entities also result in other concepts such as ‘support’ and ‘occlusion’. The concepts of ‘containment’, ‘support’, and ‘occlusion’ which emerge from various kinds of human’s bodily experiences are universal in nature. All the various kinds of physically and perceptually everyday experiences human being have lived by will finally guide our cognition to the emergence of the concept like ‘containment’, ‘support’, and ‘occlusion’ as a sort of cognitive conclusion. This process works universally regardless which part of the world they live, whether they are male or female, genius or not, etc. However, the question is whether or not the universal concepts of ‘containment’, ‘support’, and ‘occlusion’ also have the same range of application across different communities. This question is challenging in terms of seeking the answer of how human cognition processes the concept of space from all the physical experiences s/he has gone through. The effort to search the answer of the above question is directly related to finding the evidences of the embodied knowledge.

Language is one of the essential windows from which what and how the human cognition may be investigated and postulated. Lee (2001:1) stated that “linguistic structure is a direct reflex of cognition in the sense that a particular linguistic expression is associated with a particular way of conceptualizing a given
situation”. The partial task of the investigation is to find what human cognition processes all the experiences universally and whether there are parts which are in relative domain. This idea is rooted back to the Sapir-Whorf hypothesis on the linguistic relativity. This paper addresses this issue from a comparative case study on the spatial preposition used to portray the cognitive concept of support. The comparative result of the study will be used as the basis of discussing how the cognitive theory can contribute to the teaching of English to speakers of Bahasa Indonesian.

Spatial Preposition ‘on’ in English and ‘di atas’ in Bahasa Indonesia: a Case Study
Both speakers of English and those of Bahasa Indonesia (BI) have the cognitive concept of ‘support’. The concept of support refers to the physical configuration where one entity (x) is being physically attached to another entity (y) so that the entity (y) supports the entity (x). This cognitive concept of support is universal and emerges from the abundance of physical experiences that human being has gone through every single second. The question is whether or not the English and the Indonesians apply the universal concept of support in the same cognitive range.

The spatial preposition ‘on’ is one of the English lexicons which is used to express the concept of support. The corresponding word in Indonesian lexicons is the spatial preposition ‘di atas’. The preposition ‘di atas’, therefore, can be perfectly used to translate the English utterance 1 (a) into Indonesian utterance 1 (b).

1. a. The lamp is on the table.
   b. Lampu itu berada di atas meja.

We cannot claim, of course, to say that both English speakers and Indonesian speakers have exactly the same mental image from both utterances. But, both utterances refer to an entity which is in contact with another entity in the vertical configuration. In that conceptualization, both utterances depict a similar physical configuration as in Figure 1 and, roughly speaking, both utterances are similar in almost the whole aspects.

Figure 1. The Rough Mental Image depicted by Utterances 1

The other uses of the English spatial preposition ‘on’ show that the use of the spatial preposition ‘on’ and ‘di atas’ portraits different concepts. The cognitive concept in the spatial preposition ‘on’ is wider than the Indonesian spatial preposition ‘di atas’. Figure 2 and utterances 2 depict the conceptual range that the English spatial preposition can cover. It does not only encompass the horizontal based spatial relation but also include the vertical spatial relation. Of course, it is not that simple when we go into the detail. But, in general the use of the English spatial preposition ‘on’ reflects that the different configurations of the spatial relations depicted in Figure 1 and Figure 2 are cognitively conceptualized in the same cognitive perception.

1. a. The lamp is on the table.
   b. Lampu itu berada di atas meja.
The mental images shown in the Figure 2 are still conceptualized in English as the same concept of support with the mental image shown in Figure 1. The perceptual and physical experiences which result in the mental images shown in Figure 1 and Figure 2 are conceptualized as the same concept. The way of how entity ‘lamp’ as entity (x) is attached to the entity (y) is cognitively captured as the same phenomenon regardless their axial orientation.

Does the same cognition of utterances 2 applies to the Indonesian spatial preposition ‘di atas’ which perfectly matches with the English preposition ‘on’ in utterances 1 (a). The English spatial preposition ‘on’ in utterances 2(a) and 2 (b) cannot be translated into ‘di atas’ as in utterance 1 (a). The translation of the English spatial preposition ‘on’ into the Indonesian spatial preposition ‘di atas’ in utterances (3) and (4) is unacceptable not in terms of its grammaticality but in terms of its different mental image that the translation bears.

3. a. The lamp is on the ceiling.
   b. Lampu itu berada di atas langit-langit.

4. a. The lamp is on the wall.
   b. Lampu itu berada di atas dinding.

Different from the mental image depicted in Figure 2, the mental image depicted by the utterances 3(b) and 4(b) is presented in Figure 3.

The relation between the entity (x) ‘the lamp’ as the trajectory and the entity (y) ‘table’, ‘ceiling’, and ‘wall’ as the landmark is cognitively perceived as the same cognitive phenomenon. Meanwhile, the Indonesians cognitively perceive the spatial relation depicted in Figure 1 and Figure 2 as different types of spatial relation. If the Indonesian spatial preposition ‘di atas’ is used to translate the utterances 2(a) and 2(b) into 3(b) and 4(b), the mental image the speakers of Bahasa Indonesia have will be like the mental image 3(a) and 3(b).

The mental image 3(a) and 3(b) shows that the spatial preposition ‘di atas’ takes the axial orientation into account. The spatial cognition in the Indonesian preposition ‘di atas’ applies only to (i) vertical spatial relation and (ii) the trajectory may not be attached directly to the landmark. The spatial relation in Figure 4 is still conceptualized in the range of the spatial preposition ‘di atas’ and linguistically expressed in 4.
Teaching and Translating English Spatial Preposition: Indonesian Case

Brenda (2014:xiii) stated that, “… for a long time, spatial prepositions have been regarded as a function or grammatical words with little semantic content. Present advances in cognitive linguistics allow us to have a better insight into the nature of the content expressed by spatial prepositions bringing about the conclusion that prepositions encode rich and diverse information both grammatical and semantic”.

Meanwhile, the speakers of English will not use the preposition ‘on’ to describe the spatial relation in Figure 4. Rather they will use the spatial preposition ‘above’.

The above description of the spatial cognition of the preposition ‘on’ in English and ‘di atas’ in Bahasa Indonesia is relatively sufficient to portray some differences of their spatial cognition. What has been achieved so far in discussing the difference of the spatial cognition between the preposition ‘on’ in English and ‘di atas’ in Bahasa Indonesia can be presented in the Figure 5.

The previous section has proved what Brenda stated above that, what has been achieved so far in the discussion, the cognitive theory of the spatial preposition has rich resources to unveil partially the cognitive cover of the spatial preposition ‘on’ in English and ‘di atas’ in Bahasa Indonesia. We can understand their rich different uses in terms of how our cognition works on perceiving the spatial relation. With the understanding in mind, the cognitive theory of the spatial preposition can lead to a novel proposal on how English spatial preposition can best be taught to the students.

The best way practiced so far to learn preposition is through rote learning since the semantics of preposition has been traditionally believed to be unpredictable and arbitrary. Preposition is often taught to Indonesian students by specifying its uses one by one rather than by discovering its cognitive meaning. In addition, translation method is also frequently applied and it quite often results in a negative transfer. In my experience, students are always confused and unsure when they have to use the preposition ‘on’ in the sentence like the utterance ‘the lamp is on the wall’ or ‘the lamp is on the ceiling’. It happens since the students are trying to translate the spatial cognition of Indonesian preposition in the spatial cognition of English preposition. In fact, as having been described in the previous
section, English and Indonesian spatial preposition have difference spatial cognition. Applying the cognitive theory of the spatial preposition, and basically also temporal preposition, will help the student understand how the English spatial preposition is conceptualized differently from the Indonesian counterparts. For example, the spatial preposition ‘on’ cannot be taught by the translation method stating that the Indonesian correspondence of the spatial preposition ‘on’ is ‘di atas’. Students have to understand the spatial cognition of each preposition in English rather just than know the corresponding preposition in Bahasa Indonesia. This situation will put the students in a situation where they will not merely try to translate the Indonesian spatial preposition into the English corresponding preposition. The cognitive theory of the spatial preposition will enable the students to discover the spatial cognition of the English spatial preposition and, hence, they will be able to use the English spatial preposition more accurately. They will not rely on the translation from the Indonesian spatial preposition into the English corresponding spatial preposition which quite often results in negative transfer.

The application of the cognitive theory will lead to (i) the understanding that different languages may have different conceptualization and (ii) the translation process which starts from the understanding of the spatial cognition of the language to be translated. Therefore, when translating the use of an English spatial preposition the translator will not seek what the corresponding spatial preposition in Bahasa Indonesia. Rather s/he will understand the English spatial cognition being translated and map it into the Indonesian spatial cognition. Therefore, understanding the English spatial cognition of preposition ‘on’ will look for directly the corresponding spatial cognition in Bahasa Indonesia on the basis of the spatial cognition being translated. The translator will not look for directly the corresponding preposition ‘on’ in Bahasa Indonesia.

**Conclusion**

What has been discussed so far indicates that the cognitive theory is a promising linguistic theory to be applied in the teaching of English and translation. This theory has shed a light as a new perspective in how to understand the phenomenon of language and how to teach new languages. Language is perceived in this theory as the reflection of the human cognition. Meanwhile, human cognition is mostly the product of social and cultural nurture. That is why language at the same time reflects two things. Firstly, it reflects the nature of the human cognition which is presumably similar across different communities. Secondly, it reflects how the social and cultural milieu nurtures the cognitive content of the language. Investigating language, therefore, leads to finding at least those two key phenomena, i.e. (i) how language works and is processed in the human cognition and (ii) how language is cognitively nurtured by the social and cultural environment. This basic construct of the theory suggests, then, that the teaching of a foreign language has to pay attention closely to those two key elements. Teaching
spatial preposition as exemplified in this paper has shown how the two key elements play an important role. Cognitive theory, which in this paper refers to the theory of Cognitive Linguistics (CL), is still rare in Indonesia. It is still difficult to find both the basic and the applied research applying CL to investigate bahasa Indonesia and vernacular languages as well. There are still a lot of researches to be done in order that the theory of CL in Indonesia can develop very well.

References