Some cognitive issues in learning English grammar

Learned attention

Our first language learning experience has shaped our attention to language, and there are two mechanisms that contribute to this: overshadowing and blocking (N. C. Ellis, 2006). The phenomenon of overshadowing occurs when there are two linguistic forms as cues that carry one single meaning interpretation, with the more salient form becoming easily associated with the interpretation and the less salient one being overshadowed that it fails to be processed properly.

Take the simple past sentence "*We visited the city of Padang last week*" as an example. It is immediately clear that the two forms that have the same meaning are the simple past *–ed* and the past adverbial *last week*. Indonesian EFL learners, especially the beginner and lower-intermediate level ones, are quick to notice the past adverbial (i.e. last week) but may ignore presence of *–ed* on the verb because in Indonesian a past adverbial, not a suffix, is used to talk about an event or state that was completed before the speech time. In other words, *–ed* as a morphological cue is overshadowed by a past adverbial because the latter is more salient than the former to learners.

As overshadowing keeps occurring over time, it results in *blocking*, a kind of learned selective inattention (N. C. Ellis, 2006). In our example above, since *–ed* gets overshadowed every time it co-occurs with a past adverbial, it is eventually blocked and hence fails to be noticed by the learner. Research shows that once a form as a cue is blocked, further learning of the form is diminished (Kruschke & Blair, 2000; Bardovi-Harlig, 2000), making the absence of *–ed* in learner utterance a fossilized error. This is the reason why *–ed* is one of the English morphemes that is acquired last. Overshadowing and blocking are two phenomena that play a significant role in hindering learners from acquiring the target forms that often co-occur with other linguistic forms that are less important but perceived as significant by the learner. The plural marker *–s* is similar to *–ed*. When a noun appears together with a numerical quantifier (as in *three apples*) the plural marker is overshadowed and blocked. Thus, we often notice that the *–s* is missing in learner English (Pica, 1983). In a nutshell, *–ed* and *–s* are two examples of cues that are of low salience and deemed as redundant and therefore get overshadowed and blocked by the presence of another cue that is considered to be more meaningful and salient due to first language learning strategies.

Conceptual transfer

Adult learners have already formed conceptual categories of their first language when they start learning a second language. Since the target language has its own conceptual categories, learners will find categories that are conceptually different in the target language. As learners restructure their current conceptual categories they tend to rely on the acquired categories in their first language and this causes negative conceptual transfer (Jarvis & Pavlenko, 2008). The negative transfer will inhibit the development of new concepts and hence result in errors. Jarvis and Pavlenko (2008) examined eight basic conceptual domains of reference in which crosslinguistic differences and negative transfer exist. In the interest of time and space, only the domains of time and space will be reviewed here.

In the domain of time, English and Indonesian are similar in that time is conceptualized as linear (e.g. a long time). One crosslinguistic difference between the two languages is the way they encode temporality. Temporality in English is encoded through tense and aspect while in Indonesian it is encoded through lexical and discursive means (e.g. yesterday). Research has shown that users of tenseless languages, such as Indonesian, may take significantly longer time to process the concept of time in tense languages, such as English (Alloway & Corley, 2004). In addition, the English tense and aspect system consists of structural properties that are challenging to Indonesian EFL learners. As experience of English teachers could attest, they struggle to embrace the concept of the English present perfect tense and the form that constitutes it (Celce-Murcia & Larsen-Freeman, 1999: 125).

In the domain of space, a crosslinguistic difference between Indonesian and English includes internal category structure, i.e. spatial relations expressed by prepositions. Tyler and Evans (2003) argue that prepositions are polysemous in nature since they are used not only in prototypical meanings

(e.g., *I put the letter **on** your table*) but also in peripheral and metaphorical meanings (e.g., *A letter was waiting for him **on** his return **on** Thursday*). Research shows that learners may experience little difficulty when learning and conveying the prototypical meanings in English however errors tend to occur when they have to use prepositions to express the peripheral and metaphorical meanings, such as time, situations, and feelings (Lennon, 1991). Consequently, despite their highly frequent appearance in both spoken and written English (McCarthy & Carter, 1997), prepositions remain to be a more difficult and later acquired aspect in English (Celce-Murcia & Larsen-Freeman, 1999; Knepler, 1990; Lennon, 1991).

Jarvis and Pavlenko (2008) assert that conceptual negative transfer manifests itself in two forms: learners' dependence on the concepts of their first language when using the target language and their lack of attention to conceptual differences conveyed by the target language. The different concepts of time and space need to be attended to by Indonesian learners so that they can restructure their current representations of the two concepts in their first language and form new ones. Learning English as a new language also means learning to conceptualize the world in a way that is used by the speakers of the language. This presents challenges to both the teacher and the learners. In the following section I will discuss the pedagogical implications and options.

Pedagogical implications and options

Overshadowing and blocked attention are phenomena that should be anticipated so that learners are prevented from being 'fossilized' with their interlanguage. In early stages of learning, the teacher needs to draw the learners' attention to the low salient forms that are present in the input, because otherwise they tend to gloss over the target morphology (DeKeyser, 2005). This means that the teacher should not present two cues that have the same meaning interpretation in the input they provide to the learners. For example, to explain the function of the simple past tense, the teacher should only present the most important cue in expressing simple past, which is –*ed*. The teacher could also enhance the target form by boldfacing, italicizing or underlining it (Sharwood Smith, 1981). The goal is to make the learners notice the presence of the form, which is not very salient in the input (Sharwood Smith, 1981; Schmidt, 2001). While time signals are also part of the tense whose primary function is to temporarily locate the event on the timeline, their appearance does not play an important role, and so learners' attention could be drawn to them after they are able to map the function to the form. This form-meaning mapping needs to be strengthened through a series of learning activities that push the learners to actively process the target form and map it to its meaning.

Second language researchers have proposed some kinds of learning activities that will assist learners maintain this objective. Processing instruction (henceforth PI) is one type of instruction that is input-based and force learners to attend to the form and its meaning simultaneously (VanPatten & Cadierno, 1993). Since learners have a tendency to rely on their first language processing strategy, the teacher need to inform the learners about their default processing strategy and replace it with the correct processing strategy. In the case of learning simple past, the teacher should remind the leaners that they must pay attention to the verb ending –*ed* instead of the temporal adverb as there are simple past sentences without the temporal adverb (Benati, 2005). Afterwards, the teacher must give input-structured activities to force the learners to process the target form and its meaning at the same time. The research on PI has demonstrated that it is superior to the more traditional grammar instruction that emphasizes rote memorization of rules and mechanical drills because it successfully trains learners to pay more attention to morphological cues for comprehension (e.g. Benati, 2005; Qin 2008).

While learning activities that raise learners' awareness of morphological cues are important, we should not assume that learners will not experience difficulties any more when using particular forms (Jarvis & Pavlenko, 2008). As pointed out by Jarvis and Pavlenko (2008), consciousness-raising and noticing activities have limitations. These activities may well contribute to learners' explicit knowledge (Marsden & Chen, 2011) however research has yet to show if they also help learners induce implicit knowledge (DeKeyser & Botana, 2014). For instance, to explain the difference between the simple past

and past progressive, the teacher may say, "the simple past is used to talk about activities or situations that began and ended at a particular time in the past (e.g. yesterday, last night, two days ago, in 1999) while the past progressive expresses an activity that was in progress (was occurring, was happening) at a point of time in the past (e.g., at 6.10) or at the time of another action (e.g., when Tom came)" (Azar, 2003) and have them do consciousness-raising activities. Certainly, learners can learn and memorize the definitions of the two tenses however they may not, at least at the initial stage, be able to distinguish spontaneously the two concepts that are non-existent in their first language (Jarvis & Pavlenko, 2008). As such, learners should be trained to understand the contexts in which either tense is and is not used and spontaneously draw their attention to the differences.

This is also the case with learning prepositions whose internal category structure is distinct from Indonesian prepositions. To explain the meanings of some particular prepositions, the teacher usually provide pictures that shows the spatial relationships and may tell the definitions in the first language. Again, we can be confident that learners can identify the meanings and memorize the definitions but even at a later stage they still fail to understand the peripheral uses. Accordingly, learners need to internalize not only the prototypes (i.e. spatial uses) of the target prepositions but also the peripheral uses (e.g., temporal and situational uses), understand how the spatial relations shape the core meanings, and see how the core meanings get extended abstractly from the spatial ones to the periphery. Once more, it is one thing to teach the prototypical meanings as the core meanings of prepositions but it is another thing to get learners to see how the core meanings are extended metaphorically and systematically in different contexts. Unfortunately, the latter is still missing in most ELT materials; temporal and situational uses are taught separately as if they were arbitrary and could not be systematically explained. As a result, learners fail to restructure their conceptual categories.

One key word for the implications above is context. Too often learning activities provided in classroom are decontextualized and presented at the sentence level. Grammar is presented as syntax rather than as use. While they may be useful for practicing the form, they do not tackle the most important issues in grammar learning. Rather, processing and practice using the target grammar in different contexts will allow learners to be aware of the use, understand the distinctions and restructure their conceptual categories. Ideally, this should be done extensively "with members of the target language community" (Jarvis & Pavlenko, 2008: 152). For Indonesian EFL learners this opportunity does not come very often and are arguably rare. However, there is still hope. The teacher can have her learners engage with authentic discourse of the target language. One type of activity that can be used to achieve this goal is text-reconstruction tasks, such as dictogloss (Wajnryb, 1990), text-editing (Nassaji & Tian, 2010), and collaborative output-jigsaw tasks (Pica, Kanagy & Falodun, 1993). After reconstructing a text that contains the target grammatical form(s), learners compare their texts with the authentic one. In comparing, learners are encouraged to spontaneously distinguish their uses of the target form(s) with the authentic uses. In this way, it is expected that learners will make distinctions of the different uses of the target forms "not made in their first language" (Jarvis & Pavlenko, 2008: 151).

2. CONCLUSION

Despite the amount of attention given by second language researchers to English grammar pedagogy, grammar instruction has not been altered (Larsen-Freeman, 2015). English language teaching materials and classroom instruction remain traditional in a sense that they are still centered on rule learning and mechanical exercises to help learners learn grammar and achieve form accuracy (Jean & Simard, 2011). Since learning grammar poses great difficulty which learners (and perhaps teachers too) are not aware of, grammar teaching should address this problem. Traditional grammar instruction does little to ease the difficulty or offer learning activities that are really effective and helpful. Instruction that consists of information on conceptual categories of the target forms, consciousness-raising activities and contextual text-reconstruction tasks will minimize negative first language transfer and thereby aid learners to achieve their grammar learning objectives.

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