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Use of L1 as a mediational tool for understanding tense/aspect marking in English: An application of Concept-Based Instruction

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Abstract

According to Vygotsky, language serves not only as a tool for communication but also as a psychological tool in developing an individual’s cognitive process. From this perspective, the use of language (i.e. L1) provides learners with additional cognitive support in solving second language (L2) linguistic tasks in an attempt to achieve the desired L2 learning goal. Grounded within the Vygotskian Socio-cultural theory of mind (SCT), this paper reports on an investigation of the use of L1 (i.e. Malay language) as a semiotic mechanism in mediating learners’ understanding of the English tense-aspect system. The study involved 8 L1 Malay university-level learners of L2 English as they attempted to verbalize their understanding of target tense-aspect concept. Data was drawn from the verbalization protocols obtained by transcribing individual (self-explaining) and dyadic (collaborative interaction) activity during a CBI session. Our findings revealed that L1, manifested through learners’ metalanguage, act as a mediational tool to structure and organise thought in helping learners gain a deeper understanding of the target grammatical concept. Analysis of the findings not only supports the Vygotskian view regarding the role of L1 as a regulatory tool in L2 learning but also provide further evidence of the positive role and value of L1 in enabling learners to explore and gain insights of the relationship between form and meaning of the L2.

Keywords: Sociocultural-theory; Concept-Based Instruction; grammar teaching

1. Introduction

Grounded in a Vygotskian Socio-cultural theory (SCT) of mind, the present study focuses on the mediating role and value of language (i.e. verbalization) as an intrinsic part of a Vygotskian pedagogical model known as Concept-Based Instruction (CBI). Specifically, this study investigated verbalization of first-language (L1) Malay learners of second language (L2) English as they worked through a suite of CBI materials to help them gain a deeper understanding of the grammatical concept of tense and aspect with reference to the simple past, past continuous and present perfect.

As this study operates within the SCT approach to L2 learning, it is the overall aim of this study to investigate

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the use of L1 for regulatory purposes as learners attempted to complete their assigned L2 learning tasks. For Vygotsky, language specifically holds a functional view not only as a means for engaging in social activities but also, more importantly as a psychological tool to regulate our cognitive activity (Ahmed 1994, p.158). In an attempt to investigate the regulatory role of L1, data was drawn from learners’ verbalization protocol (N=8) as they attempted to gain an in-depth understanding of the target concepts either under individual or collaborative verbalization activity. The term ‘verbalization’ employed in this study is also referred to as “languaging” (Swain et al., 2009, p. 5) that is used to characterised learners’ use of language to mediate solution(s) to complex problems and tasks. “Languaging” or “the process of making meaning and shaping knowledge and experience through language” (Swain 2006, p. 89) can take place during collaborative activity (Swain, 2000) or as ‘self-explanation’ on an individual basis (Knouzi et al., 2010). In this study, we use Swain’s (2000, p. 102) definition of verbalization of collaborative dialogue as “dialogue in which speakers are engaged in problem solving and knowledge building”, and Swain et al.’s (2009) self-explanation verbalization definition as the use of language to “generate explanation to oneself” (Knouzi et al., 2010, p. 115). By gaining deeper insights into how L1 is used as a psychological tool by L2 learners, we can enhance our understanding of the value of L1 as a specific linguistic tool for cognitive functions to help learners accomplish their L2 tasks.

1. Theoretical background

One of the central tenets of the Sociocultural Theory (SCT), developed by Lev S. Vygotsky, a leading Russian psychologist, is the fundamental role of mediation in an individual’s growth and development (Lantolf, 2000; Lantolf & Poehner, 2008). Accordingly, SCT posits that human activity often involved a mediated process that functions to “establish an indirect or mediated relationship between ourselves and the world” (Lantolf, 2000, p. 1). Vygotsky reasoned that similar to the mediational function of physical tools (e.g. diagrams, maps or even charts) that humans employed to organise, control or even alter the physical world (Appel & Lantolf 1994, p. 437), human’s mental activity is also mediated by “psychological tools such as numbers, signs and language to direct and regulate their mental behaviour”(see Lantolf, 2000, p. 8).

Within this view, language plays a pervasive function; it not only serves as a communication function, but also as a cognitive tool that allows us to control our higher mental processes such as “voluntary attention, intentional memory, planning, logical thought and problem solving, learning” and even assessing the effectiveness of these processes (Lantolf, 2000, p. 2). More specifically, the use of certain semiotic tools manifested through language use, such as reading aloud, repetition and even use of L1, have also been viewed as enabling tools that have developmental repercussions in our cognitive capabilities, particularly in the learning of a second or foreign language (Gánem-Gutiérrez & Roehr, 2011; Gánem-Gutiérrez & Harun, 2011).

Vygotsky also further argued that learning a second language in a school setting is different from learning our L1 (Lantolf, 2007). Unlike the native language, the learning of a foreign or second language, particularly in adult learning context, generally involved conscious or intentional learning; hence such learning most often takes the form of “extensive production of complex forms and uses of the target language from the outset” (Lantolf, 2000, p. 2). Vygotsky contended that as these learners have normally already developed their L1 system as a regulatory tool for their cognitive activity, it is then “natural that this artefact is used to mediate their L2 learning” (Lantolf, 2000b, p. 2). Within this view, Vygotsky postulate that through foreign or L2 instruction, learners develop “an enhanced understanding of their native language that complements and also enhances their L1 reading and writing instruction” (Lantolf & Thorne 2006, p. 294). In other words, Vygotsky proposed that L1 functions as a mediational tool to aid the learning process of the target L2.

2. Past research – use of L1

In the context of L2 learning, research has shown the importance of the L1 as a mediational tool for regulating behaviour (Antón & DiCamilla, 1999; Gánem-Gutiérrez, 2008, 2009; Gánem-Gutiérrez & Roehr, 2011; Lapkin et al., 2009; Negueruela, 2008; Negueruela & Lantolf, 2006; Swain et al., 1998, 2009). For instance, Swain and Lapkin (1998) reported that L1 English functions as a tool to aid learners’ L2 learning. Data was analysed based on language-related episodes (LREs) of two French immersion students as they worked out on a jigsaw task assigned to them. Among the functions of L1 reported in this study include ,as a tool, ‘to regulate their own behaviour’, as an aid “to focus attention” as well as to generate and assess alternatives “on specific L2 structures’ (Swain & Lapkin,1998, p. 333).

In addition, investigations into the use of L1 in the L2 learning context among dyads also reported similar importance of L1 for cognitive and social functions. For instance, Anton and Dicamilla (1999) found that L1 was used as a psychological tool for providing scaffolded help as well as creating intersubjectivity1 when learners faced cognitive difficulties. Swain and Lapkin (2000) also identified similar functions of L1 deployed by 22 French

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1 Intersubjectivity is referred to as ‘the construction of a shared perspective between the interlocutors during a problem solving situation in order to create an atmosphere of cooperation and understanding that will allow the learners to successfully complete the language task’ (Anton and Dicamilla 1999, p. 236).
immersions students while attempting to complete the assigned language task in pairs. Accordingly, these researchers concluded that the deployment of L1 served not only as a tool to focus learners’ attention on target language, but also as a tool for moving the task along, and interpersonal interaction.

It is crucial to highlight that these studies have provided evidence that L1 can function as a psychological tool when learners participate in cognitively demanding L2 activities. In this sense, L1 use provides learners with “additional cognitive support” that allows them to “analyse language and work at a higher level than would be possible if they were restricted to sole use of their L2” (Storch & Wigglesworth, 2003, p. 760). Accordingly, Swain and Lapkin also asserted that “judicious use of the L1 can indeed support L2 learning and use” (Swain & Lapkin 2000, p. 268).

3. The study

The overall aim of this paper is to investigate the role and function of L1 in learners’ verbalization activity as implemented through Concept-Based Instruction (CBI) in helping L1 Malay learners of L2 English to further understand the concept of tense-aspect marking (with reference to simple past, present perfect and past continuous).

The CBI is a pedagogical approach for L2 learning that is predicated from Vygotsky’s principles of mediation that respects the following principles (Negueruela & Lantolf, 2006; Negueruela, 2008, Lapkin et al., 2008):

- The concept is the minimal pedagogical unit;
- The concept has to be materialized to serve as didactic mediational tools for learners (e.g. by means of diagrams or charts);
- The concept must be verbalized as the act of (self) explanation to facilitate regulation.

To address the significance of the use of L1, the source of data for this study taken from eight L1 Malay university-level learners of L2 English as they worked on the CBI materials. Selection of the eight participants were made from the total of 32 participants (nine males and 23 females) that volunteered to participate in the study, because they either gained the most improvement (i.e. the High Achiever) or the least improvement (i.e. the Low Achiever) from the CBI treatment session (see also Gánem-Gutiérrez & Harun, 2011). The participants were also identical in age, and their overall educational backgrounds were very similar. During the investigation, they were in the first semester of their first year Bachelor’s Degree programme at a local university in Malaysia.

Participants’ verbalization protocols were audio-recorded as they were asked to explain their thoughts and understanding as an intrinsic part of the CBI approach while working on the CBI materials. The protocols were then analysed and coded according to ‘Languaging Unit(s)’ (LUs) (Swain and colleagues, 2009; 2010) or also defined specifically as ‘participants’ talk referring to a conceptual unit’ as they were ‘producing cognitively complex on-task talk’ (Swain et al., 2009, p. 121). The LUs were adapted based on Swain and colleagues’ (2009, 2010) ‘language types’ framework (see Table 1).

### Table 1: Languaging types

<table>
<thead>
<tr>
<th>Languaging type</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Paraphrasing</td>
<td>The learner repeats a conceptual unit expressed in the card that s/he has just read.</td>
</tr>
<tr>
<td>Inference-Integration</td>
<td>The learner uses information presented in previous card(s). The LU shows evidence of learning (at least of declarative knowledge) in that the learner is able to use newly acquired information to ‘think about’ the target concept. This includes learner’s use of the metalinguistic terms when attempting to understand the structure of sentences. The main feature of these LUs is that they are very similar to the original conceptual units they draw on. In other words, these LUs are paraphrases that occur from one or several cards after the original card and may also include the concepts that were presented in the accompanying diagram.</td>
</tr>
<tr>
<td>Inference-Elaboration</td>
<td>The learner does not only show evidence of retaining the information presented previously, but s/he also appropriates the information either by incorporating it with her prior knowledge (trying to fit the new information in her system) or by incorporating several pieces of information of the explanatory text. Unlike integration LUs, these LUs exceeded what is stated in the cards (e.g. comparing/contrasting two conceptual units).</td>
</tr>
<tr>
<td>Inference-Hypothesis formation</td>
<td>The learner forms a hypothesis based on what s/he has already learned or understood.</td>
</tr>
<tr>
<td>Analysing</td>
<td>The learner applies new knowledge to a specific sentence/example, including the analysis of a sentence in terms of tense and aspect (with reference to the simple past, past perfect and past continuous)</td>
</tr>
<tr>
<td>Self-assessing</td>
<td>The learner monitors his/her understanding (e.g. ‘I don’t understand this part’; ‘this is not clear’; ‘I’m not sure what this means’).</td>
</tr>
<tr>
<td>Rereading</td>
<td>The learner re-reads part or all information found in a card.</td>
</tr>
</tbody>
</table>

(Adapted from Swain et al 2009)

4. Results and discussion

The quantitative results shown in Table 2 present a general overview of the eight participants’ L1 use manifested through their verbalization activity during their CBI session. This is essential in order to understand how participants make use of their language, particularly the type of Languaging Unit (LU) produced in promoting their in-depth understanding of the concept of tense-aspect in question.
Results from the analysis indicate that the highest percentage of LUs deployed by participants was paraphrasing (32%), followed by Analysis (20.5%) and Integration (18%). The lowest type of LUs produced by the participants were Elaboration and Hypothesis, each amounting to 3%.

As explained in the previous section, investigation of learners’ verbalization was investigated in relation to their use of L1 as a mediational tool to help learners’ gained deeper understanding of the grammatical concepts presented. For this purpose, Excerpt 1 exemplifies how the learners make use of the LUs to increase their understanding and awareness as they tried to make sense of the particular conceptual units. In this languaging sequence, the protocol analysed was taken from a participant known as S1, under the individual verbalization condition; however, the general strategic behaviour highlighted below was shared by all the participants to a varied degree, including those who verbalized collaboratively.

As shown in Excerpt 1 below, S1 produced 10 LUs, as he tried to make sense of the concepts presented to him in the CBI session. In addition, half of the LUs produced (i.e. 5 LUs) was related to Paraphrasing, while two LUs for Rereading and one LU for Integration, Analysis and Self-assessment. It is evident that S1’s verbalization about the grammatical concepts presented was limited to primarily paraphrasing following his first reading of the concepts on slide 14 (LU1). In fact, the use of paraphrasing deployed by S1 can also be characterized as his strategic behaviour to promote his understanding, as reflected in his attempt to make sense of the aspect meaning of the simple past, ‘lived’ (LU4) and the past continuous, ‘was living’ (LU8).

However, in his attempt to understand the semantic aspect of the ‘present perfect tense’, S1 also deployed the Integration LU to make connection between the newly acquired concept with the diagram presented in the slide (LU3). In this case, the role of the diagram can be viewed as serving as a mediational artifact to facilitate the thinking process, hence suggesting that S1 is still ‘object regulated’ at this stage. His effort seemed to be successful as he was able to apply this new knowledge to aspectual meaning of the present perfect form ‘has lived’. However, LU4 reflects S1’s attempt to revisit the concept of ‘present perfect’ as he tried to build on his newly acquired knowledge of the aspectual meaning of the particular concept, and further incorporated it with his current knowledge of ‘simple past’ by comparing the two concepts, manifested through ‘Rereading’ (LU5), and ‘Analysis’ LUs (LU6), followed by a long pause. The attempt by assuming a conversational or dialogic interaction with himself in LU4, manifested through his self-questioning ‘But why?’, may also suggest his effort to gain regulation of the task to become self-regulated (see also Section 2.3.1) by means of contextualising the concept in question.

The interjection ‘ah’ embedded in his Analysis LU (LU6) marked a change of his current knowledge as his focus of attention became meaning rather than form as he continued to analyse the particular grammatical aspect. It is crucial to highlight that S1’s several verbalization attempts to revisit the concept of the ‘present perfect’ when faced with such cognitive challenged task (LU5 and LU6), had helped him to reach an understanding of the particular aspectual meaning found in the sentence, ‘Anne has lived on her own for ten years’, reflected in LU7. The paraphrasing-LU deployed by S1 in LU3, LU7, and LU9 to regulate his understanding, is a common type shared also by the LMs in both verbalization groups. However, his verbalization in this languaging sequence had to some extent helped him to achieve understanding of the concepts in question. This is evident as he concluded his understanding of the new concept by acknowledging it by means of ‘self-assessing’ his new knowledge (LU10).

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2 Object regulated- whereby language, for instance is used to name objects around us (i.e. table, school or even facts) (Ahmed, 1994, p.1 59). This type of regulation is the first stage in the three regulatory functions, which include ‘other-regulatory function’ and ‘self regulation function’ (see also Lantoff, 1994).
Excerpt 1-SI’s Languaging Activity

| LU1 | The difference between ‘lived’ and ‘has lived’ (..) umm (..) ok from this sentence (?) (..) mm: (.) it’s describing that Anne had lived with her parents, it’s already being done by Anne (..) |
| LU2 | Ok “has lived” in number three (.) present perfect (.) mm: ‘has lived’ OK (.) so ‘has lived’ here means (.) she has been living there with her parents, beginning point in the past and action but no ending point (.) I guess so (?)(laugh) (..) |
| LU3 | but for ‘Has lived,” Anne has lived for TEN years”(.) it means that there was a beginning time but NO(?) ending time (.) it looks like this line is just continuing until the present time (..) up to the speech time (.) the action was performed until the speech time, at the moment when the speaker talks about it(;) at that present moment, the speech time, the action has not been completed yet (.) ah-huh (.) that’s all so it’s not forever (.) |
| LU4 | In the sentence (.)“Anne lived with her parents for two years”, so it means that after that two years it means that maybe she, maybe she no longer lived with her parents anymore(.) so now , not anymore (.) maybe, not? hm: not(?) But why(?) (.) |
| LU5 | “Anne has lived on her own for ten years present perfect”, (.) “Anne has lived on her own for ten years present perfect”(..) |
| LU6 | This sentence means that (.) ah(?) until now she has lived on her own for ten years(‘) ‘has lived’ (‘) ‘has lived’ (‘) so the sentence ‘has lived’ here is showing that even now she still lives on her own (‘) ‘has lived’ (‘) ah-huh (‘) has lived(‘) on her own (..) |
| LU7 | In the sentence – Anne lived with her parents for two years, it’s in the past tense form, so that is easy (.) so now she is not living with her parents anymore because she lived with them only for two years (.) OK next |
| LU8 | “was living with her parents when I met her”(.) |
| LU9 | so when I met her at that that(‘) she was living with her parents (.) |
| LU10 | But this sentence ‘has lived’, mm: I was not sure the meaning, I mean when she started and ended living there with her parents (.) So I think that is all, the different meaning in all three sentences (.) hmm(.) OK (.) next (..) |

Vygotsky (1987, p. 150) argued that ‘speech does not merely serve as the expression of developed thought’. Rather, speech is the result of the restricting process of thought, or in other words, as Vygotsky asserted, ‘it is not expressed but completed in the word’ (1987, p. 150). Within this view, Vygotsky posited that by means of speaking or even writing, we were able to develop our ideas fully (Lantolf & Thorne 2006, p. 48). Importantly, the findings presented above indicate that language, or specifically L1 use, was used by learners as a semiotic tool in their attempts to become self-regulated.

As highlighted in this section, there is a considerable variation of L1 use in relation to the types of LU’s deployed in helping learners to make sense of the target grammatical concepts. An important issue to consider in relation to the types of LUs produced is the fact that a considerable amount of the L1 use was related to Paraphrasing. In particular, paraphrase was deployed as a cognitive tool in their reasoning process by repeating pieces of discourse as well as parts of the questions and expressions, and to keep focusing on the crucial information relevant to the tasks, such as to focus on form and isolate problematic language from its context (Swain et al., 2009, Lapkin et al, 2008).

The finding is in line with the studies within the SCT framework as reported in the literature (Buckwalter, 2001; DiCamilla & Anton, 1997; Frawley, 1992; McCafferty, 1994; Roebuck, 2000). In particular, Roebuck (1998, p. 57) pointed out that such semiotic device has been found to help learners to ‘generate more details about the nature of the items under focus’.

5. Conclusion

The research has reported on the importance of the L1 In the context of L2 learning as a mediational tool to regulate behaviour. In addition, the study has also offered insights into how language, namely L1 was used ‘to organise and enhance thinking on the one hand, and the use of language to develop deeper understanding of the L2, on the other’ (Gánem-Gutiérrez & Harun 2011, p. 117). It is hoped that the findings reported here can also contribute to the body of research into the role and value of L1 use in the context of L2 learning.
References


