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The impact of linguistic knowledge on learner strategy deployment

Ozge Razi ^a, Michael James Grenfell^b^a*School of Education, Trinity College, Dublin 2, Ireland*^b*School of Education, Trinity College, Dublin 2, Ireland*

Abstract

It is generally accepted that linguistic knowledge is a key element in the comprehension of reading of texts in a second language (L2). Research on the 'threshold level' argues that learners need to reach to a certain level of L2 proficiency in order to be able to understand printed text. However, it is still not clear when and how learners reach the threshold level and, when they do, which reading skills are sensitive to this proficiency. It is argued that Strategy Based Instruction (SBI) may provide beginning level students with tools to cope with challenges of reading. However, although learners are able to use learner strategies as guiding mechanisms while reading, a lack of linguistic knowledge can short-circuit the deployment of such. This paper presents extracts from think-aloud protocols that were conducted as part of a quasi-experimental study carried out with 12-year-old secondary school students in Cyprus. Strategy deployment was analysed in terms of order, complexity and simplicity, symbiotic relationships and sophistication. The findings show that learners, despite their weak linguistic knowledge, were able to use certain strategies to cope with difficulties. Nevertheless, examples are also offered which suggest that weak linguistic knowledge can sometimes get in the way of successful strategy deployment; thus providing evidence to support the threshold hypothesis. It is argued that SBI can offer a guiding mechanism for beginner level students' language learning. Such students can use strategies as tools to cope with the challenges of reading texts. However, a certain level of proficiency is necessary if students are to be able to draw on these strategies.

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1. Introduction

In this paper, the complex nature of foreign language reading is explained in relation to linguistic knowledge, threshold hypothesis and strategy deployment. According to the claims made on the threshold hypothesis, a certain level of linguistic knowledge is necessary for learners to be able to use learner strategies and to be able to transfer L1 reading abilities to L2. Although linguistic knowledge is significant to L2 reading, knowing and employing reading strategies is as important for L2 learners. According to the threshold hypothesis, after the attainment of certain linguistic level, learners will be able to use their L1 reading abilities in L2. Such a claim is not yet proven and Anderson (2010) states that skills are not easily transferred from one domain to the other. Thus, learners need instruction on both L2 linguistic knowledge and reading strategies. This paper, presents a case example, which offers how linguistic knowledge and strategy deployment interacts with each other after a Strategy Based Instruction (SBI).

The interplay between strategy deployment and linguistic knowledge in second language learning is not widely researched. This paper addressed this gap in the literature by answering the following research questions:

- 1) Is reading strategy deployment possible despite lack of linguistic knowledge?
- 2) How does linguistic knowledge interact with strategy deployment?

The first question investigates whether strategy deployment is possible despite language weaknesses of learners. The second question explains the interplay between linguistic knowledge and strategy deployment. In order to answer the research questions, think-aloud protocol of each learner was examined for strategy use and for their ability to understand the reading text. Groups of strategies that were used closely together were analysed with an aim of understanding how learner's knowledge of language affected strategy use. The analysis was conducted by examining each group of strategies in terms of: 1) order of strategy use, 2) complexity or simplicity of strategy combinations, 3) symbiotic relationships, 4) sophistication, 5) grammatical knowledge, 6) lexical knowledge. The first four factors focus on strategy use and last two aims at linguistic knowledge, i.e., phonetic knowledge, morphological knowledge, and lexical knowledge.

2. Linguistic Knowledge, Threshold Hypothesis and Strategy Deployment

Linguistic knowledge is "a domain of information in memory that is available for use... in catering and interpreting discourse in language use" (Bachman & Palmer, 1996: 67). Alderson states that "the ease with which the language of a particular text can be processed... depend[s] upon the nature of the reader's linguistic knowledge" (2000: 34). In other words, the reader needs to know the language of the text in order to process it with ease. To Stanovich's (1980) interactive-compensatory reading model in L1, reading comprehension is likely to be hindered if readers lack sufficient linguistic knowledge. Vocabulary and syntactic knowledge, at a very basic level, are critical to reading. Alderson (1984: 2) suggested that reading in a foreign language is a reading problem rather than a language problem. 'Language problem' refers to a weakness in the knowledge and 'reading problem' refers to a weakness in what are called higher-level mental operations (strategies) such as predicting, analysing, synthesizing, making inferences, and retrieving relevant background knowledge. There are contradictory views suggesting that poor foreign language reading is due to imperfect knowledge of L2 and native language interference. Grenfell and Harris (2006: 3) suggest that bilingual learners have one schematic and systemic knowledge that they use for both languages they speak. According to this claim, the threshold level may play a significant role in differentiating bilinguals from others who speak a foreign language. Alderson (2000) stated that no matter how proficient they are at reading in their native language, language learners will not be able to read as well in their foreign language if a threshold level of competence in the foreign language is not reached. It is worth noting that this language threshold is not absolute but must vary with tasks; the more difficult the task, the higher threshold level of L2 language competence the reader requires (Alderson, 1984). The threshold level suggests that, learners need to reach to a certain level of language knowledge, after which they would be able to use their reading knowledge that they have in L1 when reading in L2 as well. Therefore, "evidence is that, in second-language reading, knowledge of the second language is a more important factor than first-language reading abilities" (Alderson, 2000: 23). Alderson's (2000) notion of the threshold hypothesis, which claims that there is a line over which skills can be transferred to L2, contradicts Anderson's (2010) suggestion on the transferability of skills. He states that skills, either similar or different, often fail to transfer or they do not transfer at all (p. 265).

In conclusion, the above discussion suggests that linguistic knowledge is a key factor in L2 reading. Weak linguistic knowledge leads to incorrect use of LLS. Although there is some research on the relationship between linguistic knowledge and strategy deployment, the question regarding their relationship remains unanswered (See Macaro, Graham and Vanderplank, 2007). The next sections are on methodology of data collection and findings on the interplay between linguistic knowledge and strategy deployment.

2.1. Methodology

This paper presents examples from a data set of a quasi-experimental intervention study conducted with secondary school learners. Pre- and post-test measures of reading comprehension, strategy deployment and attitudes were taken from control and intervention groups, total of 119 learners, to obtain statistical information. Qualitative data was also collected from 12 learners through semi-structured interviews and think-aloud protocols. Results presented here are from think-aloud protocols during which learners were asked to share their thoughts while reading. Think-aloud protocols are used to observe learners' thought processes while they are engaged in the activity (see Grenfell and Harris, 1999). Observations on their thought processes give us the opportunity to understand how they are dealing with strategies, when and how they use them and whether there is a genuine contribution to reading comprehension through strategy use. Various combinations of strategies are used depending on the demand of a reading text and the

learner's need for comprehension. What is more, these variations of strategy use are also affected by the learner's linguistic knowledge. When linguistic knowledge supports strategy use at some occasions, it impedes strategy deployment at others. Offering examples from twelve students would not be possible due to the limitations of this paper. Thus, two extracts from a student's protocols are presented in the next section as an illustrative response to the research questions.

2.2. Results

In this section, there are two examples illustrating the data set which responds to the research questions. The extracts are from one of the think-aloud protocols conducted with a learner after the SBI. The first extract shows how a learner dealt with strategy use with some absences of linguistic knowledge and the second extract illustrates the way linguistic knowledge contributes to strategy deployment.

2.2.1. *Is reading strategy deployment possible despite lack of linguistic knowledge?*

Table 1. An extract from Clair's think-aloud protocol

The extract	Explanation
116 /hi wʌnt tu sɪpɛnt æz æ æz laɪt mənɪ æz hi kæn./ 117 S: here he says that he will own something with his little money. One day 118 he wanted to buy something, he wanted to buy a piece of something with his money.	<ul style="list-style-type: none"> Lacked lexical and phonetic knowledge Mispronounced 'as little...' which caused limited comprehension, thus lack of phonetic knowledge caused limited comprehension No sign of interpretation for 'as...as' Use of words 'little' and 'money' to support her guesses and elaboration Comprehension of 'little' despite mispronunciation Incorrect guess about 'spent', due to lack of lexical knowledge The order of strategies: semantic guessing, elaboration, background knowledge and inference
119 /nɛkst tu æn ɒlt wɒl ɪn ðə vɪlɪdʒ/ 120 S: Village, he wanted to help. 121 T: What did he want to do? 122 S: Help. 123 T: How did you understand this? 124 S: Teacher, here village, money; I think he must have wanted to help.	<ul style="list-style-type: none"> Lack of phonetic knowledge Dependence on the word 'village' to bring in her background knowledge Weak ground of background knowledge led to incorrect inference Mispronunciation of 'village', but this did not influence interpretation The order of strategies: background knowledge and inference

The order of strategies, ranging from semantic guessing to inference, suggests that she tried to understand the words first. This process of strategy use in the order that is specified helped her to regulate her cognitive processing; through the use of strategies she organised her thoughts about the story. For example, she first focused on the words that she knew the meaning of and made elaborations; as a result she made an assumption about the moral of the story. Then, by bringing in her background knowledge she made an inference, by stating that the man wanted to help the village although it was not expressed in the story. She said "here 'village', 'money'; I think he must have wanted to help". Inference was made in an effort of trying to understand the moral of the story. This process was both supported and impeded by her linguistic knowledge at different occasions. For example, in line 117, she used 'money' to make guesses about the story, however she translated 'spent' as 'buy' which impeded her from further understanding the story. The strategies were used in harmony with an aim of reaching to comprehension. She focussed on two sentences (see lines 116 and 119) to make sense of what the man wanted to do with his money in the village. The way the strategies were combined in lines 117-118, 120 and 124 shows that there is a strong symbiotic relationship between them, as one strategy was leading to the other. She focused on the same message of the story. For example, in line 124, semantic guessing, background knowledge and inference were used closely together to understand what the man wanted to do in the village. She did not fully understand the text, but she managed to combined strategies together to focus on the meaning despite her lack of linguistic knowledge; for this reason she was successful in using strategies despite language difficulties she faced. Lines 120 and 124 are examples of

complex and sophisticated combinations of strategies. More than one strategy was used and lower and higher strategies were combined together.

2.2.2. *How does linguistic knowledge interact with strategy deployment?*

Table 2. An extract from Clair's think-aloud protocol

The extract	Explanation
110 S: Unhappy 'un' is negation	• Morphological and lexical knowledge
111 T: What is happy?	• Being able to talk about prefixes and word meanings
112 S: Happy means happy (states in Turkish)	• Use of semantic guessing through utilization of morphological knowledge
113 T: hm	• Use of translation
114 S: He was happy. He had money but he did not have the thing, he did not have happiness.	• The order of strategies: semantic guessing and elaboration
115 That's how I understood.	

Combining the word 'happy' to the prefix 'un', she was able to guess the meaning of 'unhappy'. This, semantic guessing strategy, was possible to use through morphological knowledge. In line 114, she added her elaborations to make more sense of the story. Semantic guessing and elaboration are simple strategies which could be used by students who only have a basic knowledge of English. Despite the simplicity of these strategies, learners who lacked morphological knowledge were not able to use semantic guessing strategy which contributes to basic reading comprehension.

To sum up, the analysis of the extracts above suggests that a basic level of morphological and lexical knowledge is significant for strategy deployment. However, phonological knowledge does not always impede use of strategies. The next section offers some discussion of the findings.

2.3. *Discussion*

The extracts presented in the results section are two representative examples from one learner out of twelve. Similar examples are repeated throughout the data. Foreign language learners would usually need to understand reading texts without knowing the meaning of all the words in a text. Some lexical knowledge, however, is necessary for reading comprehension.

The table 1 above shows that the learner had the disadvantage of not knowing the meaning of 'spent'; she invented a meaning for the word as 'buy'. The data might suggest that a certain level of lexical knowledge is necessary for strategy use, which is in line with the claims made on the threshold level. A similar finding was found in Nassaji's (2003a) study on the role that lexical knowledge played in reading comprehension. He stated that morphological knowledge and background knowledge contributed most to lexical inference (semantic guessing). He further suggested that some lexical knowledge is a crucial factor in successful semantic guessing. The finding on the importance of lexical knowledge, however, contradicts to Paribakht's (2004) finding on the role grammatical (i.e., sentence level, word level, discourse) knowledge that might play on lexical inference. She emphasised on the role of grammatical knowledge in the process of lexical processing and points at the importance of grammar acquisition. However, there is one aspect of knowledge types that they agree on that is morphological knowledge (i.e., affixes). In this respect, this study is in line with both of the above studies. Table 2 above, suggests that use of morphological knowledge can play a significant role in the use of semantic guessing strategy. The learner demonstrated knowledge of negation, 'un', and she showed her lexical knowledge by translating 'happy' into Turkish. By combining 'un' and 'happy' she was able to figure out the meaning through use of semantic guessing strategy. Building on this word she, later on, made elaborations. Although evidence indicates to the contribution of morphological knowledge it does not prove that grammatical knowledge is a key element in reading comprehension. Data presented in table 1 contradicts to Nassaji's (ibid.) statement on the significance of background knowledge on lexical inference/ semantic guessing. The example shows that the student made an incorrect inference due to misuse of background knowledge. The misuse of the background knowledge was caused by overreliance on the meaning of one word, 'village'. Thus, background knowledge does not always contribute to successful semantic guessing. Nassaji (2003b) found that phonological knowledge is also a significant factor contributing to reading comprehension, however it is not as significant as lexical knowledge, word recognition and graphophonic processes (p. 10). The example in table 1 shows that although phonological knowledge plays a role in comprehension, its role is not always significant.

It is significant to mention that the findings presented in this paper are a small part of preliminary findings of a large research project. The findings point at the significant impact of morphological and lexical knowledge on strategy deployment. Phonological knowledge, on the other hand, is not as important for reading comprehension, although it also influences comprehension sometimes. The next section offers a general conclusion to this paper.

2.4. Conclusion and Implications

In conclusion, the data involved in this paper confirms the claims made through the threshold hypothesis. The preliminary findings suggest that learners need some instruction on lexical and grammatical knowledge before a SBI. Nevertheless, the amount of lexical and grammatical knowledge that learners would need before a SBI is still an unanswered question. Similarly, the threshold level is still a vague concept which needs clarification. Clarification of such issues would indicate when SBI should begin. Despite all of these unresolved matters, what is becoming clear, with the contribution of current scientific research, is that SBI is significant for foreign language (FL) learners to cope with difficulties involved in FL learning. However, a discussion on SBI is beyond the scope of this paper. The implications of data discussed in this paper are as follows:

- 1) In order for learners to be able to use strategies properly in order to contribute in reading comprehension, a level of linguistic knowledge must be ensured.
- 2) Strategy instruction with a concern of increasing learners' linguistic knowledge would create more able foreign language readers.

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