Do Second Language Learners Solve Lexical Problems Differently in Speaking and Writing? What the Literature Says[1]

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Abstract

Traditionally, the literature on communication strategies has been associated with oral communication. In this paper I contend that lexical problems can come to the writer's attention as much as they come to the speaker's attention, therefore provoking the use of communication strategies in the written domain. This paper reviews the literature on communication strategies both in oral and written production, and establishes a comparison between them. The analysis reveals four ways in which communication strategies are viewed, from which two are clearly used both in writing and speaking; a third is clearly used exclusively in speaking; and the fourth although clearly used in speaking, may also be used in writing under certain peculiarities. The analysis presented here reveals the complexity and bilingual nature of the process of solving lexical problems during the act of speaking and writing.

Resumen

Tradicionalmente, la literatura sobre estrategias comunicativas ha enfatizado el aspecto oral de la comunicación. En este artículo afirmo que al igual que el hablante, el escritor enfrenta problemas léxicos por lo que se ve obligado a utilizar estrategias comunicativas para su solución. El artículo hace una revisión bibliográfica de la literatura sobre estrategias comunicativas tanto en producción oral como escrita, y establece una comparación entre ambas. El análisis revela que las estrategias comunicativas son percibidas en cuatro formas, de las cuales dos son evidentemente utilizadas tanto en el habla como en la escritura; la tercera es claramente exclusiva del dominio oral; y la cuarta, aunque tiende a ser usada en el habla, puede también ser utilizada en la escritura con ciertas peculiaridades. El análisis aquí presentado revela la complejidad y la naturaleza bilingüe del proceso de solución de problemas léxicos durante el acto de comunicación oral y escrito.

Introduction

One characteristic of L2 users, especially those whose L2 is not fully developed, is that often they want to express a concept in L2, but they do not have a particular lexical item needed to express it. The literature shows that foreign language learners face these kinds of lexical problems and use different strategies to solve them. The idea of L2 users employing *strategies of communication* for handling situations when "the learner realizes ... that he or she has no linguistic competence with regard to some aspect of the TL [target language]" comes from Selinker (1972: 219). Since then, a considerable amount of research has been carried out on the nature of communication strategies (CSs), taxonomies of strategic language devices, and variation in CS use, especially in speaking. How different can the mechanisms of solution of

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lexical problems be in writing? In other words, are communication strategies used differently in oral and written production?

While there are some similarities between formal speech and writing as two types of language production, the differences cannot be neglected. Perera (1984), for example, indicates two fundamental difference types: situational and functional. Situational differences include, for example, time for careful planning. Communication may be interrupted if the speaker pauses too long to think or to remember a lexical item whereas the writer, because he or she is alone, can take his or her time to find the exact word to convey an intended meaning, without fear of interruption. Also, because written communication is expected to be error free to a greater extent than spoken communication, and because, unlike the speaker, the writer does not have immediate feedback (or sometimes no feedback at all) regarding any ambiguity, careful attention to lexical choice is called for in writing. Functional differences refer to situations such as the fact that in speaking, people can use gestures, facial expressions, stress and intonation to convey meaning, whereas in writing the language bears all the burden of communication: the writer needs to achieve linguistic explicitness through words.

Considering the differences as well as the similarities between spoken and written production, one can say that lexical problems can come to the writer's attention as much as they come to the speaker's attention. The same assumptions may apply to the mechanisms employed to solve the problems. However, literature on communication strategies tends to be associated with the spoken medium. The intention of this review is to bring into the discussion of communication strategies the issue of written production.

Review of communication strategies in oral production.

Research on communication strategies dates from the early 70s. CS studies have traditionally been lexical in nature. Initially, the concept of communication strategies referred to mechanisms used to compensate for gaps in the speech of the L2 user. Researchers observed that learners often had to adjust their messages because they did not have the words needed to express the ideas they wanted to express; thus, they started to systematically analyse the strategic language of L2 learners (see Faerch & Kasper, 1983; Tarone, Cohen & Dumas, 1973; Savignon, 1972; Tarone, 1977; Varadi, 1980).

With time, this concept extended to include the handling of problems that have already surfaced during the course of a conversation, and also potentially during the act of composing, as a repair mechanism (Canale, 1983).

Later, a new dimension to CSs was added by including communication maintenance devices (stalling strategies such as verbal and nonverbal fillers), the argument being that a primary source of problems faced by L2 speakers is insufficient processing time. To gain time and keep the communication channel open at times of difficulty, L2 speakers are forced to use strategies. Although these strategies are not actually used to compensate for any linguistic deficiencies, they are facilitative in that they help sustain communication in the face of difficulties (Dörnyei, 1995).

In the 90s, researchers approached the study of communication strategies from a process, cognitive point of view. They were interested in the cognitive processes underlying strategic language use. The scope of communication strategies in cognitive models is wider: it embraces not only strategies for solving linguistic deficits, but also strategies to overcome processing time pressure (stalling mechanisms), strategies to overcome deficiencies in the speaker's own output (self repair), and strategies to bridge deficiencies in the interlocutor's performance (meaning negotiation mechanisms) (For more information see Bialystok, 1990; Dörnyei and Kormos, 1998; the Nijmegen project, as cited in Poulisse, 1990; Kellerman, 1991; and Poulisse, 1993).

Figure 1 below illustrates the scope of communication strategies, that is, the problems or situations which motivate the use of a communication strategy.
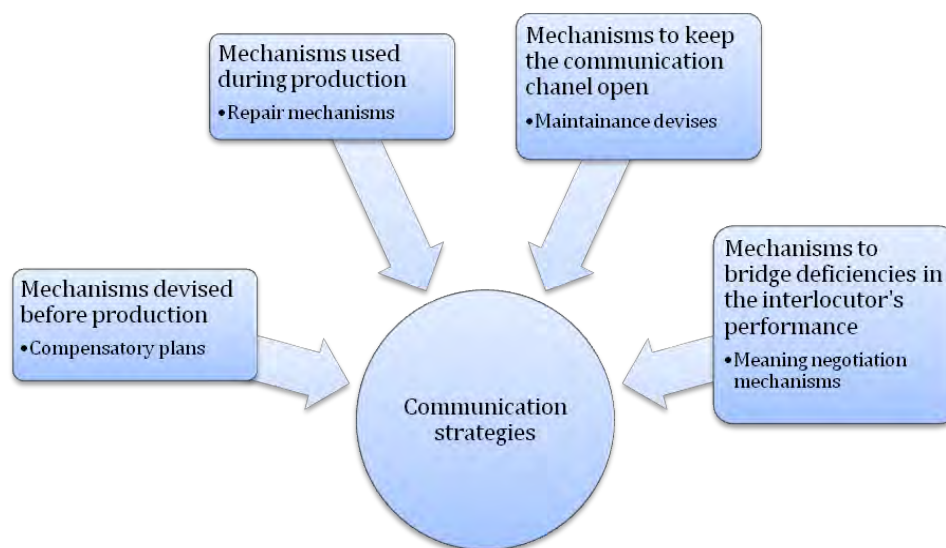

Figure 1. The scope of communication strategies

The definitions presented above reveal two important underlying defining criteria. The first one has to do with the scope of the motivation for using a strategy, or to put it in Bialystok's (1990) terms 'problematicity'. The second defining criterion is awareness. Concerning problematicity, it has been shown that CS literature is concerned with devices applied to repairing or saving the interaction when problems occur, especially in the lexical domain, either as a result of a gap in the speakers' knowledge, or as a performance problem (for instance, problems of lexical retrieval), or as a problem perceived with the interlocutor (c.f., meaning negotiation mechanisms). Awareness, the second defining criterion, can be related to the speaker or writer's awareness of a problem being faced, and their intentionality of the use of CSs to solve the problem.

Generally, taxonomies of communication strategies are based on surface elements of language (that is, output). Consensually, they distinguish two major types of CSs, namely, reduction (or avoidance) strategies and compensatory (or achievement) strategies, with subtypes in each general group. An important number of taxonomies, more process-oriented, focus

exclusively on compensatory strategies. They distinguish between two basic strategy types depending on the kind of knowledge used to solve the problem: *conceptual* or *linguistic* (Poulisse, 1994:621). Conceptual strategies entail analysis and manipulation of the intended concept. They are further subdivided into *analytic* – the speaker refers to the intended concept by listing some of its properties and *holistic* – the speaker refers to the intended concept by using the word for a related concept which shares some of the features. Linguistic strategies, on the other hand, entail using the knowledge of formal rule systems of the native language, target language, or other languages, and insights into the correspondences between these. They are based on either processes of *morphological innovation* or *transfer*. Figure 2 summarizes the way taxonomies of communication strategies have been organized.
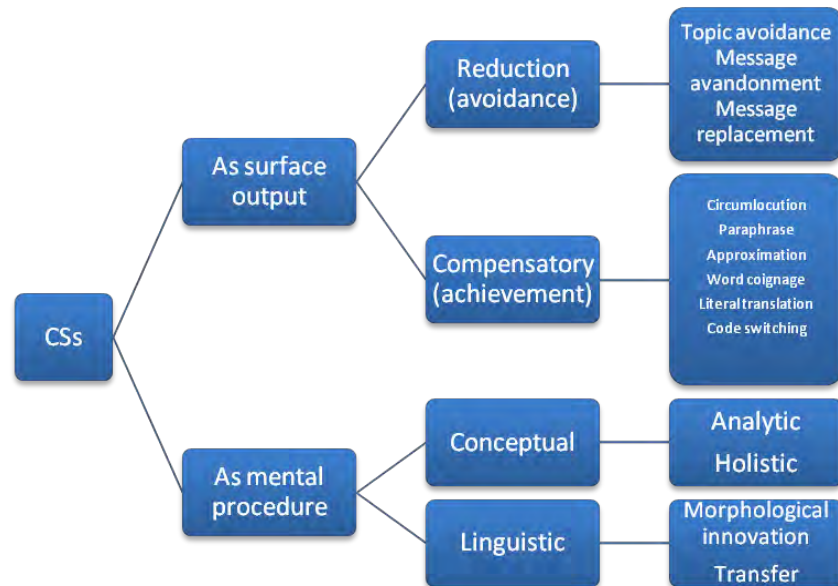

Figure 2. Taxonomies of communication strategies

Taxonomies of communication strategies also make reference to another strategy, often a subcategory of achievement strategies: appealing for help, which generally refers to asking the interlocutor. It is also identified as interactional strategy (Dörnyei & Kormos, 1998). This category includes, among others, appeal for help as related to resource deficits, and own-accuracy check.

Communication strategies in writing

It should be noted that the whole notion of communication strategies has, predominantly, been developed in the domain of spoken language. Research on the writing process is primarily interested in exploring the whole process of composing, and the strategies related to lexical problems are lost within their categorizations of composing strategies. There are a number of studies, however, that have set out to explore specifically production problems in writing (including lexical problems) and the strategies employed to solve them.

For instance, Váradi's (1980) confirmed the theoretical presupposition that when L2 learners wish to convey in writing a message for which they lack the

linguistic resources, they tend to tailor their message according to the resources available, and in some cases may adopt 'risk avoidance' as an attempt to give up the original communicative intent. He identified two message adjustment strategies: *reduction* and *replacement*. Within reduction strategies he includes *generalizations* (the use of a superordinate word) and *approximation* (which conveys a part of the intended meaning). Replacement strategies, on the other hand, included *circumlocution* and *paraphrase*. It must be noted that the distinction between the different subcategories seems to be blurred with regard to form. For example, in Váradi's (1980) mentions "if enough of the semantic components have thus been extensionally rendered for the offered form to convey the optimal meaning inherently, it should no longer be regarded as an approximation but rather as a circumlocution" (p. 69).

Along similar lines, Yarmohammadi and Seif (1992) set out to investigate the employment of different CSs in the written and oral performances of fifty-one Persian learners of English at an intermediate level. The researchers reduced the data to two general categories, as shown in Figure 3 below:
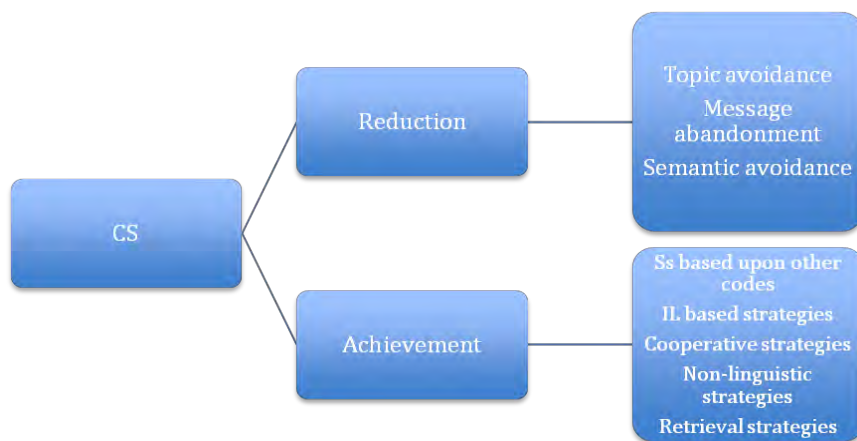

Figure 3. Yarmohammadi and Seif's (1992) taxonomy of communication strategies

Statistical analysis confirmed their hypothesis that their participants more frequently will resort to achievement strategies rather than reduction strategies. As for achievement strategies, the participants used IL-based strategies in a higher proportion than strategies based on other codes (for instance, L1). Although the researchers claim that the participants used the same CSs in both the written and the spoken tasks, they found that some achievement strategies were exclusive to oral performance, specifically appealing for verification (cooperative strategy), mime, and retrieval.

Scholfield and Katamine's study (2000) investigated the effects of medium of production (speech vs. writing) and presence or absence of a dictionary on strategy choice. They predicted that there would be less avoidance in the written condition than in the spoken, and more use of achievement strategies. Also they hypothesised that changing the available repertoire of strategies affects use of strategies other than the one added or subtracted. The

researchers identified the following CSs: circumlocution, approximation, word coinage, literal translation, language switch, message abandonment, and topic avoidance. They found no significant difference of strategy choice between the oral and written condition, with a high rate of avoidance in both conditions. Interestingly, the written version exhibited significantly more avoidance than the spoken one. They also found that CS choice is affected by the nature of the individual language item. As for the choice of dictionary vs. non-dictionary use, results showed a significant difference in overall frequency of use of CSs just between the non-dictionary and dictionary groups, with a lower frequency of CS use overall in the dictionary-using group.

Chimbganda (2000) studied the communication strategies used in the writing of responses in a biology exam by ESL university students. Forty randomly selected biology students were given a written test on 'core concepts in biology' from their biology lectures and three open-ended questions were selected for analysis. The researcher established a taxonomy containing four communication strategies in writing: risk-taking (restructuring and alternative lexis), risk avoidance (topic avoidance and message reduction /abandonment), L2-based strategies (paraphrase and circumlocution/generalization), and semantic simplification (expressing something else—seemingly avoidance again—and ungrammatical uses). Results indicate that participants' preference of strategies, in descending order, is as follows: L2-based strategies, risk-taking strategies, semantic simplification strategies, and risk avoidance.

All in all, it can be seen that all four research studies reviewed above, although using different terminology, distinguish between reduction and achievement strategies, with a number of sub-strategies in each category. Although it is in their favour that these studies on communication strategies shifted their interest towards the written medium, it should be noted that they do not investigate writing in natural circumstances, such as in composition, where the writer writes to express ideas freely. This fact may have an impact on the problems participants faced and on the strategy choice (see Oxford et al., 2004).

Some studies that have been carried out to look at the lexical aspect of writing in a naturalistic concept employ a cognitive view of writing. One characteristic of these studies is the use of introspective methodologies (such as think aloud protocols) as a tool to reveal the actual process of text construction. In think aloud methodologies participants are asked to verbalize their thoughts while they are engaged in the writing problem. The verbalization is recorded and later transcribed and the transcriptions (that is to say, the protocols) are analyzed. It is through this analysis that problems and strategies are identified.

One of such studies is Roca de Larios et al.'s (1996). They researched attention to lexical problems in L1 and L2 writing by EFL learners. Although in their research questions they mention an interest on solution strategies, their analysis concentrates on problems. They identified four types of problems: (1) problems of L1 lexical access while composing in L2; (2) problems of lexical translation from L1 to L2; (3) attempts to upgrade a retrieved lexical item, either conceptually or linguistically; and (4) correction of a previously retrieved

lexical item, either for accuracy or appropriacy in conceptual or linguistic terms. As can be seen, problems of the type 1 and 3 imply higher goals that go beyond the mere transcription of ideas as they are constructed, problems of the type 2) are L2 specific, and problems of the type 4 are related to issues of semantic coverage within each language or between languages (p. 12). Their results raise two important questions regarding the role of L1 in L2 composing: How do writers adapt their existing L1 writing competence to the new demands imposed by the L2 situation? and is writing in the L2 more of a linguistic or a strategic business? General literature on the L2 writing process highlights the importance of the use of L1 in the process of L2 composing, for example during the planning stage, and there seems to be ample evidence that the lexical aspect is responsible for this: when the L2 writer lacks a lexical item in L2, then he or she will resource upon L1 (see for example, Manchón et al., 2000; Wang, 2003; Whalen et al., 1995; to mention a few).

In another study, Wolfersberger (2003) set out to find out what L1 composing strategies lower L2 proficiency writers transfer to L2 writing. The study is not specific to the use of lexical strategies, but in the analysis some lexical strategies are revealed. Wolfersberger identified a number of compensation strategies to deal with L2 language issues. The report deals exclusively with achievement strategies: (1) use of L2 knowledge, for example when participants were unable to think of the right word they would read previously written text, retrieve more than one choice and rehearse them in the target sentence to match the idea; (2) using a dictionary, which incidentally, was the first tendency; and (3) asking the researcher (c.f., appealing for help). Using a dictionary and asking the researcher were used as part of a strategy of *backtranslating*, that is, translating to L1 previously L2 written text, to verify that the words used in the previously written text conveyed the intended meaning.

In an attempt to further the understanding of the use of communication strategies in writing in a naturalistic context, Santos (2006, 2008) set out to investigate the mechanisms employed to solve lexical problems faced during the act of composing by EFL Mexican university students. He asked his participants to compose on a given topic and to verbalize their thoughts as they composed. Verbalizations were transcribed (think aloud protocols) and analyzed. He identified three types of lexical problems: problems of lexical knowledge (i.e., the writer does not have the lexical resource to convey an intended meaning), problems of lexical retrieval (i.e., the writer knows the target lexical item but faces difficulties in retrieving it), and a situation that Santos (2006) labelled lexical enhancement (i.e., there is nothing linguistically wrong about a given retrieved lexical item, but the subject perceives it as not optimal and decides to change it). The following example, taken from Santos's data (2006) illustrates a case of lexical enhancement:

> *the earth is the only known place with known living beings ja doblemente known como que no queda aquí a ver le quito [ha I used known twice and it doesn't sound good let's see I'll take this out] earth the earth is the only known <u>planet</u> only planet with known living le quito known y le pongo acknowledged a ver [I'll take known out and I'll write acknowledged let's see] <u>acknowledged.</u>*

The author also identified three aspects involved in the process of solving lexical problems in writing: (1) *the source* from which information to solve the problem is obtained, (2) *the mechanisms employed to execute the solution*, and (3) *the outcome*, that is, the way in which the solution is presented.

As far as the source of information is concerned, the participants of his study employed two different ones: their own resources (e.g., mental lexicon in L1 and L2, grammar knowledge in L1 and L2, and so on) and an external source (e.g., bilingual dictionary, monolingual dictionary, and thesaurus). In some cases the participants consulted previously produced text to solve a lexical problem, but these were cases in which the participants were solving a problem related to one lexical item for the second time in the same composing session.

Regarding the execution strategies, Santos (2008) found that in attempting to solve the lexical problem his participants either:

1. Directly re-accessed their mental lexicon (ML) (Direct use of L1/L2 mental lexicon) or re-accessed their L1/L2 grammar, without (explicit) textual aid (e.g. with only the target meaning as a starting point);

2. Used previously written text. Use of written text/idea (+ use of L1/L2 ML, L1/L2 grammar, etc., for example, by reading adjacent word, sentence, paragraph once or repeatedly; prolonging the pronunciation of the last syllable of the previous word; searching in previous text for earlier occurrence of a problem);

3. Used the lexical item already retrieved, such as the use of the word(s) (or parts of words) originally retrieved (+ use of L1/l2 ML, L1/L2 grammar, etc. for example by saying candidate words once or repeatedly, using information from the mental lexicon in the language of composition, code-switching from L2 to L1, saying the first syllable repeatedly, breaking candidate word into syllables or letters);

These retrieval mechanisms were often used redundantly and randomly. Sometimes the participants used only one, sometimes a combination of them.

Finally, regarding the outcome, Santos (2008) found that after spotting a lexical problem the participants either take immediate action by (1) trying to solve the problem, (2) de-problematising the problem, or (3) giving up and changing the problem, or (b) delaying the solution to the problem, as shown in Table 1 below.

1. Try to solve the problem	
Use own linguistic resources on possible targets	√ Retrieval (but inaccurate/non-optimal outcome) √ Retrieval (e.g., random choice, often leading to a non-optimal choice, or both choices) √ Retrieval (c.f., tip of the pen) √ Self-correction
Use own linguistic resources as a replacement for the target, which is abandoned	√ Approximation, paraphrase
Appeal to outside linguistic resources (e.g., dictionary)	√ Either provide missing info or to confirm uncertain retrieved information
2. De-problematise the problem	
Remove problem without use of additional linguistic resources	√ Participant eliminates problematic word because s/he does not know what to do with it.
3. Give up and modify the content	
Change the message	√ Retrieve a semantically different word (as compensation)
4. Delay the solution	
Signposting the problem so it can be easily spotted during revision	√ Write target word in L1 √ Leave a blank space √ Use the problematic word

Table 1. Patterns in the outcome strategies used to solve lexical problems (Santos, 2008)

Problem solving strategies related to deficiencies in the language user's own language output perceived by the language user himself/herself have usually been termed self-correction or self-repair (Levelt, 1983). In the course of an error repair, an accidental lapse that occurred at any phase of the production process is corrected. Santos (2006) found that self-correction is more associated with revision. In the following example, a segment of a think aloud protocol during the process of revision, the participant realises that the word government has been misspelled and immediately corrects the problem.

> *municipal government knows about another problem which is a ver me faltó la n en government [let's see I missed an n in government]*

But sometimes, self-correction occurred right after the mistake was made, such as in the following think aloud segment, where the participant realised a spelling mistake had been made immediately after it was done. He writes the word *rápida* (fast) and realises that he missed an accent mark. He recalls the rule for accent marks and repairs his spelling error.

> <u>*el viajar de una forma más rapida*</u> *rápida esdrújula entonces lleva acento de una forma más rápida*
> *[<u>travelling in a faster way</u> faster esdrújula (stressed on the third syllable) then it takes (a written) accent <u>in a faster way</u>]*

Dörnyei and Kormos (1998), in the context of oral production, also associate problem-solving mechanisms related to perceived deficiencies in one's own language output with self-correction. In Santos (2006), however, problem-solving strategies related to perceived deficiencies in one's own language output are associated with three functions: *self-correction* (i.e., the participant initially retrieved inaccurate information, but is subsequently able to repair it

with his/her own linguistic means), *completion* (i.e., the participant initially retrieved partial information), and *confirmation* (i.e., the participant retrieved a lexical item and hesitated about the accuracy of the retrieved information).

Towards the end of section II, in reference to oral production a subcategory of achievement strategies was mentioned: appealing form help. Very often the alternative for the writer to solve problems of lack or partial knowledge of a linguistic item is the use of a dictionary.

The productive use of dictionaries has been investigated in different ways. One area of research is *reference needs*, that is, the type of dictionaries preferred by users (e.g., bilingual vs. monolingual), the types of activities that prompt the use of a dictionary (e.g., reading, writing, translating), and the type of information sought (e.g., meaning, spelling, grammar, etc.). For example, in the context of writing, bilingual dictionaries can be used when the writer lacks an L2 lexical form for a given L1 word. A thesaurus can be used to find an alternative for a retrieved lexical item and monolingual L2 dictionaries can be used in cases when the writer retrieves partial information (e.g., spelling of a given lexical item) and uses the dictionary to complement the information (e.g., collocation).

Another area of inquiry is *reference skills*, that is, the actual look-up strategies employed. One aspect of reference skill which is vital in the successfulness of the dictionary search is arriving at the right target. Research shows that the process of getting the right meaning in writing entails a complex set of processes. Each search requires from the searcher a given level of linguistic proficiency, experience with dictionaries, prior knowledge, and appropriate search strategies (Christianson, 1997; Santos, 2010). Researchers consensually agree on two general stages: before locating the sought word (macro stage) and after locating the sought word (micro stage). Macro strategies demand some technical skills. In analyzing the procedure of consulting dictionaries for solving lexical problems in writing, Santos (2010) identifies four steps within the micro-stage, after a dictionary has been selected:

1. Deciding which word to use in the search;
2. Recovering canonical form;
3. Retrieving spelling of the word used in the search;
4. Alphabetical search with reference to the initial letter of the sought word and with reference to the internal spelling of the sought word.

Once the sought word has been found, the micro-strategies would have to include the following steps (Santos, 2010):

1. Scan all of the definitions or translation equivalents in the entry for the one closest to the meaning in the writer's mind to be expressed before making any decision.
2. Read the examples, grammar codes, collocation information, and style labels and find the one(s) that better fit the context in which the sought word is to be used.

3. Use cross referencing. If the word was sought in a bilingual dictionary (L1 to L2), double-check the translation of the alternative words in the L2 to L1 section, or in the case of a monolingual search, use a thesaurus for double-checking the alternative words.
4. Add any inflections that were eliminated during the original search, to fit the linguistic context in which the word will be used.

Comparing the use of communication strategies in oral and written production

As can be seen, there are similarities as well as differences in the use of communication strategies to solve lexical problems in writing, compared to those reported in studying the speaking process of foreign language users.

In this literature review four ways in which communication strategies are viewed were identified, from which, two are clearly used both in writing and speaking: either *to compensate for gaps in the speech of L2 users* (i.e., lack of linguistic resource), or as *repair mechanisms* (i.e., handling problems that have already surfaced during the course of a conversation or in previous written text). A third way communication strategies are viewed is clearly used exclusively in speaking: *to gain time and keep the communication channel open at times of difficulty*. In writing, gaining time and keeping the communication channel open is not necessarily crucial, since interaction with the reader does not often take place at the time the writing is been produced. It is crucial, however, to be able to solve lexical problems around the time they are faced, especially when there is a time limit, such as in essay writing at school for evaluation purposes. Regarding the forth way communication strategies are viewed, *appealing for verification* (cooperative strategy), whereas its use in speaking is easily identifiable, it is not so in writing. Perhaps a comparable use in writing is what Santos (2006) calls lexical enhancement and what Wolfersberger (2003) calls backtranslation. In these cases, direct appealing is not possible, but the writer's concern for a more optimal possibility implies thinking about the audience, as a way of indirect appealing for verification.

Another similarity between the use of communication strategies in speaking and in writing is the important role that the L1 plays in the solution of lexical problems. Seemingly, language switch or planning in L1, rather than inhibiting, facilitates L2 lexical processing (see Manchón et al., 2007). However, some researchers warn that planning via L1 is not always productive (see Akyel, 1994).

It has also been shown that as far as the strategies used to deal with situations in which language users do not have the lexical resources to convey a given meaning, speaking and writing have a great deal in common. In both cases achievement and compensation strategies are used and within these general groups, a set of specific categories. The main differences between the two language modes regarding these specific categories are (1) *appealing for help* (the predominant use of dictionary in writing vs. asking the interlocutor in speaking), and (2) *postponing the solution*, which is possible, and perhaps desirable, in writing, but not in speaking.

Finally, another fundamental difference has to do with the way the mechanisms employed to execute the solution are used in each mode. For example, 'repeating' in speaking might be used to keep the communication channel open as well as an attempt to recall something, whereas in writing, keeping the communication channel open by avoiding silent pauses is irrelevant. In writing, repeating, which takes the form of reading something that has been written before, is used as an attempt to recall something or to evaluate the previous text.

Conclusions

The analysis presented here reveals the complexity and bilingual nature of the process of solving lexical problems during the act of speaking and writing. It is worth noting, however, that the study of communication strategies in the domain of speaking has had more impact on second language teaching and learning than the study of communication strategies in the domain of writing. The study of communication strategies in speaking has given rise to the creation of an array of materials oriented to the development of strategic competence in second language students, whereas in the written domain little has been done. It is expected that works such as those that were presented in this article prompt the interest in creating materials for the development of strategic competence in second language writing.

Whereas this paper has provided a summary of the direction literature on communication strategies has taken in the past forty years, there are still areas that call for further research: The following are some of these areas: What is the role of communication strategies in second language learning?; How are issue of communication strategies and the nature of the bilingual mental lexicon related? and What is the role of communication strategies in L1 use? To conclude I hope this paper has triggered any further discussion or thoughts on these and related issues.

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