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Inner Speech and Speed Reading: An Analysis of Written Texts Internalization

Habla Interna y Lectura Rápida: Un Análisis de la Internalización de Textos Escritos

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Abstract

Silent reading frequently entails engaging the "inner voice," a phenomenon in which individuals subvocally articulate words in their minds. This inner voice is understood to stem from the internalization process, wherein external verbal speech transitions into internal dialogue. However, the mechanisms through which foreign language learners internalize written content, particularly in a speed-reading framework, remain under-explored due to the inherent difficulties in observing such a process. To shed light on this, a qualitative study was carried out; it employed journals and the recall technique to examine the initial stages of internalization of written text by foreign language learners within a speed-reading program. This program aims to enhance the pace and comprehension of reading English texts. The study reveals that learners start to internalize the written language through a series of inner speech uses such as subvocalization, literal translation, repetition, fluent reading, and the formation of mental imagery associations with the language. The findings further indicate that, as learners advance in the speed-reading course, their mental translation efforts become more subconscious, facilitating the

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transition to using inner speech as a cognitive tool through associations with mental images. This shift may play a crucial role in the efficiency and efficacy of acquiring reading skills in a foreign language.

Keywords: foreign language, inner speech, internalization, speed reading

Resumen

La lectura silenciosa a menudo implica involucrar la "voz interior", un fenómeno en el que los individuos articulan palabras sub-vocalmente en sus mentes. Se entiende que esta voz interior proviene del proceso de internalización, en el que el habla verbal externa se transforma en diálogo interno. Sin embargo, los mecanismos a través de los cuales los aprendices de un idioma extranjero internalizan el contenido escrito, especialmente en un marco de lectura rápida, permanecen poco explorados debido a las dificultades inherentes en observar dicho proceso. Para arrojar luz sobre esto, se llevó a cabo una investigación cualitativa en la que se utilizó diarios y la técnica de recuerdo para examinar las etapas iniciales de la internalización de textos escritos por aprendices de un idioma extranjero dentro de un programa de lectura rápida. Este programa tuvo como objetivo mejorar el ritmo y la comprensión de la lectura de textos en inglés. El estudio revela que los aprendices comienzan a internalizar el lenguaje escrito a través de una serie de usos del habla interna: subvocalización, traducción literal, repetición, lectura fluida y la formación de asociaciones de imágenes mentales con el lenguaje. Los hallazgos indican además que, a medida que los aprendices avanzan en el curso de lectura rápida, sus esfuerzos de traducción mental se vuelven más subconscientes, posiblemente facilitando la transición al uso del habla interna como herramienta cognitiva, predominantemente a través de asociaciones con imágenes mentales. Este cambio puede desempeñar un papel crucial en la eficiencia y eficacia de la adquisición de habilidades de lectura en un idioma extranjero.

Palabras clave: lengua extranjera, discurso interno, interiorización, lectura rápida

Introduction

Inner speech is a culturally and socially constructed psychological tool that mediates and supports thought. Inner speech has its origin in the interpersonal sphere of social language. Children internalize this social language until it becomes a private discourse, a thinking tool (Guerrero, 2005). The development of the capacity to "think words" in one's native language begins with the incorporation of social conversation into children's cognitive processes, first evident in their private speech and later in their silent inner language (Vygotsky, 1986, p. 230). However, the process through which adults cultivate this ability in a foreign or second language (hereafter L2) by reading texts in that language remains a topic of inquiry. This paper discusses how students of English as a foreign language use inner speech and start internalizing the L2 in a speed-reading program. Studying the development of inner speech during L2 reading offers valuable insights into the process of acquiring an L2. This is because learning an L2 involves internalizing the social language of that L2 into one's inner speech (Lantolf, 2003).

Research in cognitive studies has demonstrated that inner speech, characterized by distinct phonetics, plays a crucial role in silent reading, enabling individuals to generate auditory images of the text (Kurby et al., 2009; Petkov & Belin, 2013). This internal language can mimic the nuances of different voices (Alexander & Nygaard, 2008), including the reader's own (Filik & Barber, 2011), and varies in vividness based on the narrative style (Yao et al., 2011). Moreover, inner speech serves as a silent rehearsal mechanism, enhancing comprehension (Baddeley et al., 1975), memory retention (Pollatsek et al., 1992), vocabulary acquisition (Baddeley et al., 1998), and the interpretation of complex texts (Baddeley & Lewis, 1981).

Research on inner speech in the context of L2 reading suggests that this internal dialogue plays a critical role in the semantic processing of L2 words, helping learners understand and interpret the meanings of words more effectively (Segalowitz & Hébert, 1990). Additionally, the extent and nature of inner speech are linked to the reader's proficiency in the L2, with more proficient individuals potentially engaging in more sophisticated internal dialogue (Nassaji & Geva, 1999). Despite this, even learners who have reached an advanced proficiency level in their L2 studies continue to depend on phonological processing—the mental manipulation of sounds—to comprehend texts. This reliance on phonological aspects indicates that the sound structure of language remains a crucial component of reading comprehension across different levels of language mastery (Kato, 2009).

Other studies based on the sociocultural perspective (Ehrich, 2006; García et al., 2020; Guerrero, 2004; Sokolov, 1972) have identified the transformations and uses of inner speech in reading. Researchers have explained that the inner voice while reading might become shorter for simple texts and longer for complex ones (Ehrich, 2006; Sokolov, 1972). This inner voice is essential for understanding texts and helping remember them (Sokolov, 1972). Additionally, this inner speech can act as a spontaneous mental practice after reading, which is a sign of learning an L2 (McQuillan & Rodrigo, 1995). The inner speech also plays a role in processing written information in an L2, often through translation (Upton & Lee-Thompson, 2001). When learning a new language, this internal voice is initially used to repeat words quietly, comprehend the new language, and form connections (García et al., 2020; Guerrero, 2004).

While numerous studies have advanced the understanding of inner speech during silent reading, the specific ways in which foreign language learners engage in internal dialogue while assimilating L2 written material remain ambiguous. Addressing this gap, this study aims to elucidate the uses of inner speech in reading L2 texts and how L2 beginners internalize written language through a speed-reading program. Uncovering these mechanisms is vital as it could transform teaching methodologies about reading, enhance language acquisition strategies, and improve the effectiveness of L2 learning. By understanding the intricacies

of internal discourse in L2 reading, educators can develop more targeted interventions to support language proficiency and fluency.

Theoretical Framework

Inner Speech

Inner speech has been understood from two perspectives: cognitive and cultural. From a cognitive viewpoint, inner speech is the essential mechanism for the phonological loop, an active and interactive memory process in the form of auditory images –listening to sounds in mind– and articulatory rehearsal –speaking words silently (Guerrero, 2018). From a sociocultural perspective, inner speech is a unique psychological phenomenon: a living process of the birth of thought in the word (Vygotsky, 1986). Vygotsky (1986) supposed that thought was reconstructed and modified by becoming a speech. Therefore, thought was not expressed but was realized in words. From this angle, inner speech is not just a cognitive tool but also a cultural phenomenon, deeply intertwined with the individual's social environment.

This sociocultural viewpoint provides a foundational context for understanding the internalization process of a language, which Vygotsky (1986) delineated in a three-level model as progressing from social speech through private language to inner speech. Based on Vygotsky's ideas about the internalization process, Fernyhough (2004) proposed a four-level model extension. Fernyhough's model starts with external dialogue, continues with private speech, then expands internal discourse, and finally, condenses inner speech.

Similarly, based on L2-inner speech research, Guerrero (2009) proposed that the internalization of social language in L2 develops in four stages: pre-intellectual, private speech, early inner speech, and intellectual. In the pre-intellectual stage, the primary use of inner speech is reduced to basic communicative purposes; it does not involve the fusion of thought and L2 at the level of inner speech. Reading and writing are diminished to decoding the written and oral text using translation to achieve a minimum understanding. The next stage, private speech, is characterized by audible, self-directed, sub-vocal (silent) speech. Private speech turns social discourse into L2 and forms an internal mental plane mediated by the L2. The following stage is the early inner speech; however, it is not observable; Guerrero (2009) states that a gradual decrease in L1 mediation can occur in this stage due to the increasing use of L2 as a tool for thinking. Finally, in the intellectual stage, learners can carry out a sustained intellectual activity in L2. Guerrero (2009) assures that some developments must have occurred to reach this stage. Advances include ample internalization of L2 in grammar, lexicon, phonology, semantics, and a conceptual change involving grammatical and lexical concepts.

Speed Reading and L2

Becoming a fluent reader implies enhancing the ability to read a text at an appropriate pace, with good comprehension. To become fluent means to develop "the ability to read a text quickly, smoothly, effortlessly and automatically, with little attention to the mechanics of reading such as decoding" (Meyer, 1999, p. 284). Language processing in reading must be automatic so that the slightest attention or cognitive ability is not required (LaBerge & Samuels, 1974). By automatically recognizing words, readers can use their finite mental resources on one essential reading task: comprehension.

Different teaching techniques to improve reading fluency in L2 consider the previous crucial findings about reading; among them are repeated reading, extensive reading, and speed reading. Speed reading –also called timed reading– implies that learners read an L2 text under time pressure to improve fluency at an optimal speed with comprehension. In a typical timed-reading program, readers read several texts with high-frequency words, repeated vocabulary, and a specified length. By practicing speed reading with multiple texts over time, readers recognize words more quickly, giving them time to focus on comprehension and increasing speed. Numerous studies of speed-reading programs have shown these positive results (e.g., Armagan & Genc, 2017; Chang, 2010; Debbabi et al., 2019; Macalister, 2010; Nation & Tran, 2014; Robson, 2019; Tran, 2012).

Inner Speech and Speed Reading

Research on the interplay between inner speech and speed reading has uncovered significant implications for how individuals understand and teach L2 reading. One of the pioneering observations was made by Huey (1968) who suggested that, during speed reading, readers grasp the text's meanings through visual cues alone, except for crucial parts that need concise inner speech for better understanding. Sokolov (1972) added that while simple texts require minimal inner speech, complex ones demand a more elaborate internal dialogue for comprehension. More recently, Zhou and Christianson (2016) found that auditory perceptual simulation during silent reading can increase reading speed and comprehension; finally, Gagl et al. (2018) observed that the rate of eye movements during reading aligns with speech rhythm, further suggesting a connection between inner speech and reading speed, indicating that the internal vocalization might pace reading.

Unlike previous research, the promoters of the L1 speed reading claimed that, through training, fast readers could increase speed by inhibiting mental sub-vocalization. According to L1 speed reading proponents, inner speech is a habit that stems from the fact that one learns to read aloud before beginning to read silently. For L1 speed reading proponents, inner speech is an obstacle to reading speed (Rayner et al., 2016). Thanks to studies on mental sub-vocalization from the cognitive paradigm, today's inner speech plays a vital role in word

identification and understanding during silent reading (Leinenger, 2014). Rayner et al. (2016) affirm that even people who read sentences with the *rapid serial visual presentation* (RSVP) at 720 words per minute generate mental representations based on the sounds of words.

By contrast, speed-reading programs in L2 seek to have students read at an average speed of 250 to 300 words per minute. Consider the scenario where L2 students read too slowly, for example, at a rate of fewer than 100 words per minute. In this case, students will have forgotten what the passage says at the top of a page when they reach the end of the text (Nation, 2005). Therefore, the faster an L2 student reads, the more effective and enjoyable the L2 reading experience will be (Quinn et al., 2007).

Methodology

This paper presents the findings of a qualitative study that collected information during an academic year from 15 students who were between 18 and 23 years old. The 15 students' native language was Spanish. All these students had an A1 proficiency level in English according to the Common European Framework of Reference for Languages (Council of Europe, 2001). They were enrolled at a public university in the southwest of Colombia and came from various socioeconomic strata and places of origin within the region. The teacher-researcher used diaries and the recall technique to determine what students could say about their inner speech in a series of speed-reading activities. Students kept a journal to describe any form of internal thought language that occurred while reading. The book used for the reading activity was *Reading for Speed and Fluency* by Nation and Malarcher (2007), Book 1, which contains 300-word long passages to practice speed reading. This book was designed to enhance speed reading skills. Its 300-word-long passages offer a consistent and controlled length that facilitates the measurement and comparison of reading speeds and comprehension levels.

The timed reading activity lasted about 12 minutes. Students performed this activity at the beginning of every session (two sessions per week). In each speed-reading activity, the teacher-researcher asked all students to read at the same time. After students finished reading, each one raised their hand and checked the time the teacher-researcher had pointed on the board. Each student noted the time and answered the five comprehension questions on the back of the reading text. Once the reading activity finished, students checked the answers, looked at the reading chart, and entered their time and comprehension scores on the graph. As soon as the entire speed-reading activity finished, students wrote their retrospective accounts about the inner speech they experienced during the speed-reading exercise in their journals.

Students received directions on how to keep a diary in line with Curtis and Bailey (2007). They suggest that journals contain factual records and interpretations, evidence for statements, and detailed chronological order entries. Besides, diaries must summarize the class information and L1 use; students should have reasonable time limits for making diary entries. Additionally, the directions included the following definition of inner speech: "Inner speech is any language that occurs in your mind and is not spoken aloud. Inner speech may include sounds, words, phrases, sentences, dialogues, and even conversations in English" (Guerrero, 2004, p. 93).

The teacher-researcher regularly reviewed the diaries to monitor students' reflections and progress in speed reading. Whenever entries indicated unclear or complex experiences, the teacher-researcher employed the recall technique. This involved discussing diary entries with students and prompting them to elaborate on their recorded observations. This approach allowed for a deeper understanding of students' inner speech processes, providing valuable insights into their learning experiences. An example of a diary entry, translated from Spanish into English, in which the recall technique was used, is:

Diary entry:

When reading "The Library of the Future," I found I had many known words, so while I was reading them, I translated them in my mind into Spanish. However, at the same time, I did not understand the complete sentence, the context, or the meaning; that is why I read the complete sentence again, while that was happening the words that I did not know I vocalized them in a low voice several times, but in English without knowing exactly how it would be its pronunciation, then I made a mixture in my mind in repeating the words in English that I did not know and when I got to what I knew I would simply translate them. P13

Researcher's question:

Could you please monitor in the following speed-reading activity if you translate in your mind what you know and sub-vocalize what you do not know as you claim happened with this reading?

Participant's replay:

For this occasion, the speed reading "Changing Books" facilitated my comprehension, fluency (in terms of reading in English), pronunciation, and translation of most of the words, and the few that I did not know, I was able to relate them or make sense of them in some way. While I was reading, I was doing it in English, focusing on the pronunciation, but at the same time, in my mind, I was translating it into Spanish. It also happened a lot that while I was reading in English, I did it in a spoken mental way; likewise, I repeated some sentences, the first time I read in English and then in Spanish mentally in this way I stored and memorized the writing of the words (an adequate form of grammar) and on the other hand, I retain its meaning. P13

The teacher-researcher communicated to students the objective of collecting data on their inner language during speed-reading exercises, emphasizing the contribution to understanding reading processes. Students were informed about the research scope, the confidentiality of their responses, and their right to withdraw at any time without consequences. They expressed their willingness to participate and provided informed consent, ensuring that the study adhered to ethical standards in educational research, particularly about voluntary participation and data protection.

Analysis and Discussion of Results

We carried out a direct content analysis and identified themes considering the following criteria developed by Guerrero (2004) and replicated by García et al. (2020): (1) Topics refer to inner speech, not outer speech. Inner speech is a disguised language behavior; it is a "hidden verbalization" (Sokolov 1972, p. 1), including cases of sub-vocal speech in which students articulate language in low or inaudible vocalization. (2) A topic is not what the study participants said or wrote openly, but what students said to themselves silently while reading a text. (3) A topic can describe any stretch of internally verbalized language, including isolated or grouped sounds, words, phrases, sentences, or conversations. (5) Topics can appear in the following verbal contexts: Statements that use verbs that denote mental operations as *I thought, remembered, imagined, saw (in my mind)* and statements using words like *in my mind, in my head, intern, internally.* (6) Topics are comments on specific occurrences (as opposed to generalizations) of inner speech. Specific events are events or specific instances in which students experience inner speech.

Table 1 presents the uses of inner speech and the frequencies of the themes and categories reported by participants in the speed-reading activity. The data, derived from participants' spoken reflections and comments collected immediately after the speed-reading sessions, indicate that inner speech in speed reading primarily facilitates text comprehension (60%), internal language reproduction (30.5%), association of language with mental images (7.5%), and self-regulation during reading (2%). These results are congruent with previous findings (e.g., García et al., 2020).

Table 2 below shows the classification of categories of internal discourse from the most frequent to the least frequent, according to participants' reports. Students use inner speech very frequently during speed reading to vocalize in English (68 cases), translate word by word (67 cases), read fluently (36 cases), and relate language to context (23 cases). Students use internal language less often to imagine (14 cases), omit words or phrases (11 cases), repeat unknown words or parts of the text (10 cases), and reread words or sentences (10 cases). Finally, students use less inner speech to self-regulate (5 cases), associate language

with mental images (5 cases), deduce (4 cases), and listen or reproduce words insistently in silence (2 cases).

Table 1. *Inner Speech Use: Frequency of Categories by Participants*

Inner speechTheme/ Categories	Number of cases per participant															Total	
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	#	%
Language internal reproduction																78	30.5
Vocalize	2	7	2	4	3	3	2	1	2	2	6	3	9	12	10	68	26.6
Repeat	1	1	0	0	1	0	0	0	0	0	0	1	5	1	0	10	3.9
Message comprehension																153	60
Translate	1	2	3	5	3	5	4	8	4	4	5	1	3	8	11	67	26.2
Reread	0	1	0	0	0	0	1	2	1	0	0	1	2	1	1	10	3.9
Relate	1	0	0	7	2	1	2	4	1	0	3	0	1	1	0	23	9
Omit	1	0	0	0	1	0	1	1	0	1	0	3	0	2	1	11	4.3
Deduce	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	4	1.6
Playback	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2	0.8
Read fluently	0	2	10	2	0	0	4	0	0	1	2	7	5	1	2	36	14.2
Association with mental images																19	7.5
Imagine	0	2	5	0	0	0	4	0	0	1	0	2	0	0	0	14	5.5
Associate	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5	2
Self-regulation	2	0	0	0	0	0	0	0	0	0	3	0	0	0	0	5	2
Totals	8	15	27	18	10	10	18	16	8	10	19	18	26	27	25	255	100

Table 2. *Classification of Categories of Internal Speech According to the Frequency of Use Reported by the Study Participants*

Category	Description	# Students	Cases
Vocalize	Sub-vocalize or vocalize mentally the text in English	15	68
Translate	Use the L1 to understand the L2 language	15	67
Read fluently	Feel as if reading a text written in L1	10	36
Relate	Relate words or phrases with context	10	23
Imagine	Represent mentally what the author describes	5	14

Category	Description	# Students	Cases
Omit	Omit words or phrases to continue reading	8	11
Repeat	Repeat to fix or hold language in memory and imitate pronunciation	6	10
Reread	Read again to understand the text message	8	10
Self-regulate	Use inner speech to regulate behavior while reading	2	5
Associate	Make associations with a visual image or with a concrete referent	2	5
Deduce	Deduce and improvise something mentally to understand	3	4
Playback	Listen or reproduce words insistently in silence	2	2

The most frequent uses of inner speech in speed reading used by all participants were to vocalize in English (26.6%) and translate to understand the text's message (26.3%). From these uses, it is inferred that most students are in a pre-intellectual stage in their internalization process, according to Guerrero (2009). At this stage, students reproduce language internally as it appears in the written text because they have not internalized it. There is still no language transformation at the syntactic, lexical, and semantic level that allows inferring that thought is mediated by L2 (Guerrero, 2009). Students at this stage are immersed in translation to mediate their thinking and achieve a minimal understanding of the written text. For example, one participant says:

> I started to read English in my mind and later tried to translate. When it was difficult for me to understand the context, I related it to a word, and when I understood the meaning, I read mentally in Spanish. P4.

As seen, thinking is fully mediated by L1. Students' dependence on mental translation as a recurrent use of their inner discourse confirms that the internalization of L2 is just beginning. The translation fulfills specific functions related to understanding the text message. Students use mental translation to keep meaning in memory, and integrate and assimilate it (Kern, 1994). A participant says: *"In this reading, I got a little more confused with the vocabulary, I tried to read next, but many words truncated me, and I had to read in parts in Spanish and mentally join the meanings"* P2. Comprehension difficulties without translating are due to a lack of automatization in word recognition and short-term memory storage limitations. Therefore, using L1 to read L2 texts mentally helps the reader decode more words and automatically synthesize semantic content. Words in L1 become familiar and can be stored faster and more efficiently than words in L2 that are unknown and new. Once the vocabulary is in L1, students can combine it into meaningful propositions through the synthesis process, then, understanding is achieved (Kern, 1994). In this sense, the conflict students experience

when vocalizing in English and trying to understand the message of the untranslated text is perceptible. This struggle may be particularly evident given that their English proficiency is at the A1 proficiency level, which could limit their ability to integrate and understand the language seamlessly:

> In reading, there are more words that I already understand; I try to do it in English, but when I find new words, I lose "the thread," and I start to do it in Spanish, perhaps, that's why I can't reduce the time; generally, those parts I have to skip them and try not to lose the idea of the text. P10

Using inner speech to vocalize and subvocalize in English (and Spanish) all or parts of the text during speed reading indicates that most students are also going through the stage of private speech. Fernyhough (2004) considers that private speech is one of the first phases that external language goes through to become internal discourse. The private expression transforms social speech inward into L2, contributing to forming an inner mental plane mediated by L2 (Guerrero, 2009). Sokolov (1972) considers that the mental articulation of words when reading a text in a foreign language by beginning students is essential to remember and understand the message of a text. The following is an example in which a participant states how the rapid vocalization of the written L2 text causes pronunciation and comprehension problems in L2 reading:

> In this case, I tried to pronounce the reading quickly as long as it allowed me to ignore my inner voice. Then it happens that the more I want to "dodge" my internal voice, the more confused in the pronunciation I get, and even more, it makes me forget the meanings of the words that I knew completely before starting it ... P1

Using inner speech as fluent reading (14.2%) suggests that some participants are in the third stage of internalizing a language: the early stages of inner speech. Fernyhough (2004) calls this stage expanded inner speech because private speech is completely internalized and concealed. However, even so, it manifests itself as a process in which one speaks silently to oneself. For Guerrero (2009), the early inner discourse is a transitory stage between audible private speech and silent self-directed speech, characterized by a decrease in the role of L1 as a mediator. Due to the constant practice of speed reading, there is less dependence on L1 as word-by-word translation. A participant states that: *"With the reading, I felt quite comfortable, while I was doing it, I felt as if it were in Spanish because I read quite quickly…."* P3. Some studies on mental translation in L2 reading have reported that dependence on L1 as the language of thought decreases as competence in L2 increases (e.g., Upton, 1998; Upton & Lee-Thompson, 2001). Falla-Wood (2018), for example, states that the frequent use of mental translation makes it automatic, and it becomes a mental translation product that becomes procedural knowledge, stored in the long-term memory.

From the students' reports, it is inferred that participants use an expanded inner speech by involving the internal articulation of the read language. Therefore, language preserves the social acoustic properties, which indicates a partial syntactic and semantic transformation. Fernyhough (2004) considers that in this stage of expanded inner speech, the semantic transformations of language described by Vygotsky (1986) such as the predominance of meaning over meaning, agglutination, and infusion of meaning have not yet been entirely carried out. However, internal speech as imagination and associations with mental images (7.5%) suggests that a few students in the study may be initiating their intellectual stage in the L2 internalization process. For Guerrero (2009), the intellectual stage indicates the ability to think in L2. For Fernyhough (2004), condensed internal speech means students have carried out the syntactic and semantic transformations of the language, ensuring the possibility of "thinking in pure meanings" (Fernyhough, 2004, p. 55). Likewise, Sokolov (1972) affirms that linguistic, synthetic, and contextual language aspects must integrate a single meaning in the reader's consciousness to understand a written text directly. According to Sokolov (1972), these semantic generalizations can evoke graphic images carrying a general meaning. A participant says, for example:

> The moment I read in English directly, well it is not all the time, organically the image of the action is reflected because certain words are familiar, and I automatically understand what is happening…. P12

Using inner speech to imagine and make associations with mental images involves employing inner speech to mediate thought in at least some parts of the text. Abbreviated inner speech becomes a storage mechanism that condenses text fragments into units of meaning when words are easy to understand (Ehrich, 2006). In this sense, inner speech is reduced; that is, it loses its acoustic property, passing to condensed mental discourse. Internal speech undergoes a radical rearrangement of the entire verbal structure of mental operations. Reasoning also develops without inner language, becoming a very abbreviated and generalized code, a language of "semantic complexes," verbal statements sometimes combined with graphic images (Sokolov, 1972, p. 71). A student says:

> While I was reading, I began to remember various songs by Michael Jackson, and some by Elvis, as they are some of the favorite singers of my father and my brother, being quite easy to understand I finished it quite quickly, while I agreed with what presented in the text because, as such, there is only one king of rock and roll, and it cannot be other than Elvis. P3

The percentages of frequencies indicate how participants use inner speech in L2 reading. The analysis, nevertheless, should not neglect the fact that lying behind the total figures, there are individuals with peculiar behaviors.

Conclusions

The study of inner speech in speed reading texts in L2 over two semesters suggests that beginning English learners use inner speech in various mental operations related to the reading process. The internal discourse is involved in the mental reproduction of language, understanding text messages, association with mental images, and self-regulation. Inner speech in reading L2 texts is often used to sub-vocalize, mentally vocalize in English, and translate word by word. Examples of L2 inner speech also occur to a considerable degree for reading fluently, relating words to context, imagining, omitting, repeating, and re-reading. Less frequent is employing inner speech to self-regulate, make mental associations, deduce, and listen/reproduce words in silence insistently. The use and frequencies of inner speech may vary among students. These transformations may depend significantly on the level of L2 proficiency and a multiplicity of factors (cultural environment, social interactions, historical context, individual characteristics, socioeconomic status, etc.) that make up an individual's "social development situation" (Vygotsky & Rieber, 1998, p. 198).

Regarding the internalization of written language in L2 through speed reading, this study suggests that students of an L2 can experience different phases in their reading process (Fernyhough, 2004; Guerrero, 2009). Inner speech evolves from an expanded form to a condensed form. The uses of inner speech suggest that beginning students start their internalization process with the prelinguistic and private speech phases. Inner speech is frequently used to sub-vocalize, mentally vocalize in English, and translate word by word. In this phase, students also use inner speech to reread, repeat, omit, and associate words with the context, thus achieving a fragmented understanding of the text. In the next phase, early stages of internal speech (Guerrero, 2009) or expanded speech (Fernyhough, 2004), students experience fluent reading due to the effortless translation that facilitates the integration of the meaning of the text. In this phase, mental translation is starting to be automatized. Students experience a gradual decrease in L1 mediation due to the transition to unconscious and automatic processes. Finally, some students experience the intellectual phase (Guerrero, 2009) or condensed speech (Fernyhough, 2004) as visual perceptual simulations. These visual simulations are an automatic and integral part of silent reading indicative of understanding a text (Perrone-Bertolotti et al., 2014) and referred to by Fernyhough (2004) as experimenting with "fragmented and condensed series of verbal images" (p. 54).

Internalization of L2 speech through speed reading is a continuous process. Using private speech, expanded inner language, and condensed internal discourse is always in play during the L2 reading. Therefore, beginning L2 learners should have opportunities to contact speed-reading texts to promote L2 inner speech development and reading fluency.

This approach, while beneficial, has its limitations, particularly for beginners at a lower proficiency level, such as A1. These students may find speed reading challenging which leads

to frustration or demotivation. Besides, the effectiveness of speed reading in fostering L2 inner speech can vary among individuals, influenced by factors like their previous reading habits or familiarity with L2 texts. Consequently, educators need to meticulously scaffold speed reading activities to match students' proficiency levels and learning preferences. This situation also underscores a potential research avenue exploring how varying L2 proficiency levels affect the efficacy of speed reading in inner speech development. Furthermore, educators are encouraged to incorporate complementary strategies such as interactive reading or multimodal inputs, catering to an array of learner needs and bolstering the internalization process.

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