

Communicative strategies as manifestations of the linguistic and cognitive development of second language students

Antonio Francisco Jiménez Jiménez

California State University Channel Islands, Spanish Program
One University Drive, Camarillo, CA 93012
antonio.jimenez@csuci.edu

Abstract

This presentation presents the results obtained in a study that investigated the linguistic-cognitive development of a group of young North Americans studying Spanish in Spain. This study is centered on the analysis of oral narrations that the students produced throughout one semester in Spain. The narrations were analyzed at two distinct levels: linguistically and cognitively. The first level focused on traditional aspects of linguistic analysis, such as lexicon, morphology and syntax. The second level, dealing with the cognitive aspect of the study, focused on the communicative strategies students used (for example, circumlocution, use of imprecise or vague language, repetition of the discourse, pauses, use of private speech, etc.). These communicative strategies are considered linguistic manifestations of the cognitive processes that a second language student goes through during the activity of speaking. The longitudinal analysis of these strategies revealed that with time, the students obtained a better control of the language without necessarily improving linguistic aspects (vocabulary, complex syntax, etc...). That is, it is possible for a student to appear as though they have reached a plateau in their second language acquisition (because they have ceased to use new vocabulary, or they keep making syntactic mistakes or agreement mistakes). However, they may have gained a stronger control (interlanguage) of the parts of the language they already know (examples could be less pausing in attempting to gain more time to think, curtailed use of paraphrasing, and less self correcting). It is also possible for a student to improve at a linguistic level yet continue to feel insecure in relation to the amount of control they have of the language (continuous doubt, extensive use of pauses to think, etc.). This finding allows us to appreciate the complexity of learning a second language, and leads us to ask the following question: What does it mean to be competent in a second language? Traditionally, language competence has been based exclusively on the first level. In this presentation, we aim to demonstrate that in order to have a full grasp of linguistic competency we must consider the cognitive level of the student as well. In other words, the linguistic level and cognitive level comprise the two sides of the same coin.

Key words: communicative strategies, linguistic analysis, cognitive analysis, linguistic competence, second language acquisition

Resumen

Esta ponencia ofrece los resultados de un estudio que investiga el desarrollo lingüístico-cognitivo de un grupo de jóvenes norteamericanos estudiantes de español en España. Este estudio se centra en el análisis de las narraciones orales que estos estudiantes realizaron a lo largo de un semestre que pasaron en este país. Las narraciones fueron analizadas a dos niveles: un nivel lingüístico y otro nivel cognitivo. El primer nivel se enfocó en aspectos tradicionales del análisis lingüístico, como el léxico, la morfología y la sintaxis. El segundo nivel, el cognitivo, se centró en el uso que estos estudiantes hacían de estrategias comunicativas (por ejemplo, el circunloquio, el uso de lenguaje impreciso o vago, la repetición de partes del discurso, las pausas, el uso de lenguaje privado, etc.). Estas estrategias comunicativas se consideran manifestaciones lingüísticas de los procesos cognitivos que realiza el estudiante de segundas lenguas durante el acto de habla. El análisis longitudinal de estas estrategias nos desveló que con el tiempo los estudiantes obtienen un mejor control de la lengua sin que esto se traduzca necesariamente en una mejora de los aspectos lingüísticos de la misma (vocabulario, complejidad sintáctica, etc.). Así pues es posible que un estudiante parezca que esté estancado en el nivel alcanzado en la segunda lengua (ya que su vocabulario no se extiende, o sigue cometiendo errores sintácticos o de concordancia) pero que consiga un mejor control de la parte de la lengua (*interlanguage*) que ya conoce –por ejemplo, usa menos pausas para pensar, usa menos

perífrasis, se autocorrije menos, etc. Y también es posible que un estudiante mejore a nivel lingüístico, pero que continúe inseguro en cuanto al control que éste tiene sobre la lengua (sigue dudando mucho, haciendo muchas pausas para pensar, etc.). Este descubrimiento nos hace apreciar la complejidad del aprendizaje de segundas lenguas y nos hace plantearnos la siguiente pregunta: ¿qué significa tener competencia en una segunda lengua? Tradicionalmente, la competencia lingüística se ha basado exclusivamente en el primer nivel, pero esta ponencia va a argumentar que el nivel cognitivo es igualmente importante y que para tener una imagen completa de la competencia lingüística de un estudiante de segundas lenguas se deben tener en consideración ambos niveles. Es como decir que el nivel lingüístico y el nivel cognitivo son las dos caras de una misma moneda.

Palabras clave: estrategias comunicativas, análisis lingüístico, análisis cognitivo, competencia lingüística, adquisición de segundas lenguas

Riassunto

Questa esposizione offre i risultati de uno studio che ricerca sullo sviluppo linguistico- cognitivo di un gruppo di giovani studenti della lingua spagnola in Spagna, procedenti dalla America del Nord. Questo studio si centra nel analisi delle narrazioni orali che questi studenti hanno realizzarono durante un semestre che passarono in questo paese. Le narrazioni furono analizzate a due livelli: un livello linguistico ed un'altro cognitivo. Il primo livello è statu impostato sugli aspetti tradizionali del analisi linguistico, come il lessico, la morfologia e la sintassi. Il secondo livello, quello cognitivo, si è centrato nel uso che questi studenti facevano delle diverse strategie comunicative (ad esempio, il giro di parole, l'uso del linguaggio non preciso, la ripetizione delle parte del discorso, le pause, l'uso del linguaggio privato, etc.). Queste strategie comunicative si considerano delle manifestazioni linguistiche dei processi cognitivi che lo studente di seconde lingue realizza durante l'atto della parlata. L'analisi longitudinale di queste strategie ci a rivelato che col tempo gli studenti ottengono un controllo migliore della lingua, anche se questo non vuole dire che i miglioramenti siano applicati agli aspetti linguistici (vocabolario, complessità di sintessi, etc.). Quindi, è possibile che uno studente sembri bloccato nel livello riuscito nella seconda lingua (perchè il suo vocabolario non si stende oppure continua a fare degli errori di sintassi oppure di concordanza) ma che riesca ad avere un controllo migliore della parte della lingua (interlanguage) che già conosce; ad esempio, usa meno pause per pensare, usa meno perifrasi, si autocorregge di meno, etc. È anche possibile che uno studente migliori al livello linguistico, però che continui insicuro per quello che riguarda al controllo che questo ha sulla lingua (continua ad avere dei dubbi, a fare tante pause per pensare, etc.). Questa scoperta ci fa apprezzare la complessità del tirocinio delle seconde lingue e ci fa pensare alla seguente questione: cosa significa avere della competenza nella seconda lingua? Tradizionalmente, la competenza linguistica si è basata sul primo livello, ma questa esposizione argomenterà che il livello cognitivo è ugualmente importante e anche che per avere una immagine totale de la competenza linguistica di uno studente di seconde lingue si devono prendere in considerazione tutti i due i livelli. Si potrebbe dire che il livello linguistico e quello cognitivo sono le due teste della stessa moneta.

Parole chiave: strategie comunicative, analisi linguistico, analisi cognitivo, competenza linguistiche, acquisizione delle seconde lingue.

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1. Introduction

This article presents the results obtained in a study that investigated the linguistic and cognitive development of a group of young North Americans studying Spanish in Spain. Language acquisition in study abroad contexts has traditionally been assessed from a linguistic point of view, by looking at different linguistic elements and using a diverse assortment of tests and activities (studying such aspects as clitics, verb tenses, vocabulary acquisition, etc.). This study attempts to add a new dimension to the field of language acquisition in study abroad situations by proposing a methodology that assesses not only students' language acquisition, but also their cognitive development during a communicative activity. This second level of analysis will shed new light on how language acquisition is contemplated in the field of applied linguistics in general and in the area of study abroad in particular.

This study is centered on the analysis of oral narrations that L2 students produced throughout one semester in Spain. Their narrations were analyzed at two distinct levels: linguistically and cognitively. The first level focused on traditional aspects of linguistic analysis, such as lexicon, morphology and syntax. The second level, dealing with the cognitive aspect of the study, focused on the communicative strategies students used (for example, circumlocution, use of imprecise or vague language, repetition of parts of the discourse, pauses, use of private speech, etc.). These communicative strategies are considered linguistic manifestations of the cognitive processes that a second language student exercises during the activity of speaking. The longitudinal analysis of students' linguistic and cognitive development will show an intrinsic interaction between these two levels. This interaction will be discussed in length in the following sections, right after the research methodology is presented below.

2. Methodology

2.1 Participants

A total of 10 students participated in this study. These students were majoring in Spanish at a large North American research university. Their ages ranged from 20 to 27 years old. These students completed their minor in Spanish before going abroad, meaning that they took about 8 courses in Spanish before going to Spain. Their level of Spanish varied from intermediate low to advanced low, following ACTFL proficiency guidelines for speaking.

2.2 Timeline

The very nature of the process of language acquisition demands the implementation of a comparative research paradigm for its study. The establishment of the baseline (Time 1) was assessed at the beginning of participants' study abroad experience, in this case at the beginning of January. The results of Time 1 (T1) were compared against the data collected halfway in the semester (Time 2), which took place between March 10 and 15. Lastly, students were assessed again right before their return to the US, towards the end of May.

2.3 Instrumentation

The present study employed a data elicitation protocol based on the recall of a video-clip. Students had to retell, orally in Spanish, the story enacted in a five minute clip of a popular U.S. television sitcom played in English. Immediately after screening the clip, students had to retell the story in Spanish. Students' oral production was digitally recorded into a computer for later data transcription and analysis. Students did not have any time limit during the oral retelling of the clip. Free oral recall has proven to be one of the most practical and productive means to assess a wide range of diverse linguistic aspects all at once, such as vocabulary development (type/token ratio, function versus content words) (Cohen, 1989; Olshtain & Barzilay, 1991; Russell, 1999; Yoshitomi, 1999), syntactic complexity (Yoshitomi, 1999), verbal morphology (Reetz-Kurashige, 1999), phonology (Tomiyama, 1999; Yoshitomi, 1999), communicative competence (Nakuma, 1997), speech fluency (Kenny, 1996; Nakuma 1997; Tomiyama, 1999), as well as error analysis (De Bot & Clyne, 1994; Yoshitomi, 1999). In addition, this methodology proved itself to be an excellent way to assess cognitive development, as shown in the section "Cognitive Analysis" below.

It becomes necessary to substantiate some of the elements included in the instrumentation. Firstly, the videos were shown in English because the goal of the task required that they fully understand the story that they were expected to retell, rather than assess students' receptive abilities in the second language. Secondly, participants were instructed to retell the story in Spanish although they were told that they could use English only when they considered it indispensable to continue the narration. In those situations where participants used English, they knew that they were deviating from what was expected. Lastly, students were provided with paper and pencil while viewing the episode in case they wanted to take notes to help them remember the storyline. Notes were permitted, as the intention of the study was not to assess their memory retention span but to investigate how they would narrate the stories in their second language¹.

¹ Notes had a regulatory effect as regards the content of the participants' story for it was observed that, when notes were taken, students' narrations tended to follow the scheme of the notes. However, and since the videos were shown in English, most of the notes were also in that language and, consequently, notes did not serve any important regulatory function in relation to participants' linguistic production in Spanish (in terms of lexicon, morphology, etc.).

3. Linguistic Analysis

Although the central focus of this study is the investigation of the development of cognitive strategies during the process of story telling, a linguistic analysis was considered relevant in order to be able to determine any type of relationship between cognitive activity and linguistic accuracy. The purpose of conducting a linguistic analysis is not to provide a comprehensive account of all the aspects that could be investigated in free speech (such as use of clitics, subjunctive, tense, aspect, reflexive verbs, etc.), instead to offer a brief description of participants' linguistic change over time through the analysis of a small, though representative, set of linguistic elements. These elements have been divided into three categories, namely, lexicon, morphology, and syntax. The analysis of the data includes lexical density (determined by type/token ratio), lexical choice between *ser/estar/haber*, agreement between determiner and noun and between noun and qualifier, and syntactic complexity at the sentence level, looking at number ratio between the number of main clauses in relation to the number of embedded clauses, and students' prepositional use. While some of these features were analyzed with the help of a corpus analytical tool, the rest of the elements under investigation in this study followed a right versus wrong type of analysis, which brings the density and the complexity of the text into the picture.

3.1 Lexical richness

The following three tables show the results for the average number of tokens per text, the average number of types per text, and the average type/token ratio per text in the oral narrations.

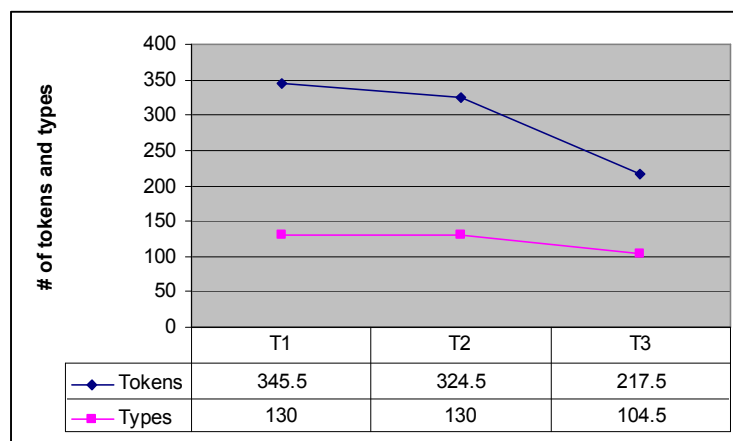


Figure 1: Mean number of tokens and types per text

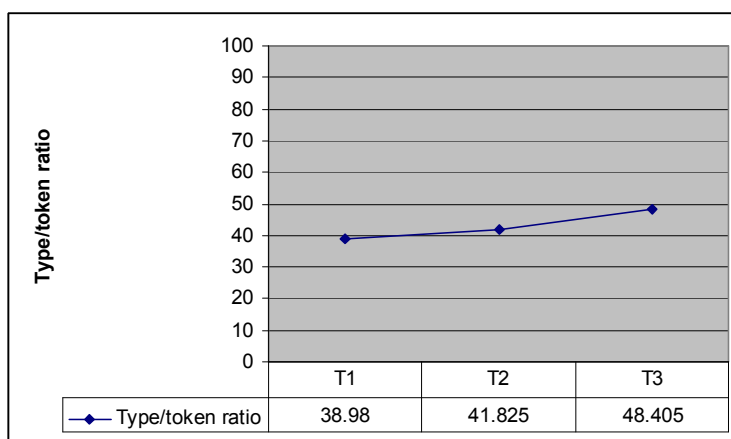


Figure 2: Mean type/token ratio per text

The first table (Figure 1) indicates that there is a reduction of tokens, that is, a decrease in the length of the oral narrations, from T1 to T3. This has a direct effect on the number of types in the text, going from 130 types in T1 to 104.5 in T3. This fact, which at first sight indicates a regression in the group's lexical richness, can be interpreted differently. Oral narrations include circumlocutions, metacomments, repetitions, rephrasings, etc. that notably increase the size of the narrations. A decrease of tokens may represent a less frequent use of communicative strategies due to a better knowledge of the language. This point will be discussed in more detail in the next section.

The second table (Figure 2) shows the type/token ratio, which takes into account both the length and the lexical richness of the texts, providing a ratio of lexical density. The table indicates a slight increase in the type/token ratio due to the fact that while the oral narrations got shorter, students kept using a wide variety of different words (types). In Time 1, students used 38.98 different words every 100 words and by T3 the number of types increased to 48.405, which indicates a richer use of lexical items.

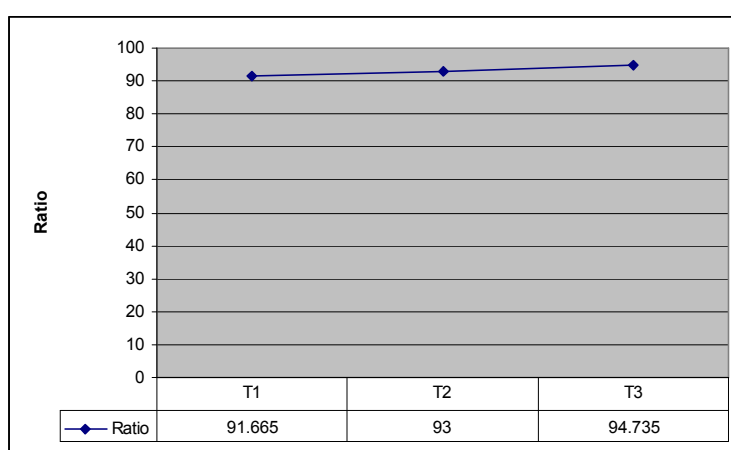


Figure 3: Percentage of accuracy in students' lexical choice between *ser/estar/haber*

A qualitative analysis on the use of the verbs *ser/estar/haber* in the oral texts shows that

students made extensive use of these verbs in cases in which they are most commonly used, that is, using *ser* to describe personal qualities and *estar* to indicate physical location and to express a state or condition. Participants did not take risks by using these verbs in different contexts. This translates into an increase of lexical accuracy. However, it should be noted that in the oral narrations, a large number of self-corrections were targeted at copula use. In the activity of narrating, students frequently made a choice among the three forms and then immediately self-corrected (see more about self-corrections in the next section).

3.2 Morphological accuracy

The two elements considered in this section are agreement between determiners and nouns and agreement between nouns and their qualifiers (Figure 4). Repeated occurrences of self-corrections with regard to gender and number agreement were found during the speaking activity. Consequently, only the last form was considered for this analysis, as students may start with the wrong agreement and achieve the correct form after a number of trials.

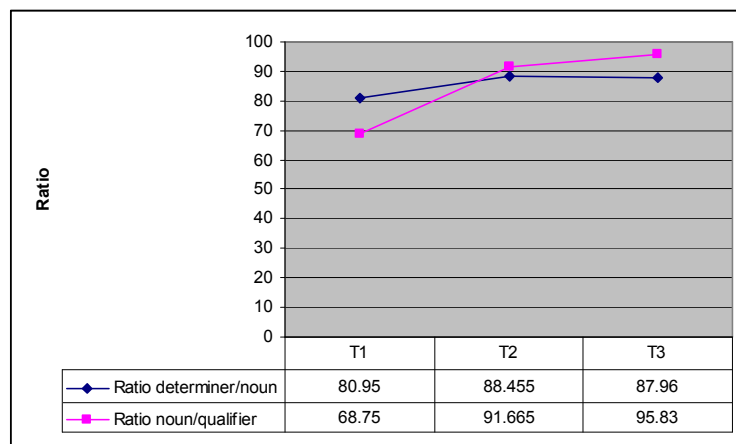


Figure 4: Percentage of correct agreements between (1) determiners and nouns and (2) nouns and qualifiers

The table shows that even though students were more accurate in the production of determiner/noun agreement at Time 1, students experienced increased improvement of noun/qualifier agreement over time. In fact, the data shows a slight decrease in accuracy of determiner/noun agreement from T2 to T3.

3.3 Syntactic complexity

At the syntactic level, the other measurements obtained for the analysis of the oral texts are the mean percentage of embedded clauses in relation to the total number of clauses per text (Figure 5), and the percentage of correct prepositions in relation to the total number of prepositions (Figure 6).

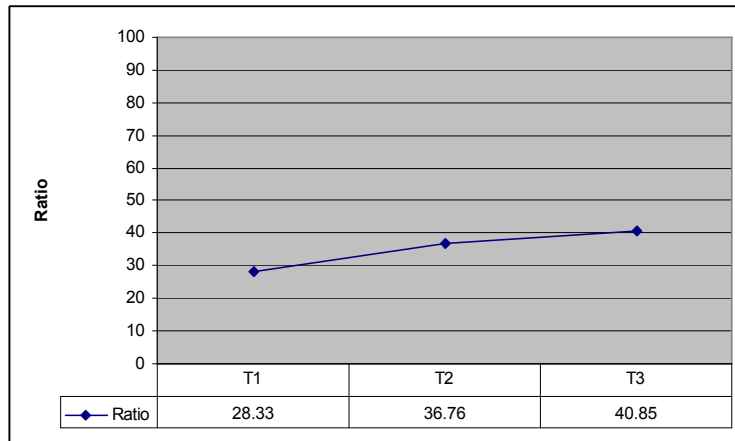


Figure 5: Percentage of embedded clauses in relation to the total number of clauses per text

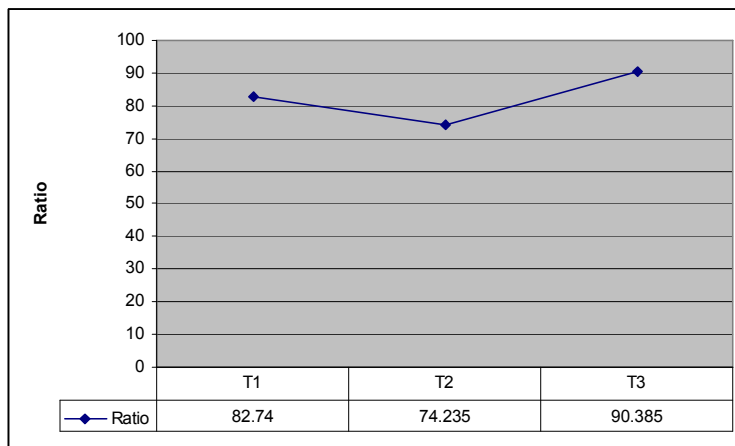


Figure 6: Percentage of correct prepositions in relation to the total number of prepositions

The percentage of embedded clauses in relation to the total number of clauses per text was conducted omitting all the metacomments uttered by the participants during the oral narration of the stories. In a similar fashion, when there was a repetition of either a main or an embedded clause, it counted as one occurrence. Taking this preliminary information into account, the analysis of the oral text shows diverse trajectories for both elements. While the percentage of embedded clauses in relation to the total number of clauses per text increases from Time 1 to Time 3, the use of correct prepositions drops at T2 and increases at T3 to higher levels than T1².

3.4 Summary

² A qualitative analysis of the use of prepositions from T1 to T2 shows that at T2 students produced more incorrect instances of prepositional use because they risked more as they incorporated a higher number of phrasal verbs, such as, *darse cuenta de* (to realize), *aumentar de peso* (to gain weight) –where in English no preposition is needed. They also increased the number of prepositional phrases with *por* and *para*, which students usually have more troubles with.

At the lexical level, students produced shorter narrations but kept a fairly rich lexicon, which translates into a slight increase in lexical density. As mentioned before, the reason why students' oral narrations got shorter is because they did not utter as many compensatory strategies (such as repetitions, circumlocutions, private speech, etc), that is, their narrations were more precise and to the point. In regards to the lexical choice between *ser/estar/haber*, there was a steady increase in students' accuracy. However, a qualitative analysis of the data shows that students played it safe by using these verbs in cases in which they are most commonly used, rather than in other more ambiguous cases.

In relation to morphological accuracy, the group showed development in the control of agreement between substantives and qualifiers, while the agreement between determiners and nouns was more unbalanced. Lastly, in terms of syntactic accuracy, the group increased over time the percentage of embedded clauses in relation to the total number of clauses in the texts, which indicates a more complex syntactic structure. In terms of students' correct use of prepositions, data indicated a decrease in the accuracy in T2 but an increase by T3 to levels that exceeded T1.

In conclusion, data demonstrated that there is a slight general increase in students' linguistic abilities although for some elements it appears that there is some regression at T2 (for preposition use) and T3 (in the ratio determiner/noun). In order to obtain more conclusive results in the analysis of the data, and inspired by the sociocultural concept of "regulation", the next chapter presents a cognitive analysis of the oral texts in terms of the regulatory strategies used by the students in the activity of producing oral narrations.

4. Cognitive analysis

Contrary to the assumption taken in the previous chapter, communication, in a psychological level, is not regarded as the transfer of information. Instead, communication is considered "as an attempt by speakers to regulate themselves as individuals when verbalizing" (Lantolf & Frawley, 1985, p. 146). Maintaining self-regulation is the ultimate goal for the speaker engaged in communicative activity. At first, the L2 novice is controlled by the language that the second language community uses for social interaction (i.e., in sociocultural terms, the novice is object-regulated by the language). In the process of gaining control over the language, the learner may rely on the help of others (i.e., becoming other-regulated) until they become more knowledgeable and independent users of the language (i.e. achieving self-regulation). Thus, acquiring a language is about moving from object- and other-regulation to self-regulation. In this process, language comes under voluntary control of the person³. This developmental sequence of regulation is not categorical and does not have an end point of permanent self-regulation at all times. The speaker can lose self-regulation at any time depending on the circumstances of the communicative activity. When this happens, "the speaker can reaccess an earlier communicative strategy (i.e., object-regulation, other-regulation, self-regulation) in order to solve the task of communication, that is, gain self-

³ And as Vygotsky argued (1962), this move is optimally achieved in school, because here the learner can attain conceptual (theoretical) understanding of the language and how it can be manipulated for communicative purposes.

regulation” (Lantolf & Frawley, 1984, p. 427). In other words, “any speaker has *continuous access* to all forms of order [i.e., control, regulation] by means of verbalization” and “this availability of ordering strategies is never lost” (*ibid.*, p. 427).

Since control/regulation is task dependent, participants in this study were asked to complete the same task over time in order for the researcher to assess variation in the degree of self-regulation for the same task. The task designed for this study is the oral narration of a five-minute video clip of a popular TV series. Students had to produce a monologue⁴ recalling the information conveyed in the video. Students’ narrations were analyzed based on the Vygotskian idea of regulation. As mentioned, the speaker, during the communicative activity, tends to be self-regulated and maintain the control of the self in the task. Yet this is not always possible and the speaker may be compelled to access previous stages of (other-, and/or object-) regulation. Loss of self-regulation can be motivated by a number of reasons but more likely by the novelty of a task, by a problem with the language of communication, or by a conceptual misunderstanding in the course of the communicative activity.

When faced with a communicative breakdown, speakers develop strategies aimed at resolving the problem. Lantolf and Frawley (1985), taking previous literature on communicative strategies as a starting point, appropriated the concept of strategy and reformulated it based on the idea of control. They created a functional typology of communicative strategies based on their regulatory function, namely, object-regulatory strategies, other-regulatory strategies, and self-regulatory strategies. Regulatory strategies and metacomments can be considered external manifestations of the intrapsychological processes which the speaker deploys in order to maintain and regain self-regulation. Lantolf and Frawley’s (1985) taxonomy challenges traditional approaches to communicative strategies as in the latter, researchers set up taxonomies in which a particular type of utterances is always linked to a specific strategy. The new taxonomy argues that this can not be the case, as the same utterance can have different functions depending on the particular factors involved in the communicative activity. This study analyzes strategies from the perspective of Lantolf and Frawley’s taxonomy in relation to the particular regulatory function they fulfill during the speaking activity.

The regulatory function of the strategies used by the participants in this study was determined by two analysts. Each of them examined the data independently and results from both analyses were later compared. Where there was divergence of opinion, mutual agreement was achieved after conversation on each problematic item. Then, the use of strategies was compared with the number of propositions uttered by each participant. The division of the narrations into propositions was also established by the two analysts. The ratio between frequency of use of the strategies in relation to the number of propositions

⁴ Based on Vygotsky (1962) and Sokolov (1972), Lantolf and Frawley (1984) claim that “monologue is the highest or most complex form of speech *not* dialogue” because it can be argued that “a speaker has fully acquired a language when he/she can engage in collective monologue, not in dialogue, since monologue entails the speaker as a fully self-regulated speaker” (p. 426-7). However, as mentioned, this ‘fully self-regulated speaker’ is an ideal representation rather than a real one as the speaker rely on other types of speech (other-, or object-regulated) when the circumstances require it.

uttered is represented in percentages, meaning the degree of possibility of finding a given strategy in a proposition. The next sections analyze the strategies regarding their main regulatory function. Even though strategies are associated with a certain category (self-, other-, or object- regulation), it is important to note here that strategies do not pertain exclusively to one of these categories. Instead, strategies are considered fluid entities which can serve different regulatory functions depending on all the concomitant factors that are involved in a certain communicative activity.

4.1 Self-regulatory strategies

In their functional typology of communicative strategies, Lantolf and Frawley (1985) characterize self-regulation as “when maintaining self communicative act regulates choice of strategy” (p. 153). The use of self-regulatory strategies performs different functions, such as, to buy processing time (with the use of **filled, unfilled pauses**, and **discourse fillers**), to focus attention on what is coming next (with **self-repetitions**), monitoring the uttered speech (**self-corrections, self-recasts**), to retrieve desired information (**self-retrieval**), and to guide and plan the course of action (with **metacomments**). Strategies are manifestations of these higher cognitive functions at work and they represent attempts by the individual to maintain self-regulation during the communicative activity.

The use of filled and silent pauses, and the lengthening of segments (vowels or consonants) in the stream of speech, as in “soooo” and “aaaand”, slows down the speech rate. These are considered time-gaining strategies employed by participants to have more time to think about their upcoming language production. A manifestation of these strategies is the student’s speech rate, as shown in the Figure 7 below. This table illustrates how students increased their speech rate quite substantially from T1 to T2 and then with a slight increase from T2 to T3. The present study looks at speech rate as a manifestation of psychological activity since the increased speech rate translates itself into a reduction in the use of pauses and segmental lengthening. This means that students did not need as much time as before to plan what they are going to say next and this is interpreted as an increased competency at the psychological level.

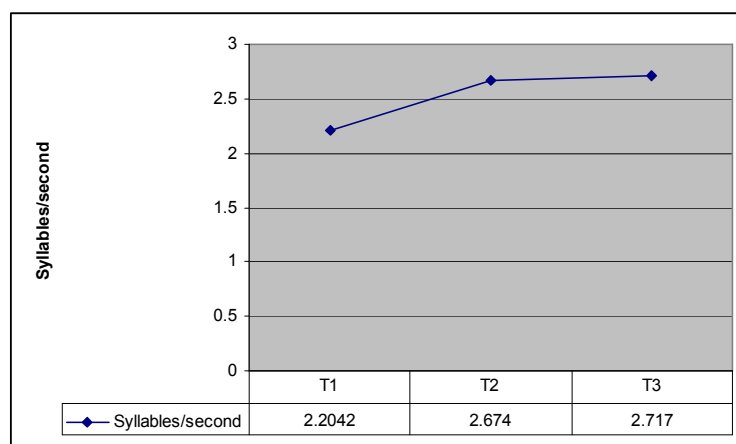


Figure 7: Mean speech rate

In order to assess the other self-regulatory strategies mentioned before, the number of self-corrections, self-recasts, self-retrievals, and self-regulatory metacomments produced by each participant were merged and compared to the total number of propositions uttered by that participant, obtaining the ratio of self-regulatory strategies per proposition employed by that speaker. Then, the ratio for each individual was averaged out with the ratios obtained by the other members of the group, arriving at a group ratio. This group ratio is compared in the following chart (Figure 8). The figures in the table represent the possibility of finding a self-regulatory strategy in any given proposition. For clarification, these percentages can be interpreted as follows: a ratio of 100 indicates that there is 1 strategy per proposition. A ratio below this, for instance, 78, means that there is an average of 0.78 strategies used per proposition. A ratio higher than 100, such as 140, denotes that speakers employed an average of 1.4 strategies per proposition.

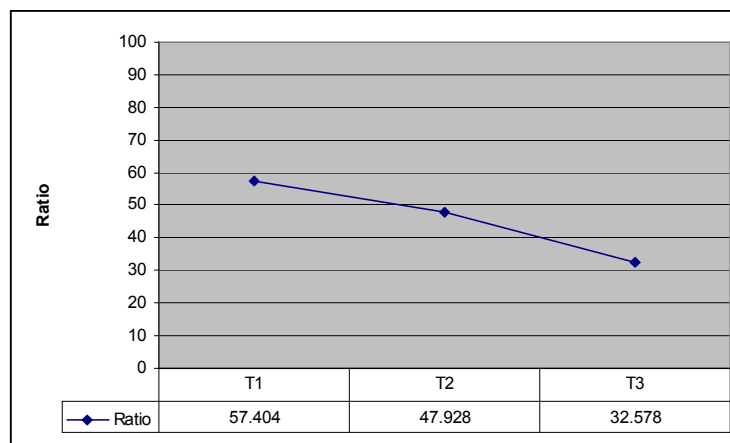


Figure 8: Ratio of self-regulatory strategies per proposition

Figure 8 clearly shows a drastic decrease in students' use of self-regulatory strategies during the activity of story telling. This means that participants did not have to rely on self-corrections, recasts, metacomments, etc. during the communicative activity and that they were able to maintain regulation (or control) over the activity and the language. While students used an average of 0.57 self-regulatory strategies per proposition on Time 1, the same participants only used 0.32 strategies at Time 3. This data shows that students had less problems with the second language and with the task as they developed the cognitive skills to be more precise and accurate in the narration of the stories.

4.2 Object-regulatory strategies

According to Lantolf and Frawley (1985), object-regulation manifests itself "when interlanguage as object regulates choice of strategy" (p. 153). It should be added that task difficulty can also trigger the use of object-regulatory strategies⁵. When this happens, two

⁵ Task difficulty, as mentioned, can trigger the use of object-regulatory strategies. Following Appel and Lantolf (1994), it is considered here that task difficulty is established by each individual as he or she engages in the activity of carrying out the task. Thus, even though the task remains the same over time in

outcomes are possible. On the one hand, the speaker can completely avoid the topic, in which case the speaker has become object-regulated by either his lack of control over the language or the task. On the other hand, the speaker can compensate for his own inability to supply the desired outcome by creating an intermediary solution that partially fulfills the communicative requirements, and, at the same time, camouflages the speaker's inability to supply the desired form.

In the first scenario, message abandonment occurs when the speaker, faced with a communicative problem, is unable to find a solution or a compensatory strategy to overcome it. This strategy is very much related to self-recast. The difference between the two is that, in self-recast, the speaker expresses the same information but from a different perspective, while, in message abandonment, this information remains incomplete. This is a strong sign of failure and a clear indication of loss of self-regulation. Message abandonment is the most extreme form of object-regulation. It shows a shift from the individual having control over the task/language to the task/language having control over the individual. However, when this happens, the speaker can balance the situation by creating a compensatory strategy that camouflages an incapacity to produce the desired outcome. The compensatory strategies identified as having a primary object-regulatory function are circumlocutions, approximations and all-purpose words, word-coinage, literal translations, onomatopoeias, and code-switching.

In **circumlocutions** the learner describes the characteristics or elements of the objects or action instead of using the appropriate target language item or structure (Tarone, 1983). This strategy is normally employed to avoid a word or structure (Galván & Campbell, 1979, p. 145). In circumlocutions, the student makes use of her limited control of the language to get around a problematic lexical item by developing a description that allows the interlocutor to recognize the relevant item. **Approximations and all-purpose words** are understood as the use of a single target language vocabulary item or structure, which the learner knows is not correct, but which shares enough semantic features with the desired item to satisfy the speaker's communicative need (Tarone, 1983). **Vague language** has also been analyzed under this category, that is, when the student overgeneralizes about the content information conveyed in the video clip. **Word-coinage** occurs when the learner makes up a new word in order to communicate a desired concept (Tarone, 1983). The creation of new lexical items "are usually modeled either on the language being spoken (by analogy) or another language known by the speaker". (Andersen, 1982, p. 106). In **literal translations** the learner translates word for word from the native language (Tarone, 1983). **Onomatopoeias** usually helps "to express spontaneous reactions, such as reflex, relief or surprise" (Waas & Ryan, 1993, p. 480), and the sound can also denote the object or the situation that originates that sound.

Lastly, **code-switching** is a case that clearly illustrates how the same strategy can serve different regulatory functions depending on the situational circumstances. If the interlocutors in a communicative activity are bilingual speakers, code-switching should

this study, as individual's language ability change, so does the task difficulty, at least, potentially (see Coughlan & Duff, 1994).

not be considered a compensatory strategy. Instead, as recent research has shown (Silva-Corvalán, 1991, 1994; Toribio, 2000), code-switching is governed by certain rules that speakers need to know in order to successfully engage in this type of communication. Conversely, if the same participants are engaged in a type of activity that prohibits the use of one of the languages involved (such as in a test situation), the use of code-switching can be interpreted as a strategy employed to avoid the communicative problem. The third scenario is when a bilingual speaker is communicating with a monolingual speaker. Then, if the speaker decides to code-switch even knowing that the interlocutor is not going to comprehend and that the communication is going to break down, in this case, this strategy could reflect a self-regulatory function. The special case of code-switching shows that communicative strategies should not be studied in a vacuum, without taking into consideration other concomitant factors that influence the selection of one strategy or another.

All the above-mentioned strategies that have a primary object-regulatory function, that is, literal translations, circumlocutions, approximations and all purpose words, code-switching, onomatopoeia, word-coinages, and message abandonment, were evaluated by the analysts in relation to the total number of propositions uttered by the students. In this way a ratio of object-regulatory strategies per proposition was obtained, which produced Figure 9. As with the self-regulatory strategy chart, the numbers in the table represent the probability, in percentages, of finding an object-regulatory strategy in a proposition.

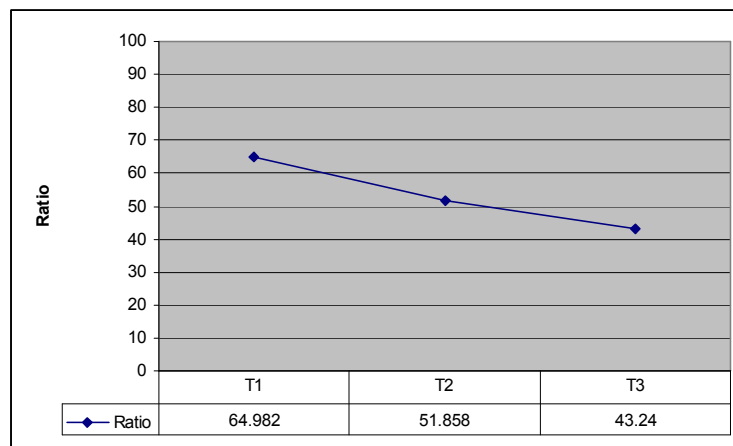


Figure 9: Ratio of object-regulatory strategies per proposition

The chart on object-regulatory strategies looks very similar to Figure 8 above on self-regulatory strategies. There is a steady decrease in the use of object-regulatory strategies from T1 to T3, going from 0.64 strategies per proposition at the beginning of students' experience abroad to 0.43 strategies per proposition right before their return to the United States. Again, this table shows a diminished reliance on object-regulatory strategies, since they did not have to use them as much in order to carry out the same communicative task. In other words, students were able to progressively better maintain self-regulation during the communicative activity.

4.3 Other-regulatory strategies

Self-regulation can not always be maintained and object-regulatory strategies are not always available during speech activity. When this happens, the speaker can rely on the help of the interlocutor. Other-regulation occurs “when presence of other(s) in communicative acts regulates choice of strategy” (Lantolf & Frawley, 1985, p. 153) or when the speaker relies on the help of the interlocutor to solve a given communicative problem. In order to be able to employ other-regulatory strategies, the rules of the activity in which speakers are engaged have to allow cooperative communication.

Other-regulatory strategies include **confirmation requests, clarification requests, repetition requests, comprehension checks, and expressions of non- or misunderstanding**. In this study, participants were not easily able to use other-regulatory strategies during their story productions. Students were instructed to narrate, in form of monologue, the video-clip they had just seen, hence interaction with the researcher was discouraged. Nevertheless, the speakers occasionally attempted to convert the researcher into an interlocutor and thereby appeal to him for assistance. In this way, and despite the instructions, the participants were able to exert their agency in order to find a way of maintaining self-regulation in the face of a difficult task. These appeals for help were never replied in linguistic form, although some visual feedback was given (nodding the head, raising the eyebrows, shrugging the shoulders, etc.). Nevertheless, although these interactions can be considered as having an other-regulatory function they can also have an important self-regulatory function, since many of the questions they posted seemed to be addressed to themselves in an attempt to come up with a solution to the communicative problem that they encountered. Figure 10 reveals the occurrence of other-regulatory strategies per proposition.

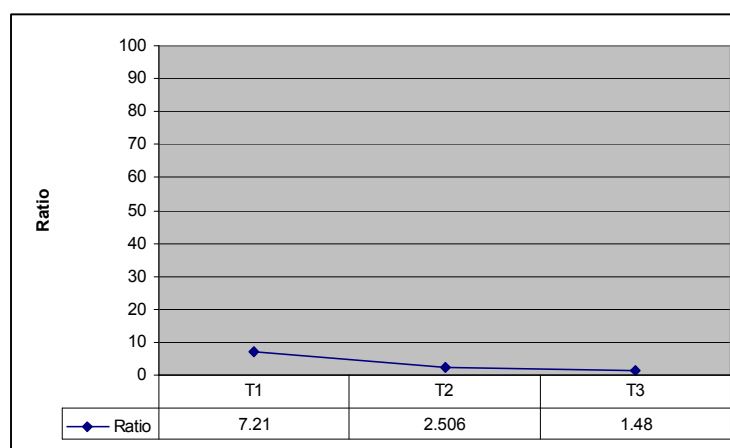


Figure 10: Ratio of other-regulatory strategies per proposition

Due to the nature of the task; students were not allowed to ask the researcher anything, once they started narrating the story. Despite this fact, students uttered some other-regulatory strategies, although they decreased from T1 (0.07 strategies per proposition) to

T3 (0.01). This table illustrates the same pattern as the two tables before, showing a decreasing need to use regulatory strategies in order to fulfill the communicative activity.

4.4 Summary

As the last three tables clearly show, students used less regulatory strategies from T1 to T3. This indicates an increase in students' level of self-regulation and control over the task and the second language. The following table looks at the use of the three types of strategies in relation to one another and it merges all the strategies so that we can estimate the overall use of regulatory strategies in the group.

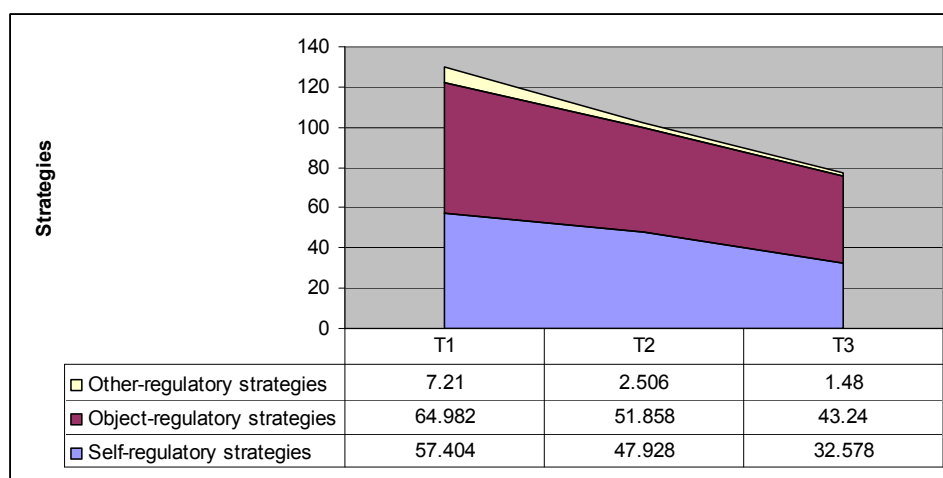


Figure 10: Aggregated use of regulatory strategies

Figure 10 graphically shows a sharp reduction in the use of strategies from T1 to T3. At the beginning of the study (T1), participants produced an average of 1.29 strategies per proposition (that means more than one strategy per communicative idea). By T2, the number of regulatory strategies decreased to a total mean of 1.02 strategies per proposition, and by the end of the study, participants produced less than one strategy per proposition (exactly 0.77). This graph shows the incredible improvement of study abroad participants at the cognitive level and how students gained more control over the target language during their semester abroad.

5. Conclusion

The analysis of the data shows that even though there is a slight improvement in certain linguistic elements, the development was much greater at the cognitive level, as manifested in the drastic reduction of regulatory strategies used by the students across time. This is an important finding that needs to be framed in theoretical terms, as described below.

It was mentioned before that according to the Sociocultural Theory, “sociocultural and mental activity are bound together in a dependent, symbolically mediated, relationship”

(Lantolf & Pavlenko, 1995, p. 109), *language* being the main tool that mediates this interaction. Through interaction with the community, social speech moves towards egocentric speech, and, in this process, the individual incorporates the higher mental functions that are present in the community into his own cognitive system. These higher mental functions, which include problem solving, voluntary attention, and the planning, executing, monitoring of the course of action, are social in origin and have been internalized during speaking activity. Egocentric speech moves underground and becomes silent, representing the essence of conscious mental activity, that is, *inner speech*. The internalization of higher forms of mental activity allows the speaker to gain self-regulation in the different activities he engages in. However, when the activity becomes difficult, speakers can re-access previous stages of development in the attempt to re-gain control (or self-regulation) over the task. In order to do this, speakers can vocalize externally their inner speech so it becomes visible, material, and at the same time, malleable. This form of speech has been labeled in the theory as *private speech* and it “represents the externalization of what otherwise would remain as covert mental processes (e.g., planning, remembering, learning, etc.) and emerges in the face of difficult tasks” (Appel & Lantolf, 1994, p. 439).

Thus, speakers who encounter some difficulty in the course of a certain activity may rely on private speech to solve the problem. In this case, speakers’ internal thinking activity surfaces externally and verbally in an attempt to gain control over their thinking process. In this view, thinking does not always precede speaking. Instead, thinking may also coincide with or even follow speaking. This is manifest in the use of the regulatory strategies employed by the participants in this study in order to gain control over the diverse communicative problems they were facing during the completion of the narration task.

In their narrations, students used the language not only to recall the stories conveyed in the video clips but also to focus on certain aspects of their linguistic production, to solve communicative problems, and to plan, execute and monitor their speech. For instance, self-repetitions can function as a regulatory device to focus on what is coming next. Pauses, segmental lengthening, and a slower speech rate are symptoms of the internal planning of subsequent linguistic production. Self-corrections and self-rephrasing are manifestations of the continuous monitoring of students’ production, while circumlocutions, approximations, code-switching, literal translations, word-coinages, etc. are linguistic materializations of communicative-motivated problem solving processes. In other words, (self- and object-) regulatory strategies are considered forms of private speech as they represent external manifestations of internal thinking processes. In addition, other-regulatory strategies could also be regarded as manifestations of private speech in this context since dialogic forms of speech were not expected and most of the students’ attempts to initiate a dialogue can be interpreted as addressed to themselves.

This idea is supported in Appel and Lantolf’s (1994) study on how speaking mediates cognitive activity in L1 and advanced L2 speakers of English in the activity of reading and recalling narrative and expository texts. The authors conclude that “not only can planning occur simultaneously with speech, but that the very activity of speaking can, in

fact, be planning, or more precisely, thinking, externalized as self-directed private speech, the goal of which is planning what to say about a particular topic” (p. 440). This view is corroborated in the present study as evidenced in students’ use of regulatory strategies as means for thinking about their own linguistic production.

It becomes clear from the data that the psychological and the linguistic lines of development follow different trajectories. As Vygotsky argued, the structure of speech is not the mirror image of the structure of thought. In Vygotsky’s (1986) words, “the flow of thought is not accompanied by a simultaneous unfolding of speech. The two processes are not identical, and there is no rigid correspondence between the units of thought and speech” (p. 249). And he continues,

Speech does not merely serve as the expression of developed thought. Thought is restructured as it is transformed into speech. It is not expressed but completed in the word. Therefore, precisely because of the contrasting directions of the movement, the development of the internal and external aspects of speech forms a true unity. (Vygotsky, 1986, p. 251)

This view is robustly evidenced in the present study. The psychological and the linguistic development of the students follow completely different trajectories. As commented on previously, at the linguistic level, very little development was perceived during the acquisition period. However, psychologically, students developed to a great extent as they became more self-regulated and had to rely less and less on regulatory strategies.

It should not go unnoticed that, even though it has been shown that the linguistic and the psychological lines of development follow different trajectories, both lines are intrinsically related as the changes observed psychologically are a manifestation of the students’ attempts to gain control over the language. In other words, students’ problems with the language did not surface clearly at the linguistic level, but they did at the psychological level. Thus, students, given time enough to plan, monitor, and focus on the linguistic problems that they are experiencing, are able to come up with solutions that reflect their linguistic knowledge (which, according to the data, does not seem to change too greatly across time). This finding points to the importance of conducting studies on language acquisition that take into account both levels of development, since it has been shown that they form an inseparable unity, the two sides of the same coin.

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