

EFFECTS OF INPUT ENHANCEMENT AND VISUAL PROMPTS IN CHILDREN'S L2 ACQUISITION OF SPANISH VERBAL MORPHOLOGY

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In the pedagogical arena of second language (L2) acquisition, much of the input enhancement research (Sharwood Smith, 1993) has focused on adult L2 acquisition. However, the impact of this pedagogical technique in child L2 acquisition is an area of investigation that still deserves more attention. The present study analyzes the effect of input enhancement techniques supported by visual prompts in the acquisition of Spanish verbal morphology by child L2 learners. Over a fourteen-week period, meeting once a week, two experimental groups of L2 Spanish child learners, ages seven to nine, were exposed to a variety of input enhancement techniques applied to Spanish verbal morphology. At the end of the study, their performance on five different tasks (reading, fill in the blanks, writing, structured oral interview and oral translation) was assessed and compared with a control group. The results of the present study show that using input enhancement techniques supported by visual aids help L2 child learners to notice and retain the Spanish verbal morphology studied facilitating its intake.

Key words: *input enhancement, focus on form (FonF), intake, lexical categories*

En el ámbito pedagógico de la adquisición de una segunda lengua (L2), la mayor parte de la investigación en el realce del input (Sharwood Smith, 1993) se ha concentrado en la adquisición de una L2 en adultos. Sin embargo, el impacto de esta técnica pedagógica en la adquisición de una L2 en niños es un área de pesquisa que aún merece más atención. El presente estudio analiza el efecto de las técnicas pedagógicas de realce apoyadas con imágenes en la adquisición de la morfología verbal del español entre niños que lo aprenden como segunda lengua. Durante un periodo de catorce semanas, una vez por semana, dos grupos experimentales de niños, entre siete y nueve años de edad, fueron expuestos a diferentes técnicas de realce aplicadas a la morfología verbal del español. Al término del estudio, su rendimiento en cinco diferentes actividades (lectura, llenar los espacios en blanco, escritura, entrevista oral estructurada y traducción oral) fue evaluado y comparado con el grupo de control. Los resultados del presente estudio demuestran que el uso de la técnica pedagógica de realce con el apoyo de imágenes ayuda a los niños aprendices de una segunda lengua a notar y retener la morfología verbal del español, facilitando su asimilación.

Palabras clave: *realce del input, atención a la forma, asimilación, categorías léxicas*

0. Introduction

In the last fifteen years, some studies have been conducted analyzing the effects of focus on form, henceforth (FonF), techniques on second language acquisition (Doughty, 1991; Doughty & Varela, 1998; Fotos, 1993; Gass, 1997; Jourdenais et al., 1995; Lee & Huang, 2008; Leeman et al., 1995; Leow, 1997, 2001; Shook, 1994; White et al., 1991). However, most of them have only considered L2 adult learners as the object of examination. Recognizing that there are differences in the processes of second language acquisition between children and adults due to cognitive, linguistic and social abilities (Philp et al., 2008), the aim of the present study is to investigate the impact of FonF techniques on L2 child learners.

On the basis of a comprehensive ethnography, this study analyzes how English speaking children process and produce oral and written Spanish verbal morphology of regular and irregular forms. The study addresses the use of one particular FonF technique, *input enhancement*, proposed by Sharwood Smith (1993). This technique makes verbal morphology more salient through manipulation of typography (i.e. larger type sizes, different typefaces, colors, etc.). Additionally, the present study makes use of visual prompts which combined with input enhancement techniques facilitate the intake of the target linguistic structures.

The present study is divided into five sections. The first section, divided into three subsections, focuses on the theoretical background. Subsection (1.1) discusses the notions related to consciousness raising, noticing and input enhancement in the literature of SLA, as well as some of the studies that used textual input enhancement techniques (Doughty, 1991; Shook, 1994; Jourdenais et al., 1995; Leeman et al., 1995; Leow, 1997, 2001). Subsection (1.2) contrasts two theoretical perspectives on the acquisition of verbal morphology: the Dual-System and the Single-System approach (Gor & Chernigovskaya, 2003). The Dual-System approach claims that regular verbs are computed in a rule-processing

system, while irregular verbs are processed in associative memory. The Single-System approach, on the other hand, claims that both regular and irregular verbs are processed by a single mechanism in associative memory. Subsection (1.3) touches on the role that pictures play in child second language acquisition based on the Dual Coding Theory (Hodes, 1992). It states that two separate but interconnected knowledge systems exist: a verbal system, specialized in dealing with sequential information in discrete linguistic units and abstract concepts, and a visual imagery system, which encodes, stores, organizes, transforms, and retrieves spatial information about concrete objects and events.

The second section introduces the study and presents the research questions. The third section addresses methodology used in this investigation. Section four presents and discusses the results. Section five offers general conclusions.

1. Theoretical Background

1.1 Consciousness Raising, Noticing, and Input Enhancement of Written Texts

Recently, SLA research has highlighted the ways in which attention mediates the process of selection and subsequent memory of input. Examining the role that L2 instruction materials play in this process of input selection has elicited various ideas. Among these notions, the concept of consciousness raising (Sharwood Smith, 1991), henceforth (C-R), is remarkable taking into account the role that consciousness has played in the history of SLA.

C-R claims that comprehensible input is necessary but not sufficient for SLA to take place. Sharwood Smith (1991) re-analyses the notion of C-R due to the ambiguity that the term consciousness presents in relation to what is called “awareness” in the literature of SLA. There are three main reasons for the vagueness of these two terms. First, the terms

“consciousness” and “awareness” are widely used beyond linguistics, so their meanings are ambiguous. Second, the term “awareness” is often included in the definition of “consciousness,” and the term “consciousness” is often included in the definition of “awareness.” Third, the terms C-R and learning awareness tend to be used without an understanding of their backgrounds. On the one hand, language awareness is a broader and a sociocultural concept that allows to seeing language from different perspectives and its role in human life. C-R, on the other hand, refers to the drawing of learner’s attention to the formal properties of language (Fukuda, 2009).

Despite the ambiguity between consciousness and awareness, some scholars (Schmidt, 1990, 2001; Schmidt & Frota, 1986) claim that learning a L2 is largely a conscious process. In relation to, Schmidt (1990) distinguishes three different levels of consciousness namely *perception*, *noticing*, and *understanding*. He defines perception as the level where information is processed; *noticing* as rehearsal in short-term memory, and *understanding* as rule understanding, that is grasping the meanings of rules and becoming thoroughly familiar with them, in the Schmidt’s words: “noticing requires of the learner a conscious apprehension and awareness of input” and “while there is subliminal perception, there is no subliminal learning.”(142). In particular, Schmidt argues that noticing at the level of awareness is necessary for input to become intake. He posits:

Input + noticing = intake

Significantly, Ellis (1994) points out that C-R is only directed at explicit knowledge, with no expectation that L2 learners will use in communicative output a particular feature that has been brought to their attention through formal instruction. Therefore, consciousness of input at the level of noticing is a necessary condition for second language development. Atkins (2001) highlights the most important aspects of C-R that most SLA researchers appear to agree with:

- a) C-R is an approach to teaching grammar.

- b) There are many techniques which raise awareness and focus on the relationship between form and function.
- c) A wide range of techniques is beneficial to the learner.
- d) Language learning is a gradual process instead of a lineal one (i.e. once something has been taught, it has been learned).
- e) Learners are encouraged to form hypothesis by contrasting their first language to the target language.
- f) Noticing and awareness are fundamental to acquisition.

Noticing

As we saw above, language input become intake based on noticing, in the Schmidt's words: "intake is that part of the input that the learner notices" (Schmidt, 1990: 129). Schmidt's main idea is that L2 learners make a comparison between their observed input and typical output based on their existing interlanguage system by consciously "noticing the gap" (Schmidt & Frota, 1986). Put in other words, the L2 learner becomes consciously aware of how his/her interlanguage form differs from the target form. In doing so, learners are able to reflect on what is noticed, endeavor to understand its significance, and experience insight (Noticing Hypothesis).

Robinson (1996) gives the tightest definition of noticing. He goes one step beyond detection, and defines noticing as "what is both detected and then further activated following the allocation of attentional resources." (31) In other words, for Robinson, noticing is not only detection but also verbal report of what is noticed in one's short term memory.

Tomlin and Villa (1994) acknowledge the significance of focusing on attentional resources in SLA and divide attention in three components: "*alertness* (overall readiness to deal with incoming stimuli), *orientation* (the direction of attentional resources to a certain type of stimuli) and *de-*

tection (the cognitive registration of the stimuli).” (192). Tomlin & Villa argue that detection is the key attentional moment that enables learners to use the detected grammatical instance as data to formulate and test hypothesis about L2 grammar facilitating second language acquisition. Put in other words, detection is the attentional process that is responsible for intake derivation of L2 input. They stated that once information is detected, the further processing of that information is possible. Thus, detection is the most important function of attention for language processing. Although the three definitions of noticing –Schmidt’s, Tomlin’s and Villa’s, and Robinson’s– differ in degrees and levels of awareness considered necessary for SLA, the authors of the three studies agree on the importance of noticing.

Input enhancement

Due to the ambiguity of the notion of C-R, Sharwood Smith (1993) proposes a more cautious term, namely *input salience*, which deals with the linguistic material presented by the teacher to the learner in an external way rather than to the internal mental processes of the learner—the way in which teachers and textbook writers often feel the need to direct the learner’s attention to some aspect of the target language in different ways.

Sharwood Smith (1993) proposes two types of input enhancement, henceforth (I-E), positive and negative. Positive I-E highlights the salience of correct forms in the input. An example of this would be visual enhancement of a reading text in which targeted form are bolded, underlined, capitalized, or italicized. Negative I-E would highlight errant forms. An example of this would be error flags which would draw learners’ attention to their mistakes. Significantly, Homer Combs (2005) claims that the greater saliency a particular form has in the input to which the learner is exposed, the greater chances are for it to be selected by the L2 learner. I-E is one way in which *input salience* is increased.

As a consequence, some SLA researchers began to propose different salient techniques to enhance the input of linguistic forms in classroom settings. Such techniques can be accomplished from the most explicit rule explanation to the most implicit visual input enhancement. In this study, I deal with techniques employed to enhance input in written texts such as the manipulation of the typography (i.e. larger type sizes, different typefaces) and use of typographic cues (i.e. italic, bold face, capital letters, underlining, and color coding) already used in many studies in the literature of SLA. In regard to, it is important to draw attention to the studies of Shook, 1994; Doughty, 1991; Leow, 1997, 2001; Jourdenais et al., 1995; and Leeman et al., 1995 that I will briefly discuss below.

Previous studies on input enhancement

Shook (1994) studied the effect of textual enhancement on the intake of the Spanish present perfect verb and relative pronouns. He used 125 adult English speakers from first to fourth semester Spanish classes at the University of Illinois. For each group, the only difference in materials was the type of written input to which they were exposed. A control group received an unenhanced text and no specific instructions. A second group was given a text with six tokens of the grammatical item in bold, uppercase letters and no specific instructions. A third group received a text with the grammatical items in bold and uppercase, but was told to pay attention to the bold and uppercase letters. He found significant benefits of textual input in the acquisition of the targeted forms.

Jourdenais et al. (1995) studied the effect of input enhancement on preterite and imperfect Spanish verbs. Ten adult English speakers were tested and received two different texts, each of 210 words. One group read enhanced texts, while the other read unenhanced texts. The type of textual enhancement they used consisted of bolding, underlining, shadowing, and font changes in order to distinguish between the two different targeted forms. The researchers concluded that textual enhancement was

an effective way to enhance the saliency of the targeted forms that might otherwise be difficult to learn.

Leeman et al. (1995) examined the effects of input enhancement in the usage of preterite and imperfect tenses in Spanish during a content-based instruction. Twenty English speakers were tested and received two different treatments: one group of twelve subjects received a purely communicative treatment, and the other group (ten subjects) received a FonF treatment. Four different tasks were included in this study: an in-class communicative task (debate), an in-class essay, an appropriateness judgment task, and a modified cloze task. Textual input enhancement was used for the last two tasks. In the appropriateness judgment task, each item consisted of a sentence accompanied by a picture. The sentences contained two clauses, the second of which was underlined; participants were instructed to mark whether or not the second clause completed the sentence that corresponded to the picture. In the modified cloze paragraph task, the FonF group received an enhanced version in which all verbs in the preterit and imperfect were underlined and highlighted (a different color was used for each) to make them highly salient. The results showed that the FonF group outperformed the communicative group by increasing and maintaining accuracy on all tasks while the communicative group slightly improved on one task only.

Leow (1997) investigated the effects of text length and textual enhancement of the Spanish impersonal imperative on comprehension and intake. The 84 native English speakers that participated were enrolled in second semester of Spanish study and had no previous formal instruction of the linguistic form being tested. Three texts were used for the study. The first text was unmodified and contained 631 words. The second text contained 384 words and was unenhanced; the third text was of the same length but targeted forms were once again bolded and underlined. Leow found that the text length had a significant effect on reader comprehension but not on intake, and that there was no significant benefit to the textual enhancement on either comprehension or intake.

Leow (2001) explored the effects of textual enhancement and noticing on Spanish formal commands and intake. Thirty eight subjects participated in the study, and all were native speakers of English enrolled in a first-year Spanish language program. A control group and an experimental group read the same 242-word text, with only the experimental group receiving the textually enhanced version. In the enhanced version, all targeted verb forms were underlined, and only the formal imperative morpheme was bolded. The investigator found no significant benefits of textual enhancement over unenhanced texts on the amount of reported noticing of the targeted form and reader comprehension. Leow also found no significant benefit of the enhancement on the readers' intake.

While Doughty's (1991) study does not deal with Spanish learners, her study on the effect of enhancement, specifically the use of color, is directly related to the topic in question. Doughty explored the effect of typeface of different colors compared with the effect of explicit rule instruction, meaning-oriented instruction and exposure alone on the acquisition of English relative clauses. Doughty found that rule-oriented and meaning-oriented instruction was equally beneficial to the participants' performance on form-oriented tasks, but the latter group (as well as the exposure only group) outperformed the former on comprehension tasks. Nevertheless, it is important to highlight that in Doughty's study, textual input enhancement was combined with other enhancement techniques, such as juxtaposition and rephrasing. This combination resulted in a positive effect on the students.

From the studies discussed above, three (Shook, 1994; Jourdenais et al., 1995; and Leeman et al., 1995) obtained a significant result in noticing the target forms, and accuracy of subsequent output, two (Leow, 1997, 2001) did not find any significant impact, and only one study (Doughty, 1991) found a partial difference. These six studies suggest that there is no consensus on the effect of textual input enhancement on the acquisition or intake of grammatical items. It should also be noted that they only provide results obtained from L2 adult learners. Further

investigation is needed in order to find the appropriate type of textual input enhancement that can facilitate the acquisition of targeted forms in L2 adult learners. The empirical studies discussed above combined with other enhancement techniques in a different population, such as L2 children learners, would contribute to this. All these considerations are germane to the present study, which aims to investigate the effects of textual input enhancement in child second language acquisition of Spanish verbal morphology supported by visual prompts.

1.2. Acquisition of Verbal Morphology

The lack of conscious attention to form, says Ioup (1995), appears to be a commonplace of child language learning, whether the child is learning a first or a second language. Because the primary goal of all children is to interact socially, they pay little attention to formal properties of L2 and have a great tendency to overgenerate rules. Rules are restructured once the child encounters consistent evidence in the input for a grammatical alternative expressing the same meaning. In the Ioup's words, "children's subconscious restructuring will continue until the competence grammar can optionally account for all the input data." (Ioup, 1995: 97)

In some cases, depending of the child's age, language must be explicitly taught to children. Language skills can enhance children's socialization, increase their learning capability, and contribute to their academic success. This is why teaching responsibility must be distributed across teachers, speech/language pathologists, and parents; since children are not "natural" learners who effortlessly store and maintain knowledge of languages (Philp et al., 2008). Thus, learning a L2 requires a conscious effort, reinforcement, and support. The key dimension of language to be targeted for training are lexical categories, especially verbs, insofar as they are the key for grammar learning, according to current theoretical models (Gor & Chernigovskaya, 2003).

In the literature of verbal morphology acquisition, there is a debate about how verbal morphology is processed. According to Gor & Chernigovskaya (2003), there are two theoretical perspectives the Modular or Dual System and the Single System. The Dual-System Approach claims that regular and irregular verbs are processed by two different mechanisms. This is, regular verbs are computed in a rule-processing system, while irregular verbs are processed in associative memory. The Single-System Approach, in its two variations the connectionist and network approaches, holds that both regular and irregular verbs are processed by one single mechanism in associative memory. This is, no symbolic rules are used in morphological processing, only memory-based associations.

Previous research on morphological acquisition (de Zeeuw et al., 2012; Rumelhart & McClelland, 1986; Bybee, 1999; McClelland & Patterson, 2002; Colombo et al., 2004) has identified the following factors as influencing the acquisition of a flexional paradigm:

- a) Token frequency: A frequent item has a stronger memory trace than a rare item.
- b) Type frequency: An ending found on a large class of words is easier to acquire than an ending found on a small class of items, and it is generalized more easily.
- c) Regularity: Regular endings tend to be mastered earlier than irregular endings and are often erroneously applied to roots requiring an irregular ending.
- d) Phonological similarity and subgeneralizations: The phonological similarity of a form to other forms of the language is a strong predictor of the speakers' behavior. Irregular lexical items may often be grouped in families of phonologically similar forms.
- e) Distribution of regular and irregular forms in a word class: There is a tendency among L2 learners to regularize irregular forms, and to insert them into the default class.

The general trend that emerges from the literature is that models of morphological processing must take into account the fact that paradigm structure plays a role in the encoding and processing of inflectional forms. Logically, as paradigm structures change from language to language, the subgeneralizations that may arise during acquisition should change as well.

1.3 Effects of Visual Prompts in Child Second Language Acquisition

In general, L2 instructional material is highly visual –textbooks, pictures on flashcards for vocabulary learning, and multimedia software, including short films– for both children and adults. Samuels (1970) argues that nearly all children are taught to read from books containing pictures. He stresses, however, that although pictures may be used as prompts when the learner cannot recognize a word in the text, pictures may miscue and divert attention from the printed word. Significantly, Klinger (1998) adds, “Pictures might actually have been a distraction from students noticing the given correct spelling” (87). Although pictures do not produce grammatically accurate sentences, they can elicit comments and also can function as motivators by improving interest.

As it was mentioned in subsection (1.1), crucial information (i.e. linguistic forms) on texts can be made more salient when the text is manipulated (textual input enhancement). Moreover, words and text are not only visual but also auditory. Most linguists believe that representations of words in the mental lexicon are coded phonologically, though some say that there is also a “separate visual-orthographic lexicon” (Frost, 1988). The fact is that words are encoded and analyzed in several levels of processing: graphemic, phonemic, lexical, syntactic, and semantic, with each level leaving traces in the memory. A picture must be meaningfully identified (i.e. access its semantic representation) before it can be named (i.e. access its phonetic or name representation).

In the literature of visual prompts, there is a debate that centers on the manner in which the brain stores information about pictures and words. There are two theoretical perspectives, the first one, namely the Dual Coding Theory (DCT), states that there are two separate but interconnected knowledge systems: a verbal system, specialized in dealing with sequential information in discrete linguistic units and abstract concepts, and a visual imagery system which encodes, stores, organizes, transforms and retrieves spatial information about concrete objects and events (Hodes, 1992). The second theoretical position, the Unitary Conceptual Code (UCC), states that verbal and visual information are not necessarily organized in two different memory traces (Potter et al., 1977).

The debate about how pictures and words are similarly or differently processed in the brain is relevant to the present study. According to Klinger (1998), pictures are memorable, because the processing of pictures in the brain needs additional allocation of intentional resources or effort. Usually, people spend more time looking at pictures before they can name them, remembering pictures better than words. In contrast, people spend less time looking at words in sentences, so they don't remember exactly the sentences.

L2 children learners, and by extension L2 adult learners, gain knowledge of a L2 by forming word-object associations (Byers-Heinlein et al., 2013). Words as well as pictures are read or understood faster when they are related to context. For instance, it is easier for children to comprehend the sentence *the girls are playing* when it is accompanied with a park picture where that activity is occurring than when the same sentence is unillustrated. Klinger (1998) stresses that if pictures and text are given, they should be presented simultaneously rather than separately. In this way, the two representations are in the memory at the same time, and construction of referential connections can be done immediately. She adds that the connection between visual prompt and text can facilitate learning and retention.

Although pictures may cause different effects among L2 adult learners due to ability and learning style, the use of pictures is crucial for L2 children learners. Children, despite their age, must be shown pictures and imagery, because of their low or nonexistent ability to read L2 text. Teaching a second language to children by means of pictures causes them to construct mental images. As they learn, visual prompts enhance their abilities to construct inferences, make predictions, and remember what have been seen. Pictures may also enhance the long-term retention of words since the dual-coding effect and the 'greater effort' will cause the processing of information and will establish the relationship between the various sources of information by making learned information more resistant to memory loss. In addition, pictures will increase comprehension.

The typical development from childhood to adulthood still seems to be that, as the child begins to think through the use of symbols, icons and so on, imagery gradually fades; that is, verbalization is substituted for imagery (Elster, 1998; Bajo, 1988). Verbal skills eventually become free of dependence on more concrete visual images. In this regard, Samuels argues that several researchers have attempted to teach a sight vocabulary by using what is called a *fading technique*.

In this technique a picture and a printed word are shown together. The learner is supposed to visually attend both to the printed word and to the picture which prompts the desired response. Portions of the picture are gradually removed, -or faded out- to affect a shift in stimulus control of the response from picture to the printed word. If the technique is successful, the student should be able to give the correct response when the picture is completely removed and only the printed word remains. When this occurs, it can be said that there has been a shift in stimulus control from the picture to the word. (Samuels, 1970: 40)

It is also important to consider the effects of spoken information along with pictures and text. In this regard, Elster (1998) points out that children's emergent reading is influenced by the number of times they hear a book read and then read it on their own. Children's control of the

linguistic code begins when they link the meaning of words in books to their own experiences and knowledge of the world. Pictures are a support that fosters attention and prompts talk. Language skills proceed from hearing and speaking in activities like naming objects to describing a picture and following verbal commands such as “*put the apple on the basket,*” “*identify the black cat,*” and so on. Procedures for meaning-making are learned through oral exchanges and social interactions in groups or dyads (Interaction Hypothesis) and pictures are beneficial for this purpose as they invite learners to be co-participants of the learning process.

To sum up, we have seen that pictures definitely affect memory and can be helpful for L2 children learners. However, pictures can also miscue and divert attention from the printed word if the pictures are dissimilar to the text. Memory seems to store information in webs of relationships, so the benefit of placing pictures together with text comes from the possibility of making connections between the two types of information. Words are more easily learned when they are associated with actual objects, pictures, imagery techniques, or even with translation. Although pictures and words are held in the visual working memory and are both types of visual information, supplementing visual material with audio material might get better results. Nevertheless, it remains doubtful whether pictures or imagery can help much with non-visual, abstract vocabulary, morphology or with sentences and paragraphs that require an understanding of abstract rules of grammar.

2. The study

2.1. Aim of the Study

The purpose of this study is to analyze the effects of input enhancement and visual prompts in L2 children acquisition of Spanish verbal morphology of regular and irregular forms. In order to make the verbal morphology more salient, the present study uses different tech-

niques employed to enhance input in written text such as manipulation of typography (i.e. highlighted in color, circled, underlined, bolding, italicized, and so on). In addition, this study uses pictures as adjuncts –a picture is considered an adjunct, if the text can be comprehended when the picture is removed– to facilitate intake and then acquisition of the targeted linguistic forms.

2.2. Targeted Linguistic Forms

The target linguistic form analyzed in this study is the Spanish present tense of regular and irregular verbs –*ser/estar* (to be), *tener* (to have), and *ir* (to go). All the teaching materials were carefully prepared and designed by the researcher. Textual enhancement was used only on the targeted morphological units to make them more salient. That is, the entire target word was not visually enhanced. The following table provides an example of the didactic material used in this study.

INPUT ENHANCEMENT (Spanish verbal morphology)	VISUAL PROMPT
María baila a	
Ana y José bailan an	

2.3. Research Questions

1. Do children exposed to written textual input enhancement supported by visual prompts report noticing morphological forms of the verbs substantially more than children not exposed to such textual enhanced input and visual prompts?
2. Is there a significant effect of noticing between enhanced or un-enhanced verbal forms in L2 children's writing?
3. Is there a significant effect of noticing between enhanced or un-enhanced verbal forms in L2 children's oral production?

3. Methodology

3.1. Participants

A total of nineteen children –11 girls and 8 boys– ranging in age from 7 to 9 years old, 6 and 13 respectively, participated in the present study. All were enrolled in the *USI After Elementary-School Language Program* and received one hour per week of formal exposure to Spanish as a second language during fourteen weeks. None of the participants had lived in a Spanish-speaking country. All reported basic knowledge of Spanish vocabulary in the lexical categories of nouns and adjectives, but not in verbs. All children were introduced to Spanish present tense of regular and irregular verbs during the treatment. They were randomly assigned to one of the three experimental groups and all of them completed the final stage of the study.

3.2. Design

Three intact groups of children attending the *USI After Elementary-School Language Program* received only one of the following three treatment sessions during a period of 14 weeks, meeting once a week.

- 1) Control Group (CG). This group received neither visual prompts nor input enhancement treatment.
- 2) Input Enhancement Group (I-EG). This group received an input enhancement treatment (i.e. manipulation of the typography) in the Spanish verbal morphology without visual prompts.
- 3) Input Enhancement plus Visual Prompts Group (IE+VPsG). This group received an input enhancement treatment in the Spanish verbal morphology along with visual prompts (i.e. pictures and drawings illustrating the actions or states of the target verbal forms).

The number of students for each group was CG 6, I-EG 7 and I-E+VPsG 6.

3.3. Procedure

At the end of the treatment period, five tasks were prepared to interpret qualitatively the participants' learning-intake results in the written and oral production of the targeted forms.

1. Written tasks (in group)

- a) *A fill-in-the-blank recall task.* Children were asked to write the correct form of the verbs.
- b) *Writing.* Students were asked to write three simple sentences motivated by pictures that depicted either park or beach activities.

2. Oral tasks (individually)

- a) *Reading.* Children read an illustrated text loud once.
- b) *Controlled oral interview.* To measure the participants' oral production, a four-minute oral interview was conducted by the researcher. The researcher asked each student three

questions based on the same visual prompt used for the written task. All the interviews were recorded and analyzed.

- c) *Oral translation.* Participants were asked to translate orally from English to Spanish three sentences without support of visual prompts. Oral translations from the subjects were recorded and analyzed.

3.4. Data analysis

Testing

A final test was administered to the three groups (CG, I-EG and I-E+VPsG), it consisted of the following tasks: reading, fill in the blanks, writing, structured oral interview and oral translation.

Scoring Procedure

- a) *Reading.* Children were asked to read in a loud voice ten sentences and identify on a poster with various images what they were reading for each sentence.
- b) *Fill in the blanks.* For this recall task, subjects received one point for each correct conjugation. Any misspelling was considered wrong.
- c) *Writing.* In this task three criteria were considered: 1) Sentence structure, unmarked Spanish word order (SVO). 2) Subject-verb agreement. Any misspelling or failure on conjugation was marked incorrect. 3) Picture context. Written sentences were based on the visual prompts provided.
- d) *Controlled oral interview.* Two criteria were considered for this task: 1) Limited answer time, four minutes per child. 2) Morphological accuracy in the answer.

- e) *Oral translation.* Accuracy in translation (i.e. subject-verb agreement).

4. Results and discussion

Overall results were compiled by treatment group for each one of the five tasks administered in the present study. Answers were counted as correct if children provided an accurate spelling of the target form for the fill-in-the-blank and writing tasks, or if they provided accurate utterances of the target forms for the reading, oral structured interview, and oral translation tasks. Individual percentages for each task were calculated, and then, the group average (CG, I-EG, I-E+VPsG) for each activity, as Figure 1 shows.

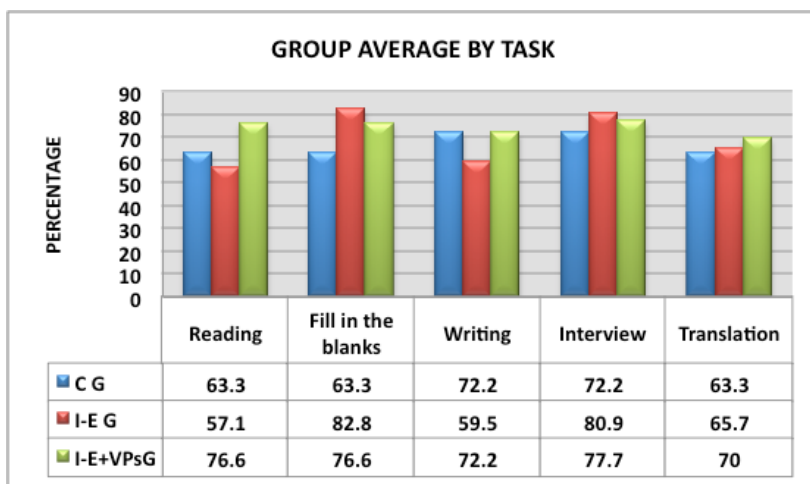


Figure 1. Group average by task

The results on Figure 1 show that only the I-E+VPsG outperformed the others in the reading and translation tasks, whereas the I-EG group performed better in the fill-in-the blank and interview activities.

The CG group, on the other hand, tied the I-E+VPsG in the writing activity.

Nevertheless, if we take a closer look at the results of Figure 1, it is possible to observe that although there is fluctuation in the performance outcomes of the I-E+VPs group throughout the different tasks, the I-E+VPs group shows more stable focal awareness or ‘noticing’ of the targeted linguistic forms when compared to the other two experimental groups, as Figure 2 shows.

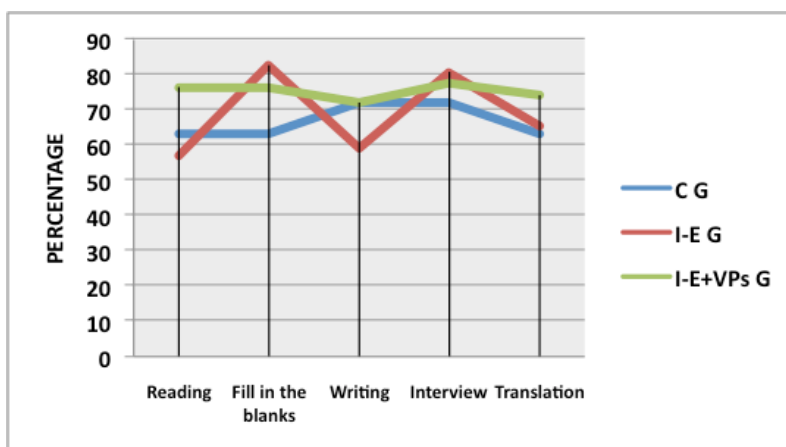


Figure 2. Ratio of the focal awareness of the target linguistic form

Figure 2 shows that the ratio of the I-E+VPs group oscillates within an interval of 7.7 which is smaller compared to the I-EG (25.7) and CG (8.9). This means that the I-E+VPs group developed more solid focal awareness of Spanish verbal morphology. It is important to note that this initial noticing may facilitate at a later point, with further input, intake of this particular linguistic form. This aspect is reflected in Table 2. None of the three experimental groups even reached 90%.

Overall, the I-E+VPs group scored better compared to the other two experimental groups, CG and I-EG, as Figure 3 exhibits.

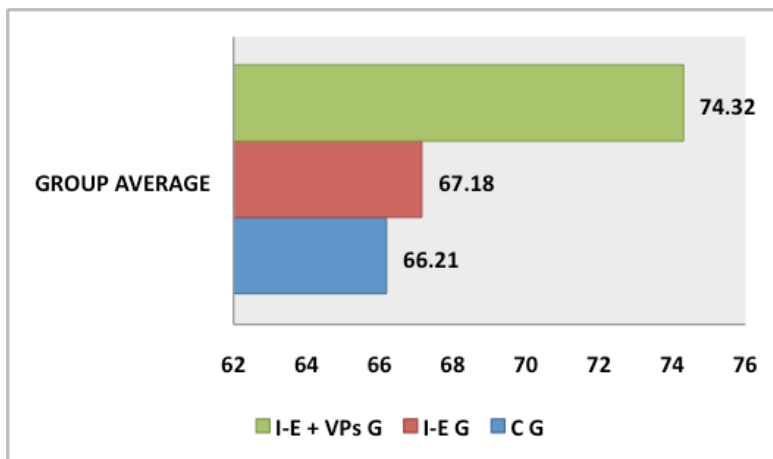


Figure 3. Group average

Figure 3 shows that there is a non-significant difference (0.97) in the performing average of the CG and I-EG which means that making the targeted grammatical item more salient does not have too much impact in the L2 learning process among children. We observe, on the other hand, a considerable difference in the I-E+VPs group, when compared to the I-EG and CG, (7.14) and (8.11) respectively. This was expected since children are highly visual learners, and the use of visual prompts combined with input enhancement techniques during the treatment sections increased the chances of being turned into intake.

5. Conclusion

As it was mentioned in the Section 1.1 of the present study, FonF has attracted lots of attention in SLA literature in the light of classroom research which supports the need for pedagogical intervention frequency and enhancing the saliency of linguistic forms for facilitating learners the acquisition of L2 linguistic forms. One of the FonF techniques discussed was input enhancement which main purpose is highlighting the learners'

awareness to facilitate further noticing and analysis of the target linguistic forms in subsequent input.

As such, the present study investigated the effect of input enhancement supported by visual prompts in L2 children acquisition of Spanish verbal morphology. The results of the study showed that the combination of these didactic techniques is helpful in drawing L2 children learners' attention to the target forms, subsequently leading to their intake of the forms. Additionally, the results of the present study confirms the claim made by some researchers (Shook, 1994; Jourdenais et al., 1995; Leeman et al., 1995; Doughty, 1991) that learners often don't notice forms in the input in spite of repeated exposure, claiming that FonF teaching techniques (i.e. input enhancement and visual prompts) can induced greater noticing of the target form among L2 learners.

Therefore, recalling our research questions stated on subsection (2.3.) of this paper, we arrive to the following answers:

1. Do children exposed to written textual input enhancement supported by visual prompts report noticing morphological forms of the verbs substantially more than children not exposed to such textual enhanced input and visual prompts? The overall picture emerging from the present study suggests that using input enhancement along with visual prompts techniques help L2 children learners to notice the L2 grammatical aspects that can facilitate intake in further input and finally acquisition of the target form. The use of visual prompts in this study is supported by the Dual Coding Theory which states that learning is more effective when the learner uses more than one sense modality (i.e. text and visuals). After all, pictures have a strong effect on children's memory and facilitate the L2 learning process and retention.
2. Is there a significant effect of noticing between enhanced or un-enhanced verbal forms in L2 children's writing?

In the light of the present study, the use of enhanced grammatical forms did not cause any significant effect in the L2 children's written output. On the contrary, as Figure 1 shows, the CG outranked the I-EG and tied the I-E+VPsG in the written task.

3. Is there a significant effect of noticing between enhanced or un-enhanced verbal forms in L2 children's oral production?

The results of this study support that the use of enhanced grammatical forms increases the chance of learners internalizing them. This is visible in the group average on the oral interview task. The experimental groups that received input enhancement treatment (I-EG and I-E+VPsG) outranked the one that did not (CG).

To sum up, we can see that input enhancement combined with other FonF techniques (i.e. visual prompts) does engage the learners' focal attention processes, and it does lead to subsequent processing of varying degrees of depth, regardless of L2 learners' age. Nonetheless, research on input enhancement techniques still needs more attention, especially among L2 children learners, and so the present study is a modest contribution to this line of investigation.

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