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## The Canadian Modern Language Review / La Revue canadienne des langues vivantes

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Editorial / Éditorial 311

### Articles

- PATSY M. LIGHTBOWN AND NINA SPADA Learning English as a second language in a special school in Québec 315
- TARA GOLDSTEIN Bilingual life in a multilingual high school classroom: Teaching and learning in Cantonese and English 356
- KENNETH REEDER, ERIKA HASEBE-LUDT, AND LYNN THOMAS Taking the next steps: Toward a coherent Language Education Policy for British Columbia 373
- MARTINE RHÉAUME L'enseignement de la grammaire en immersion française au secondaire : Les premières lignes d'un curriculum communicatif basé sur les besoins des apprenant.es 403
- M. RAFAEL SALABERRY The role of input and output practice in second language acquisition 422
- Book and Software Reviews / Critiques de livres et de logiciels**
- R.L. TRASK *Language: The Basics*. Reviewed by Donald Rutledge 452
- PAULA KEZWER *Worlds of Wonder: Resources for Multicultural Children's Literature*. Reviewed by Ann Silverman 453
- CHRISTIANE PERREGAUX *Les enfants à deux voix : des effets du bilinguisme sur l'apprentissage de la lecture*. Critiqué par Françoise Armand 455
- EVELYN HATCH AND CHERYL BROWN *Vocabulary, Semantics, and Language Education*. Reviewed by John Robert Schmitz 457

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## Editorial / Éditorial

We are very pleased to be able to feature this month the winning article from our recent competition for the 'Best Paper by a Graduate Student.' We received twelve entries in all, eleven in English and one in French, on topics ranging from aspectual distinctions to stagnation in testing. The papers were evaluated in a blind competition by a panel of judges drawn from the *CMLR's* Board of Directors.

The winning paper, which is reproduced in this issue, was written by Rafael Salaberry, a PhD student at Cornell University. His paper is titled 'The role of input and output practice in L2 acquisition.' An honourable mention was awarded to Helen Raptis, a doctoral student at the University of Victoria, for her paper, 'Is second language reading vocabulary best learned by reading?' which will appear in our next issue.

These two top papers are very different in some ways as Salaberry describes a replica-

C'est pour nous un immense plaisir de vous dévoiler ce mois-ci le lauréat du concours annoncé récemment visant à primer « le meilleur travail rédigé au niveau des deuxième et troisième cycles. » Nous avons reçu un total de douze manuscrits, dont onze en anglais et un en français, sur des sujets aussi variés que les distinctions aspectuelles ou la stagnation dans le domaine du testing. Les manuscrits ont été évalués de façon anonyme par un jury constitué à partir de la liste des membres du Conseil d'administration de la *RCLV*.

Le manuscrit primé, reproduit dans ce numéro, est l'œuvre de Rafael Salaberry, un étudiant au doctorat de l'Université Cornell. Son article est intitulé « The role of input and output practice in L2 acquisition ». Par ailleurs, une mention honorable a été accordée à Helen Raptis, étudiante au doctorat à l'Université de Victoria, pour son manuscrit intitulé « Is second language reading vocabulary

tion study investigating the effects of input processing instruction on L2 acquisition, while Raptis examines theory and research in relation to the common assumption that vocabulary can be acquired incidentally through the process of reading. Interestingly, however, there is a similarity in the papers, in that they both take a critical look at widely accepted assumptions about L2 learning and challenge those assumptions. We are proud to be able to feature the work of these two young scholars and are sure that we will be seeing more of their work in print in the future. Both authors have received a complimentary subscription to CMLR.

CMLR is pleased to announce that we will continue to mount this annual competition for the Best Paper by a Graduate Student, and will be accepting entries for the 1997 competition until May 15, 1997. (For further details please see the announcement on page 314.) It should be noted that the winning entries this year did not have the benefit of the intensive peer feedback which is routinely provided by the review process to all our other published authors. In future years, we plan to adjust our time line in order to allow this to happen. We look forward to being able to continue our tradition of presenting the best work from newcomers

best learned by reading? » , que nous publierons dans le prochain numéro de la revue.

Ces deux excellents manuscrits sont très différents l'un de l'autre dans la mesure où Salaberry décrit une étude visant à établir une contre-expertise sur les effets de l'enseignement du traitement de l'input lors de l'acquisition d'une L2, tandis que Raptis procède à un examen de la théorie et des recherches portant sur l'idée reçue que le vocabulaire s'acquiert de façon incidente au cours du processus de la lecture. Il est intéressant néanmoins de noter une similitude certaine entre ces deux manuscrits, à savoir qu'ils portent tous les deux un regard critique sur des idées répandues dans le domaine de l'apprentissage des langues secondes et qu'ils ne craignent pas de remettre ces idées en question. Nous sommes particulièrement fières de vous présenter les travaux de ces deux jeunes chercheurs et nous sommes convaincues que leurs écrits sont voués à un brillant avenir. Tous deux se sont mérité un abonnement gratuit à la RCLV.

Nous sommes heureuses d'annoncer que la Revue continuera à organiser tous les ans ce concours du « meilleur travail rédigé au niveau des deuxième et troisième cycles, » et que la date limite pour la réception des candidatures pour le prochain

to the field, and would ask for your cooperation in bringing this contest to the attention of graduate students.

concours a été fixée au 15 mai 1997 (Pour plus de précisions, vous êtes invités à consulter l'annonce à la page 314). Nous tenons à spécifier que les lauréats de cette année n'ont pas pu bénéficier des commentaires détaillés généralement fournis aux auteurs comme il est d'usage dans tout processus d'évaluation effectué par des pairs. Nous avons cependant l'intention dorénavant d'organiser notre calendrier de travail de façon à combler cette lacune. Espérant être en mesure de poursuivre cette tradition et de continuer à vous présenter les meilleurs travaux des nouveaux chercheurs dans le domaine, nous vous serions reconnaissantes de bien vouloir nous fournir votre aide en informant vos étudiants diplômés de l'existence de ce concours.

# The role of input and output practice in second language acquisition

M. Rafael Salaberry

**Abstract:** The present study extends previous research (e.g., Sanz, 1995; VanPatten & Cadierno, 1993; VanPatten & Sanz, 1995) on the relative effects of two types of instruction (i.e., input processing and output processing) on the use of Spanish clitic pronouns. Thirty-three classroom learners of Spanish (third semester) were assigned to one of three instructional treatments: input practice, output practice, and no practice. Subjects performed three tasks: a comprehension test, a production test, and a written narrative of a 1-minute silent video. The results of a repeated measures ANOVA show that both experimental groups (input processing and output processing) significantly improved their scores compared to the control group on the comprehension test. The results of the production and narration task were not affected by experimental instruction. These findings contradict previous studies supporting the pedagogical value of input processing.

**Résumé:** Cette étude complète des recherches antérieures (p. ex. Sanz, 1995; VanPatten & Cadierno, 1993; VanPatten & Sanz, 1995) sur les effets relatifs de deux types d'instruction (c.-à-d. traitement d'entrée et traitement de sortie) dans l'emploi des pronoms objets en espagnol. Trente-trois étudiants d'espagnol (troisième semestre) ont été soumis à trois méthodes d'enseignement : exercices d'entrée, exercices de sortie, et contrôle. Les sujets ont effectué trois tâches : un test de compréhension, un test de production, et la narration écrite d'un vidéo muet d'une minute. Les résultats d'un test ANOVA (tests répétés) montrent que les deux groupes expérimentaux (traitement d'entrée et traitement de sortie) ont amélioré leurs scores par rapport au groupe de contrôle dans le test de compréhension. Les résultats des tests de production et de narration n'ont été affectés par aucun traitement. Ces résultats contrastent avec les études précédentes qui mettent en relief la valeur pédagogique de l'instruction basée sur le traitement d'entrée.

## Introduction

Input processing (IP) is defined by VanPatten and Cadierno as 'those strategies and mechanisms that promote form-meaning connections during comprehension' (1993, p. 226). According to VanPatten and Cadierno, form-meaning connections 'are involved in the conversion of input into intake' whereas intake constitutes the sort of grammatical information that may affect the developing L2 (second language) system of the learner. In IP pedagogical activities learners are not forced to produce any original language; consequently, students focus their attention on the target grammatical item and its associated meaning – irrespective of the communicative value of the grammatical item (Lee & VanPatten, 1995, p. 89–115). On the other hand, output-based practice (OP) – or traditional teaching – is assumed to be inconsequential for the development of the L2 grammar: 'while practice with output may help with fluency and accuracy in production, it is not responsible for getting the grammar into the learner's head' (Lee & VanPatten, p. 95).

In traditional teaching learners are allowed to produce language even though their L2 system may not correspond to the L2 grammar represented in the input data. Output practice is assumed to affect the *accessibility* of the interlanguage knowledge, or the *speed of delivery* of the developing L2 system. For example, Cadierno has explicitly argued that 'learners need to get output practice so that their abilities in accessing their developing system for fluent production can be developed' (1995, p. 191). In other words, production of the target language involves two processes: the rearrangement of linguistic elements which are already part of the interlanguage, and the increased fluency brought about by speeding up the delivery process. Paraphrasing this theoretical position in terms of the dichotomy espoused by Chomskyan theory, input processing creates competence and output processing creates performance. In fact, this is consistent with the explicit claim made by VanPatten and Cadierno (1993) with respect to the acquisition-learning distinction: Acquisition and learning are the accurate description of the cognitive process generated by input and output practice (parallelism with Schwartz' competence versus learned linguistic knowledge). I disagree with this position on both theoretical and empirical grounds. In the replication study reported here I will outline the major problems in IP instruction and I will present some data which support an alternative position.

## The comprehension approach

VanPatten and Cadierno minimize the role of output practice in com-

parison to 'the rather important role that *comprehensible input* plays in SLA' (p. 227, my italics). A general version of the Comprehension Approach establishes that the understanding of the language is what leads to acquisition of the L2: '... only listening and understanding are involved, *making learning easy and effortless*. Through this activity of listening, *new words and structures are absorbed* in preparation for production. It is the demand for immediate production that often *makes language learning distasteful and onerous*' (Winitz, 1981, p. 129, my italics).

Comprehension-based approaches argue that learners will be able to develop their L2 if they are allowed to listen (i.e., understand) to the L2 as opposed to engage in immediate production in the target language. In fact, Ellis (1993) claims that 'the problems of the structural syllabus directed at implicit knowledge can be overcome if the goal of the syllabus is to enable learners to comprehend rather than to produce the items within it' (p. 103). But, Ellis acknowledges that, even if 'input for comprehension is carefully planned and structured to ensure that the learner is systematically exposed to specific grammatical features' (p. 104), three basic learnability factors remain a serious threat to input- or output-based approaches alike. The constraints to be answered by pedagogical theories are: (a) little knowledge about developmental sequences, (b) difficulty in identifying developmental stages in learners' data, and (c) difficulties of teacher-centred programs to design syllabi that address the needs of all learners at the same time. In other words, comprehension-based approaches do not offer any special solution to these problems, nor can they avoid them. Another important feature of any comprehension-based approach is the necessary delay in language production. For example, Winitz (1981) states that 'it is generally believed by those who advocate the Comprehension Approach that conversational speech will develop *out of the need and desire to speak*, and after there is *sufficient understanding of the language*. Under normal circumstances of training it might occur *in three months to one year*' (p. xiv, my italics).<sup>1</sup>

However, the idea that long intervals of comprehension training allow students to have exposure to 'a broad range of linguistic structures not directly tied to a particular developmental level ...' (Winitz, 1981, p. 11) faces serious theoretical and empirical problems. In fact, even proponents of comprehension-based approaches have acknowledged the lack of a clear theoretical description of L2 development to guide the choice of the linguistic structures to be taught – or how to teach them. For instance, Ellis (1995) states that 'it will be very difficult to decide when a particular group of learners are ready to acquire a specific new form' (p. 95). Finally, it should be pointed out that the empirical base that underlies comprehension-based approaches does not include long-range studies to validate the above mentioned assumption. As mentioned

by several researchers, the few empirical studies which attempted to validate comprehension-based approaches did not include such follow-up tests (Winitz, p. xv; Ellis, p. 92). In the next section I will analyze one specific comprehension-based approach: input processing.

## Input Processing

### *Theoretical inadequacies*

As any other comprehension-based approach, the theoretical foundation of IP runs into a series of problems which have not yet been solved: (1.) The qualitative difference in the development of the L2 according to the type of instruction is unwarranted on theoretical grounds (i.e., input processing generates acquisition and traditional instruction generates learned linguistic knowledge); (2.) the theoretical distinction of the roles of input processing (acquisition of the L2) and output processing (access to the L2) is, as far as I can tell, an unfalsifiable claim; (3.) despite claims to the contrary (Lee and VanPatten, 1995) IP does not necessarily represent a learner-centred approach; (4.) there is no theoretical or empirical support for the *comprehension approach* (cf. Winitz, 1981) that underlies the concept of IP; (5.) the identification of linguistic structures to be taught (and how they are taught) is not specified in a principled way; (6.) the target grammatical forms chosen by some empirical studies validating IP may be learned through explicit knowledge.

1. VanPatten and Cadierno (1993) claim that there is a qualitative difference in the development of the L2 according to the type of instruction: Input processing leads to acquisition, whereas traditional instruction results in learned linguistic knowledge (p. 238). The results of VanPatten and Cadierno show that the 'input processing' groups, compared to the 'traditional practice' groups, obtained similar scores in the production task. However, the input processing groups were better on the comprehension task. In other words, the groups that received 'input processing' instruction made the best out of the training period showing improvement in both comprehension and production-based tasks. However, the fact that the 'traditional instruction' group showed improvement in their post-test scores in at least one task forces VanPatten and Cadierno to acknowledge that 'to perform a language task, one must have some kind of knowledge' (p. 238). Therefore, VanPatten and Cadierno claim that there must be two different types of knowledge triggered by the two experimental treatment conditions.

VanPatten and Cadierno explicitly argue that the outcome of their study constitutes confirmatory evidence for the learning-acquisition dis-



inction proposed by Krashen and supported by Schwartz (VanPatten and Cadierno 1993, p. 238): input processing leads to acquisition, whereas 'traditional instruction results in a different knowledge system.' The thrust of the theoretical argument on the acquisition-learning distinction is based on Schwartz (1986; 1993). VanPatten and Cadierno argue that 'explicit practice and negative evidence are not usable by the (language) module. Explicit practice and negative evidence can result in what she (Schwartz) calls learned linguistic knowledge ...' (1993, p. 238). The problem with the argument as it stands is that the 'input processing' group did receive negative evidence and explicit instruction as well (see description of instructional packet in VanPatten & Cadierno, 1993; Cadierno, 1995). Furthermore, it should be pointed out that the distinction made by Schwartz (1993) between linguistic competence and learned linguistic knowledge is based solely on the provision of negative evidence to the language learner; it is not based on input- or output-based instruction (including explicit instruction). Therefore, it is theoretically unwarranted to make a connection between Schwartz' original distinction and the results exemplified in the IP studies.

Furthermore, the theoretical distinction between input and output processing is not clearly spelled out except for the obvious trait of degrees of production in the L2. In fact, the alleged drawbacks of traditional teaching practice (i.e., the sequencing of grammar points and the use of a classification of language exercises according to learner control of responses) are not exclusive to the 'traditional teaching' treatment; they are also part of the guidelines for the development of input processing activities. For example, Lee and VanPatten (1995) argue that in IP instruction teachers should (a) present one thing at a time (sequencing), and (c) move from sentences to connected discourse (from mechanical to communicative language, p. 104). Hence, proponents of a theoretical distinction between IP and production-based approaches need to identify the inherent and identifying features of IP which are not instantiated in the so-called traditional approach.

2. The qualitative distinction of the cognitive processes generated by input processing and output practice may be unfalsifiable (i.e., acquisition of the L2 system versus access to it). What empirical evidence will be able to differentiate these two processes? For example, if a student's progress in morphosyntactic development of the L2 shows 'a series of ups and downs,' do we assume that the learner is still developing the L2?; or, ... do we assume that they have already developed the target language but that they have problems accessing the underlying system? The fact that we can empirically distinguish the processing of attention to form in comprehension and production of the L2 (in behavioral terms)

is simply begging the question of what underlies such an empirical distinction – if indeed there is one (see section on methodological problems). In this respect, the studies which support IP do not provide any operational tests which would guide researchers to make a principled distinction between input and output processing and their proposed theoretical substratum (L2 development' or L2 access). Such an operational test would be absolutely necessary to be able to classify instances of development or access to the system as in the hypothetical example presented above. Without such a test the enterprise of distinguishing development of the L2 and access to it becomes theoretically vacuous.<sup>2</sup>

3. The distinction between output and input processing instruction is not necessarily correlated with the notion of a learner-centred syllabus. For instance Lee and VanPatten (1995) argue that 'traditional grammar practice is largely mechanical, with the focus exclusively on using a grammatical feature to produce some sort of utterance' (p. 93). This type of statement will lead Lee and VanPatten to an unnecessary confounding of their hypothesis: The distinction between output and input processing is correlated with the distinction between mechanical and communicative methodologies of teaching. In fact, IP may also represent a teacher-centred approach because IP instruction '*sets up opportunities for learners to make better form-meaning connections in the input than they would if left to their own devices*' (Lee & VanPatten, p. 270, my italics).<sup>3</sup>

4. VanPatten and Cadierno emphasize the rather important role that comprehensible input plays in SLA (Second Language Acquisition) (p. 227). However, as argued in the previous section, there is no theoretical or empirical support for the comprehension approach that underlies the concept of input processing (Winitz, 1981, p. xv; Ellis, 1995, p. 92). In particular, there is no rationale that substantiates the claim that avoiding spontaneous production of the L2 (concentrating primarily on comprehension activities) will increase the chances of development of the target language. In fact, in some cases, the opposite may be true (cf., Swain, 1985; Swain & Lapkin, 1995).

5. Connected to the previous argument, the identification of developmental stages in L2 acquisition is not an accurate process. Hence, the identification of linguistic structures to be taught (and how they are taught) represents a problem (see previous section). Furthermore, not all language learners may be at the same stage of development of their L2 at any given time.

6. The target grammatical forms chosen by the empirical studies upholding IP may be learned through explicit knowledge. For example, Ellis claims that the type of grammatical structure investigated by VanPatten and Cadierno 'allowed for the use of explicit L2 knowledge

through monitoring. VanPatten and Cadierno's (1993) claim that comprehension-based instruction results in implicit L2 knowledge is speculative' (1995, p. 93–94). Similarly, Nagata (1996) argues that the effectiveness of production-based learning may well depend on the complexity of the target structure as well. Nagata presents data from students learning the Japanese honorific system which contradicts the findings of the IP studies. Furthermore, one of the few IP studies addressing more complex structures such as the use of aspect in past tense Spanish (i.e., Cadierno, 1995) has been limited to the analysis of one single aspectual marker (i.e., preterite); thereby eliminating the natural complexity of the aspectual choice between imperfect and preterite in L2 Spanish among English speakers (see Salaberry, in press).

#### *Methodological problems*

The methodological problem of the research design of the studies supporting IP is that their results show interaction effects between their proposed treatment variable – input or output practice – and one or more intervening factors. Input and output practice may generate changes in the interlanguage under development depending on the effect of various other conditions that influence learning: individual variation, affective conditions, use of learning strategies, appropriate use of tasks according to level of proficiency of the students, and so forth (e.g., Spolsky, 1989; Schmidt, 1990). Hence, the type of pedagogical practice performed in the L2 (input- or output-based) may not be the only, or ultimate, causal variable in the development of the target language. Therefore, if the experimental design fails to adequately control these factors, the results of such studies should be analyzed with caution.<sup>4</sup>

If we assume that both input processing and traditional practice lead to explicit knowledge of the L2 (or learned linguistic knowledge according to Schwartz), how do we explain that in the IP studies one group (input processing) was categorically better than the other one on the comprehension task, while achieving similar scores on the production task? If both groups received comparable types of instruction, as argued in the previous section (in terms of the provision of explicit rules and negative evidence in both conditions), one should be able to account for the results obtained by VanPatten and Cadierno. The answer is that the treatment groups, as defined by VanPatten and Cadierno (1993) and Cadierno (1995), differ in factors other than the proposed difference of output versus input practice. Therefore, that factor invalidates any categorical conclusion in favour of the 'input processing' group in terms of input versus output practice. The confounding factors in the experimental

design of the above mentioned studies may be as follows: (a) The focus on meaningful processing of L2 forms during instruction differs for each experimental group (in favour of input processing), and (b) the sequence of presentation of the grammatical items under study is different (sequential for input processing and paradigmatic for output processing).

For example, in Cadierno 1995 the input processing group received instruction following a non-paradigmatic presentation of past tense verbal morphology in Spanish, and meaning was always maintained in focus (p. 184). It is clear that one cannot claim that the different results of the scores on the dependent variable can be solely attributed to the type of practice (input processing versus traditional) when, in fact, the treatment groups differ in more than one respect. How could anyone be sure that the difference in scores is not brought about by a greater emphasis on meaning, or the sequential presentation of past tense verbal morphology of the target language (IP group)? In other words, it is not possible to claim that only one of the various factors defining the treatment groups (explicitly or implicitly) is solely responsible for the disparity in the result between experimental conditions: The differential outcome could be the result of any single factor in isolation, or even a combination of those factors. Cadierno acknowledges the conspicuous problem of the research design when she mentions that an anonymous reviewer actually pointed out the potential confounding effect of one of the deficiencies: focus on meaning/communication. The anonymous reviewer suggests that 'the treatments not only differed as to whether they were receptive or productive, but also as to whether the activities present in the instructional materials were meaningful and/or communicative' (p. 190). Cadierno responds that 'this variation as to the types of activities is a direct reflection of what is commonly presented in Spanish textbooks.' (p. 190) While Cadierno's argument may be accurate in the characterization of traditional teaching practice, it does not invalidate the reviewer's point that the differences that Cadierno found between treatment groups (input processing and traditional teaching) may be due to a combination of factors other than input or output practice alone.

#### **Replication Study: Test of Hypotheses**

##### *Hypotheses*

Given the theoretical and methodological problems mentioned above, the present investigation was intended to analyze the previously mentioned advantages of IP instruction. Three hypotheses guided this study:

- H1: The groups receiving instruction will perform better (improvement from pre- to post-test) than the no instruction group (control).
- H2: The effects of input processing instruction will be similar to the effects of output processing instruction on all tasks.
- H3: The effects of instruction will vary from task to task according to the different degrees of monitoring of the target language form in each condition (style-shifting continuum from vernacular to controlled production: Tarone, 1988). The pedagogical effect will be more salient in highly monitored tasks for both groups: comprehension > production > narration (from highest effect to lowest effect).

### Subjects

A total of 65 students taking courses in L2 Spanish at Cornell University participated in the study. The native language of all participating students was English. The students were enrolled in a third-semester Spanish course which was divided into six different sections. All sections attended one hour of weekly lecture taught by the coordinator of the course, and each section met individually four times a week (a total of five hours of instruction per week). All sections used the textbook *Continuemos*. The experiment was conducted during the first half of the spring academic semester. The data from 33 students were considered for the pre-test, post-test analysis, and a total of 26 students were considered for the analysis of pre-test, post-test, follow-up sequence.<sup>5</sup> The analysis of the results of the language background questionnaire did not reveal any significant differences among groups with respect to their degree of exposure to the target language in school or family settings or travel in Spanish-speaking countries (see Appendix A). There was a comparison group of native speakers (eight subjects) which was particularly important for the analysis of the narration task. Native speakers provided the standard of use of the target grammatical item.

### Materials and Testing Procedure

The research design of the present study followed closely that used by VanPatten and Cadierno (1993) and Sanz (1994).<sup>6</sup> The selected grammatical form chosen for this study was the same one used in the above mentioned studies: Spanish direct object clitics. Clitic pronouns in Spanish may appear in preverbal position with finite verbs as in 1 (OVS), or la (SOV). However, Spanish does not allow the same order of constitu-

ents exemplified in English as in 2 (SVO). This particular discrepancy between English and Spanish word order is assumed to generate learnability problems to English speakers.

1. Lo abraza la mujer
- 1a. La mujer lo abraza
2. \* La mujer abraza lo.  
*The woman hugs him.*

As in previous studies, the dependent variable was measured across three different tasks: a comprehension test, a production test, and a free narration (in five minutes) of a one-minute silent video clip. Three treatment conditions were identified for the present replication study: input processing, output processing and a control group. The two experimental treatment groups (input and output processing) received instruction on the use of object clitics in Spanish during one and a half hours of regularly scheduled class hours (previous studies have used between one and a half and two hours of instruction). The control group received no instruction on the use of object pronouns in Spanish.

The *instructional packet* used with the input processing group followed closely the guidelines of Lee and VanPatten (1995) for the design of input-based activities (see Appendices B and C). The instructional packet for the output processing group was the same one used for the input processing group with the necessary alterations to generate open production of the L2 instead of relying on input processing. In this way, it was ascertained that the language content of the exercises would be the same for both treatment conditions. Both instructional packets included a brief introduction to the topic which maintained the basic format of the distinction between input and output processing. The control group did not receive any instructional packet; instead, instructors continued their normal teaching with the activities they had planned. The *testing packet* was the same for all groups; however, its administration was counterbalanced within each group to avoid any possible effects due to test-specific factors (see Appendix A). That is to say, each treatment group received both testing packets: Packet A was assigned to one section and B to the other. For the post-test, each section received a packet different from the one received for the pre-test. No differences were found between scores in one test compared with the other.

As mentioned above, the population of subjects was represented by all the college students taking SPA 123 (third semester) during the spring semester (1996) at Cornell University (a total of six sections). These sections were taught by three different instructors who were assigned to



TABLE 1  
Assignment of experimental conditions to SPA 123 sections

	Input Proc.	Output Proc.	Control
Teacher A (9 AM, 11 AM)	X		X
Teacher B (9 AM, 10 AM)		X	X
Teacher C (1 PM, 2 PM)	X	X	

two sections each as part of regular administrative procedures of the Department of Modern Languages. The treatment groups were randomly assigned to the teachers so that each instructor would be placed under two different treatment conditions (Table 1). In this way, it was possible to avoid any extraneous effects generated by different teaching styles or techniques.

The subjects were tested during regular class time by the experimenter. The study was conducted in three stages. During the first session the students took the pre-test (comprehension and production tests and the narration task) and they completed a short questionnaire about their previous knowledge of Spanish. Immediately after the test the students received 1.5 hours of instruction according to the experimental treatment assigned to their respective groups. Following the instructional period, the students received the first post-test (all three tasks). A month after the post-test, the students were given the follow-up test. Due to the fact that the comprehension test was the only test which revealed any statistically significant differences in scores from pre- to post-test, the follow-up test included only the comprehension part. Native speakers were tested only once.

#### Scoring procedure

The analysis of the comprehension test was straightforward: Only one answer was correct among the four options available for each one of the target items (see Appendix A). For the analysis of the production test, four types of mistakes were identified and each occurrence was assigned a negative point:

1. absence of object pronoun (e.g., *Tomo el reloj y (yo) e pongo en el bolsillo*)
2. use of subject pronoun (e.g., *Tomo el reloj y él pongo en el bolsillo*)
3. wrong object pronoun (e.g., *Tomo el reloj y la pongo en el bolsillo*)
4. use of object pronoun follows English collocation rules (e.g., *Tomo el reloj y pongolo en el bolsillo*).

For the analysis of the narration task, a scoring procedure similar to

the one implemented with the production test was followed with the addition of one type of mistake in the narration which was non-existent in the production task (type 5).

1. absence of object pronoun (e.g., *Tomo el reloj y (yo) e pongo en el bolsillo*)
2. use of subject pronoun (e.g., *Tomo el reloj y él pongo en el bolsillo*)
3. wrong object pronoun (e.g., *Tomo el reloj y la pongo en el bolsillo*)
4. use of object pronoun follows English collocation rules (e.g., *Tomo el reloj y pongolo en el bolsillo*).
5. use of NP instead of direct object (e.g., *Tomo el reloj y pongo el reloj en el bolsillo*)

#### Results

The raw scores of the dependent variable (pre- and post-test) were investigated with a repeated measures Analysis of Variance (ANOVA). The results of each test will be presented separately.

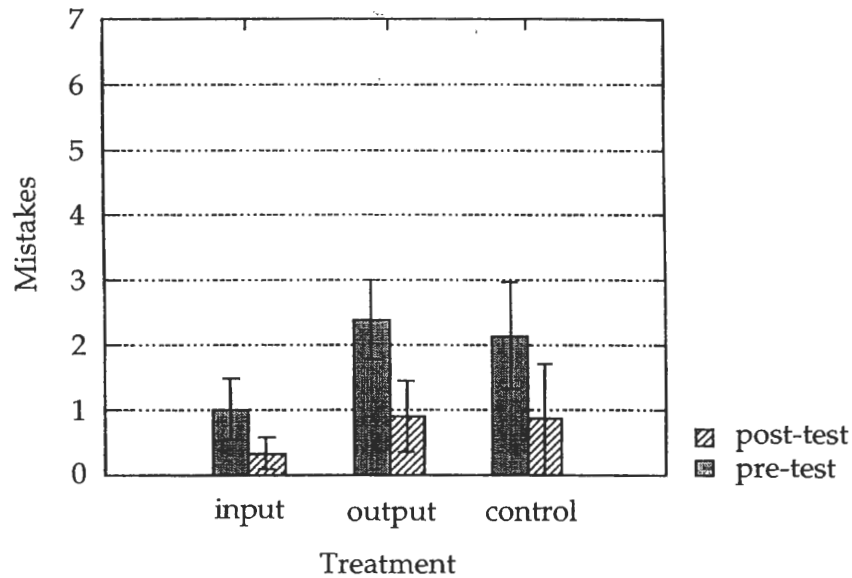
#### Production test

The analysis of pre- and post-test comparisons (repeated measures ANOVA) shows that there are no statistically significant differences in the production task:  $df = 2$ ,  $F = 0.992$ ,  $p = 0.386$  (see Figure 1). The treatment groups in both tasks do not show any difference with the control groups: Experimental instruction does not seem to have an effect on the outcome for those tests. Arguably, it is possible that this task does not pose major difficulties for these students. Since the object pronoun is overtly instantiated in the L1 (English), it is expected that students will keep some kind of pronoun marker in L2 Spanish as well.<sup>7</sup> A follow-up pilot study (Salaberry, 1996a) conducted with students of a lower level course (second semester college level Spanish) showed statistically significant differences between the control and both experimental groups: Input and output processing had an instructional effect.<sup>8</sup>

#### Narration test

Similarly to the production task, the results of the narration test (repeated measures ANOVA) do not show any statistically significant differences:  $df = 2$ ,  $F = 1.232$ ,  $p = 0.310$  (Figure 2). Most importantly, notice that the number of tokens of direct object pronouns in the narrative is quite low. However, it should be pointed out that the native speakers who acted as

FIGURE 1  
Results for pre- and post- scores in the production test (vertical lines indicate SD)



comparison do not seem to produce a great number of tokens of object clitic pronouns either (Appendix D). The most important finding from the analysis of the narration test is that several learners who showed clear improvement from pre- to post-test (and maintained in the follow-up) on the comprehension test do not show any noticeable improvement in the narration task (compare results of comprehension task with narrative samples in Appendix D). This type of discrepancy seems to show that the effects of instruction (both input- and output-based) may not influence the L2 grammatical system to the extent that instruction in one task (monitored use of L2 grammar) will not transfer to another less controlled task (narration). Notice that the procedure used in Sanz (1994) is conducive to high degrees of monitoring (e.g., video shown twice, number of events making up the story is mentioned in the instructions, etc.).

#### Comprehension test

The results of the comprehension task are the only ones which produced statistically significant differences. The mean scores and standard deviations for each experimental cell on the pre- and post-tests, as well as

FIGURE 2  
Results for pre- and post-scores on the narrative task (vertical lines indicate SD)

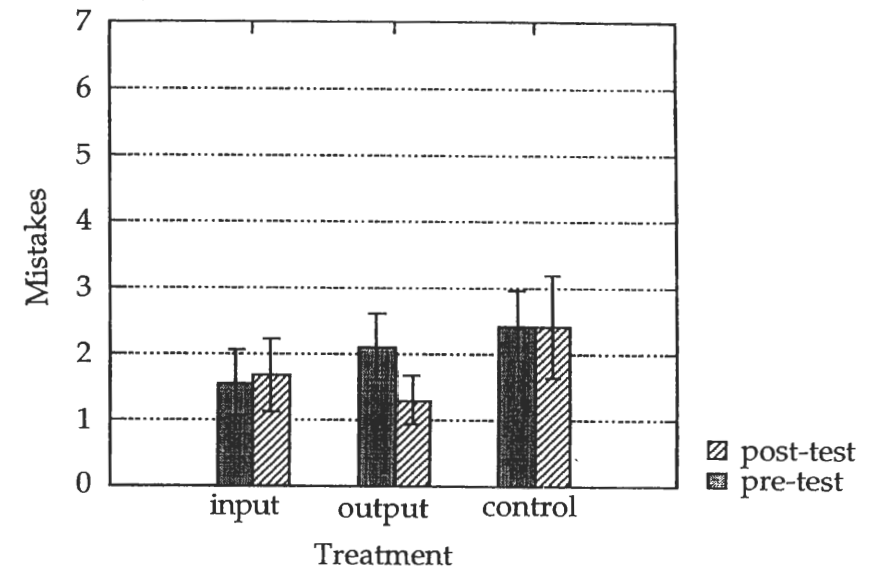


TABLE 2  
Summary of descriptive statistics for the comprehension test (number of mistakes)

	Pre-test	Post-test	Follow-up
<i>Input Processing</i>			
Mean	6.222	0.889	1.444
SD	1.986	1.616	1.878
N	9	9	9
<i>Output Processing</i>			
Mean	6.800	1.700	2.100
SD	2.348	2.541	2.283
N	10	10	10
<i>Control</i>			
Mean	5.429	5.429	4.857
SD	1.397	2.573	2.545
N	7	7	7

the sample size for each cell, are presented in Table 2. The variation in scores from pre- to post-test is presented in graphical form in Figure 3.

The comparison of the mean scores (ANOVA) for the pre-test did not present any statistically significant differences among groups:  $p = 0.398$ . Therefore, the randomization of treatment produced three experimental

FIGURE 3  
Results for pre- and post- scores in the comprehension test

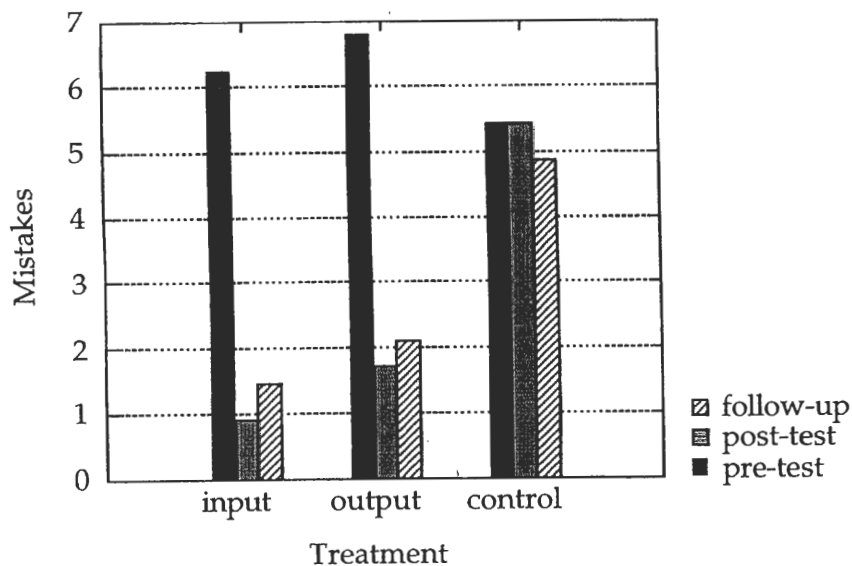


TABLE 3  
Results of repeated measures ANOVA: Comprehension test

Source	SS	DF	MS	F	p-value
<i>Between subjects</i>					
Treatment	69.688	2	34.844	5.249	0.013
Error	152.684	23	6.638		
<i>Within subjects</i>					
Comprehension	197.747	2	98.874	26.310	0.000
Comp x Treatm.	77.875	4	19.469	5.181	0.002
Error	172.869	46	3.758		

groups without significant differences. The results of the repeated measures ANOVA is presented in Table 3.

The analysis of the data of all tests presents one between-subject variable (treatment) and one within-subject variable (test). For the between-subject factors, the results of the ANOVA with repeated measures revealed a statistically significant difference for treatment ( $df = 2, F = 5.249, p = 0.013$ ). A post hoc analysis (Tukey) showed that the differences in scores for treatments 1 (IP) and 3 (control) are statistically significant in both the post-test ( $p = 0.002$ ) and the follow-up test ( $p = 0.015$ ). Similarly, the differences in scores for treatments 2 (output) and 3 (control)

are significant in both the post-test ( $p = 0.008$ ) and the follow-up test ( $p = 0.040$ ). However, comparison of the scores of experimental conditions 1 and 2 does not reach statistical significance in either the post-test ( $p = 0.721$ ), or the follow-up test ( $p = 0.799$ ). On the other hand, the within-subject factor shows a significant main effect for test ( $df = 2, F = 26.130, p = 0.000$ ), and – most important – significant interaction effects between treatment and test ( $df = 4, F = 5.181, p = 0.002$ ). In short, the within-subjects test reveals that students in both input and output processing groups improved their scores from pre- to post-test and that they maintained their advantage over the control group during the follow-up test a month later.

### Discussion

The results of the present replication study offer clear support for hypotheses 1 and 2 (for the comprehension test).<sup>9</sup> The repeated measures ANOVA shows that both experimental groups (input processing and output processing) significantly improved their scores compared to the control group (statistical significance at 0.013 level). Hypothesis 3 cannot be categorically confirmed because neither the production nor the narration task showed any statistically significant differences between treatment and control conditions. These results make it difficult to analyze the validity of the continuum depicted by hypothesis 3 (degrees of monitoring). However, an analysis of the actual narratives and the comprehension test scores shows that the effects of instruction do differ from task to task: students who showed categorical improvement in the comprehension test did not show any noticeable improvement in their use of the target grammatical item in the narration task (Appendix D). Hence, I argue that these results show some preliminary support to hypothesis 3 as well.

Many SLA researchers have argued that comprehension and production of the L2 are guided by different processes (e.g., Bley-Vroman, 1991; Swain, 1985; White, 1991). However, when researchers have made a distinction between comprehension and production of the L2 it is not so evident that comprehension processes lead to L2 development any more than production exercises. For instance, White argues that processing input and processing output are not the same: 'the speaker must choose his words, not ... identify them; and he must also plan the syntactic structure of his sentence, not ... recover the structure implicit in a string of sounds and words' (Mathei and Roeper, 1983 as quoted in White, p. 169). Similarly, Cziko (as quoted in Swain) argues that comprehension of the target language is based on a 'fuzzy, open, non-deterministic sys-

tem' whereas production is based on a 'closed logical system' (p. 252). Most notably, Krashen (1982) argues that it is possible that students do not perform a syntactic parsing of the L2 in understanding, but that they 'get the message with a combination of vocabulary, or lexical information plus extra-linguistic information' (p. 66). Concomitantly, from a UG (Universal Grammar) perspective, comprehension-based processes seem to be the weakest component to promote L2 development. For example, Bley-Vroman argues that in comprehension L2 learners may be able to relax syntactic constraints not exemplified in the L1, and still be able to process the target language – even though the target syntactic construction may not be part of the basic L2 grammatical system. The learner thus concentrates only on certain basic universal language principles like the theta criterion: 'one merely identifies a predicate and hunts for NPs which could satisfy its theta requirements' (p. 193). The importance of Bley-Vroman's argument highlights the discrimination between input to the comprehension system (linguistic and non-linguistic knowledge) and input to the language acquisition device.

On the other hand, L2 learners who have not yet developed a complete grammar of the target language may still interact with proficient speakers of the L2. In doing so, the learner may find 'good communicatively functional reasons to want to go beyond the constraints of that (underdeveloped) grammar' (Bley-Vroman, 1991, p. 196). Along the same lines, Swain (1985) has suggested that the need to 'produce' language may help learners 'move from the semantic processing prevalent in comprehension to the syntactic processing needed for production' (p. 375). Arguably, this qualitative change (semantic to syntactic processing) pushes learners to notice 'the gap' between their interlanguage and the L2 (e.g., Schmidt, 1990). This situation may constitute the major factor that helps students move from one stage of language development to another. Hence, I believe that the alleged benefits of interpretation tasks (Ellis), or IP, may be obtained with the type of pushed output favoured by Swain as well.<sup>10</sup>

In fact, the theoretical rationale that supports the belief that output processing generates as much – if not more – development of the L2 has been around for several decades. For example, two major findings of the literature in cognitive psychology seem to have a definite bearing on this issue: the notions of elaborated processing and the concept of idiosyncratic learning paths. For instance, Bobrow and Bower (1969) conducted a study in which subjects had to memorize S(V)O sentences. There were two different treatment conditions. In one situation (a) subjects were provided with the complete sentence by the researchers; in the other one (b) subjects were given the subject and the object and they generated

their own sentences (suppliance of a verb to connect the two nouns). Bobrow and Bower tested the subjects' memory of the second noun only (the object) by prompting them with the subject of the sentence. In condition (a) subjects recalled 29% of the target items; in condition (b) they remembered 58% of the items.<sup>11</sup> These results show that the extra mental effort at generating sentences forced subjects to pay more attention to the target items and their relationship (depth of processing).<sup>12</sup> On the other hand Anderson (1990) notices that other experiments have shown that elaborations of the material to be remembered carefully engineered by researchers can also lead to similar levels of retention. However, Anderson claims that 'subject generated elaborations are quite effective because these elaborations reflect the *idiosyncratic constraints of the particular subjects' knowledge*' (p. 185, my italics).<sup>13</sup>

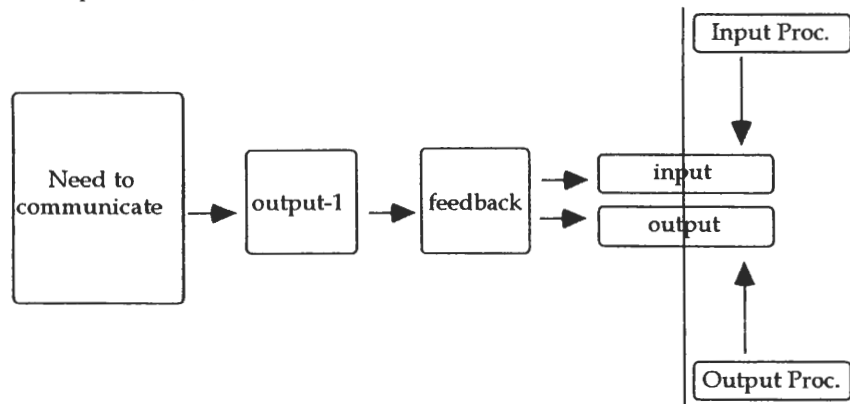
The most important tenet underlying the use of IP activities in the L2 classroom is that learners will be able to 'see' the connection of meaning and form in the target language (VanPatten & Cadierno, pp. 226–7). However, I believe that the theoretical argument of IP does not adequately represent the above mentioned connection between L2 meaning and form. Alternatively, I propose that a distinction be made between form-meaning connections and meaning-form connections. Figure 4 depicts the distinctive nature of each process: meaning-form connections are represented on the left-hand side, and form-meaning connections on the right-hand side.

The distinction between these two processes could be made along the lines of a loosely defined dimension of communicative intention and effort. The meaning-form connections are created when the learner is trying to engage in communicative interaction with speakers of the target language (native or non-native speakers): There is a genuine attempt to communicate using the L2 (a non-native linguistic system). This process forces the learner to make meaning connections to form (left-hand side of Figure 4). The most important feature of this process is that communication is the goal, and linguistic form is the tool used to reach the goal (hence, meaning is placed before form in the definition). Natural learning environments are archetypal representatives of this type of learning (for example, 'total immersion' in the target language). Under these conditions, the active search for meaning-form connections in the L2 constitutes the overriding force that guides the development of the interlanguage system.<sup>14</sup>

On the other hand, *most* classroom situations represent the environment in which the learner creates form-meaning connections: Linguistic form is the goal, and communication is the activity that serves that objective (right-hand side of Figure 4). The inherent nature of academic

FIGURE 4

The roles of input and output processing in L2 development (adapted from Swain and Lapkin, 1995)



instruction determines that the goal of classroom activities not be communication per se. In those circumstances, the actual goal – be it overt or covert – is to practice the L2 in order to learn ‘how to use it’ (one would say for the sake of doing language practice). Incidentally, I should point out that I do not want to make a qualitative distinction between the type of learning generated by natural or academic environments as has been argued by Schwartz (1993) or VanPatten and Cadierno (1993). I am arguing, however, that the need to engage in meaningful interaction – *more likely* to occur in natural settings and *less likely* so in academic settings – will lead the learner to engage in a more active processing of the connection of L2 meaning and grammatical form. Hence, *the distinction* between input and output processing is not consequential for language development, because *both processes* are involved in the development of form-meaning connections.<sup>15</sup> In fact, other researchers have made similar arguments with respect to the importance of form following meaning and not vice versa. For instance, Bialystok (1990) argues that ‘communication strategies ... reflect the ways in which the processing system extends and adapts itself to the demands of communication. *Sometimes traces are left as the system strains to achieve the balance between intention and expression*’ (p. 131, my italics).<sup>16</sup> In this respect, the apparent gap in improvement in the comprehension and narration tasks of the present study warrants further theoretical and empirical research.

### Conclusion

The search for comprehensive accounts of the L2 acquisition process –

and correlated pedagogical implications such as the notions of ‘comprehensible input’ or ‘input processing’ – may generate a fair degree of enthusiasm in practitioners. However, the enthusiastic support of incomplete accounts of L2 acquisition may also generate a yet heightened sense of frustration towards any methodological approach offered by SLA research to L2 teachers. Granted, no approach is completely ‘off track.’ Hence, no one would deny that a learner would not be able to develop the L2 without access to some type of input, or without producing some type of language. However, the reductionist temptation to subsume all the inherent complexity of the process of SLA in a simple behaviouristic model, which does not take into account the complexity of human communication and learning, is not likely to be successful. In this paper I have attempted to show that input processing is not an adequate comprehensive pedagogical model as it has been claimed (e.g., Lee & VanPatten, 1995). In contrast, I have argued that the development of SLA occurs mainly on a personal basis (meaning-form connections).<sup>17</sup> It is apparent that very important pedagogical consequences follow such a theoretical position – and administrative ones as well. For example, if individualized instruction is likely to enhance L2 development, classroom teaching in-mass is not the only pedagogical choice.<sup>18</sup> In fact, notice that the apparent differences between previous studies of IP and the one reported in this paper (third semester Spanish) may also be related to the number of students per class. Previous studies favouring IP instruction analyzed groups with an average of 25 students, whereas this study was based on groups of an average of 10 students.<sup>19</sup> In sum, it is doubtful that the qualitative distinction between input processing (development of the L2 system) and output processing (access to the L2 system) can be maintained as the basis of the theoretical or pedagogical approaches to L2 grammar development (e.g., Lee & VanPatten; VanPatten & Cadierno, 1993).

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### Notes

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1. Even though some learners may not be willing to produce language at the beginning stages, it is not necessarily true that all adult learners would fit this profile, nor that they will take so long to produce their few words. In fact, if anything separates child versus adult learners it is the fact that adults are already accustomed to communicating in their native language and they are eager to do the same in their L2 as well. Asking adult students to remain in silence until they can develop their L2 may be unrealistic at best, or even detrimental to learning if early production of the L2 helps them refine their target language as argued by Swain (1985). In sum, the undue over-generalization of the lack of desire to speak in some learners to all L2 learners seems to invalidate any theoretical corollary of such an overarching claim. The alternative option – to acknowledge the fact that individual differences will make some learners willing to 'produce in the L2' and others less eager to participate at the beginning stages – makes an even stronger case for the argument of individualized instruction (see discussion section).
2. Previous researchers have made a distinction between forced production practice and spontaneous production (Winitz, 1981, p. 9). The problem is that – unless one can provide a clear identification of what is spontaneous and what is not (and how this condition may affect acquisition) – the goal of the comprehension approach or input processing is not very appealing.
3. This is also connected to the issue of how we define mechanical, meaningful and communicative exercises (Paulston, 1972). In a more informal way, classroom language practice may be better defined in the following terms: 'what you don't say, what you say, and what you wanna say' (see discussion section).
4. On the other hand, it should be pointed out that there is a limited number of published studies upholding the pedagogical value of input processing: Cadierno, 1995; Sanz, 1994; VanPatten & Cadierno, 1993; VanPatten & Sanz, 1995.
5. The results from several students who participated in the pre-test were not considered in the final analysis because their pre-test scores were higher than the pre-established maximum score. Establishing a maximum qualifying score in the pre-test was necessary to ensure that students

- would show a discernible degree of improvement from pre- to post-test with the administration of less than two hours of instruction. A combined score of six mistakes (maximum of 10 for comprehension and production) in all three tasks was required to include any student in the pre- post-test comparison. As it turned out, the majority of the mistakes occurred in the comprehension test. Hence, for all practical purposes, the number of mistakes reflects the outcome of the comprehension test only (see analysis of data).
6. Reliance on two sources was necessary because one of the studies does not include a narration task (VanPatten and Cadierno, 1993), and the other one does not include a comparison of input- and output-based treatments (Sanz, 1994).
  7. In this respect, it is important to mention that mistake type (5) from the narration task (use of NP instead of direct object pronoun) never occurred in the production task of any student. This shows that this type of test may constitute an inherently guided task which generates a great deal of monitoring.
  8. The results of the comprehension test are similar to the results of the present study.
  9. Notice also that only the input processing group was specifically trained on the type of exercise exemplified in the comprehension test (compare instructional packets: Appendices B and C). In spite of that disadvantage the scores of the output processing group were comparable to the ones of the input processing group.
  10. Furthermore, Gregg argues that 'output could be available as input; ... if output is available as input, and if Monitoring can increase the incidence of correct utterances of a given structure, then it would seem that *output is being used to further acquisition*' (1984, p. 87–88, my italics). Similarly, Schmidt and Frota claim that several features of their data (acquisition of L2 Portuguese) may be explained by the autoinput hypothesis: the learner's own output is a significant part of his/her input (1986, 316–19).
  11. Notice that subjects had to 'produce language' by generating a verb without being aware that they would be tested on the object noun only.
  12. Zinchenko (1979) presents similar empirical data.
  13. In fact, according to Anderson (1990) the role of feedback and the effectiveness of private human tutors compared to machine tutors is a reflection of that condition of learning: Human tutors are better tuned to the needs of the students (they are more adept at recognizing what type of feedback to give, how much, when, etc.). Aljaafreh and Lantolf (1994) constitutes an analysis of the conditions and effects of private tutoring in SLA from a Vygotskian perspective. They argue that feedback is other-regulation in the zone of proximal development (ZPD): prospective

development. To be effective, feedback should be *graduated* (estimate the minimum level of guidance), and *contingent* (offer assistance only when is needed and withdraw it when the learner shows signs of self-control). This approach assigns the learner a major role in negotiating his/her own development since the whole teaching enterprise is dependent on the adequate assessment of the specific interaction between expert and novice in the ZPD.

14. Zinchenko argues that 'material connected with the goal of an action is recalled more effectively than the same material when it is connected with the means of an action' (1979, p. 309).
15. On the other hand, Ellis (personal communication) points out that grammar teaching has traditionally neglected interpretation tasks in favour of production tasks, even though both approaches seem to have an instructional effect.
16. Other researchers have made a similar argument (e.g., Johnson, 1995; Lantolf, 1995). For instance, Johnson argues that 'the optimal conditions for classroom learning and second language acquisition stress the importance of students having the need and desire to communicate. Such investment comes from opportunities to initiate, to control the topic of discussion, and to self-select when to participate' (1995, p. 100).
17. That is why individual differences and motivation, even though elusive research targets, seem to have so much bearing on the process of L2 development (e.g., VanLier, 1996).
18. In contrast, several other options stand out as feasible pedagogical goals: small class groups (e.g., Johnson, 1995), a combination of beginning and advanced learners in the same group, a principled application of technological resources such as computer mediated interaction (e.g., Salaberry, 1996b), and even one-on-one tutoring (e.g., Anderson, 1990; Hiemstra & Sisco, 1990).
19. Of course, this contention is speculative at this point. However, the difference is quite striking and should be further studied, if anything because of the tremendous impact it may have on administrative decisions on how many students should be assigned to each class as a matter of financial as well as psycholinguistic and educational concerns.

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## Appendix A

### Test Packet A (Video first)

Last four digits of Social Security Number or Student ID: \_ \_ \_ \_

#### QUESTIONNAIRE: Background in Spanish

1. Academic experience with Spanish (*please, count present semester as 1*).

High School (in years):            1        2        3        4        5

College (in semesters):           1        2        3        4        5

2. Have you ever traveled in a Spanish-speaking country?

Countries:

Length of time:

Use of Spanish (hours/day):    0        1–2        3–5        6 or more

3. Did you have regular contact with Spanish while you were growing up?

(a) all the time    (b) at home        (c) at school        (d) never

4. How many hours (average per week) do you devote to studying Spanish? Please, circle one:

0–2            3–5            6–8    9 or more

5. On a scale from 1 to 5 (lowest to highest), how do you rate your proficiency in Spanish?

(Low) 1    2    3    4    5    (High)

6. Do you use Spanish outside of class? Please specify (e.g. friends, family, associations, etc.)

PART I (6 minutes):

You will watch a silent video clip (1 minute). The video will be shown only once. After watching the video, please write a complete narration of the story. Try not to forget any action because another student from a 123 section will read your description and decide which video clip is being described.

Use the back of this page to write the story. If you have any questions, please ask them now.

## PART II (5 minutes):

Please complete the following sentences in Spanish with the information in parentheses.

*Cuando viajo a Buenos Aires sigo una rutina muy especial para evitar problemas con los robos de maletas.*

to hide = esconder	to tie = atar	seguro = insurance
to leave = dejar	scale = balanza	cinta roja = red ribbon
to stick = pegar	pocket = bolsillo	mostrador = counter
boletos = tickets	valija = suitcase	

Compro los boletos \_\_\_\_\_ (and I hide them in my desk). Luego compro un seguro por pérdida de valijas y \_\_\_\_\_ (I leave it in the bank). Cuando preparo la valija, escribo mi nombre, dirección y número de teléfono en una tarjeta grande y \_\_\_\_\_ (I stick it on my suitcase). Cuando llego al aeropuerto compro una cinta roja y \_\_\_\_\_ (I tie it to my suitcase). \_\_\_\_\_ (I don't speak) con nadie. Luego cargo mis valijas hasta el mostrador y \_\_\_\_\_ (I put them on the scale). Primero \_\_\_\_\_ (I give my tickets to the agent) y luego muestro mi pasaporte. Finalmente, tomo los boletos y el pasaporte \_\_\_\_\_ (and I put them back in my pocket).

## PART III (5 minutes):

Please read the following dialogue and circle the correct option for the words in parentheses.

Pablo e Irina son dos amigos que están viajando en avión a Buenos Aires (Argentina). Los dos conversan en el avión.

Irina: ¿Tienes la dirección del hotel?

Pablo: Sí, (yo/ella/lo/la) tengo aquí.

I: Oye Pablo ¿conoces a la tía Rita?

P: (Yo/Ella/Lo/La) conozco muy bien. (Yo/Ella/Lo/La) ví por primera vez en 1986 durante una gran fiesta en Nueva York. (Es/Está/Estás/Estando) una persona muy famosa. ¿(Yo/Ella/Lo/La) vas a llamar?

I: Mi padre trató de hablar con ella ayer, pero está siempre muy ocupada.

Minutos más tarde Irina duerme, pero Pablo permanece despierto. Pablo se siente observado y mira hacia su costado. En ese momento, una señora de unos 50 años que (es/está/estás/están) sentada en el asiento de enfrente observa a Pablo con mucha atención. Pablo se da cuenta, (él/ella/lo/la) mira fijamente a los ojos y entonces (él/ella/lo/la) reconoce. ¡(Es/Está/Estás/Estando) la tía Rita! De inmediato (él/ella/lo/la) llama, (él/ella/lo/la) saluda y (él/ella/lo/la) abraza con mucha alegría. La tía Rita queda muy sorprendida. Pablo llama a Irina y (él/ella/lo/la) sorprende con la noticia. Los tres (es/está/estás/están) muy contentos.

Translation (not included in student's packet)

Pablo and Irina are two friends who are traveling to Buenos Aires (Argentina). They are chatting on the plane.

Irina: Do you have the address of the hotel?

Pablo: Yes, (I/she/it (m)/it (f)) have it here.

I: Hey, Pablo, do you know aunt Rita?

P: I know (I/she/him/her) very well. I saw (I/she/him/her) for the first time in 1986 at a big party in NY. She (is (ser)/is (estar)/are/being) a very famous person. Are you going to call (I/she/him/her)?

I: My father tried to call her yesterday, but she is always busy.

Minutes later Irina is sleeping, but Pablo remains awake. Pablo notices someone is looking at him and he turns. At that moment, a lady in her fifties who (is (ser)/is (estar)/are (sg.)/are (pl.)) sitting next to him is looking at Pablo. Pablo realizes that and he looks directly at (I/she/him/her), and then he recognizes (I/she/him/her). It (is (ser)/is (estar)/are/being) aunt Rita. Immediately he calls (I/she/him/her), he greets (I/she/him/her) and he happily hugs (I/she/him/her). Aunt Rita is very surprised. Pablo calls Irina and surprises (I/she/him/her) with the news. The three of them (is (ser)/is (estar)/are (sg.)/are (pl.)) very happy.

## Appendix B

## Input Processing Instruction Packet

## Sample exercise

Daniel y Viviana están conversando en la playa de Acapulco. Lea el diálogo y seleccione la palabra más adecuada de las cuatro opciones posibles.

D: ¿Tienes el bronceador?

V: Sí, aquí (yo/tú/lo/la) tengo. (Yo/Tú/Lo/La) traje para tí porque siempre te quemas demasiado con el sol. Oye, ¿a qué hora vas a llamar a tu abuela por teléfono?

D: (El/Ella/Lo/La) voy a llamar a las dos. Mi tío siempre (él/ella/lo/la) lleva de paseo durante la mañana.

V: (Yo/Tú/Lo/La) debes llamar pronto. ¿No (yo/tú/lo/la) quieres invitar a nuestra fiesta?

D: Por supuesto que sí. Es la invitada de honor. Pero ya conoces a mi tío.

V: No, no (él/ella/lo/la) conozco.

D: Pero sí que (él/ella/lo/la) conoces. (El/Ella/Lo/La) viste en nuestra fiesta de fin de año. El mismo día que mis parientes de México llegaron a los Estados Unidos.

V: Ah, es cierto. (Ellos/Ellas/Los/Las) recuerdo muy bien. (Ellos/Ellas/Los/Las) encontré en el aeropuerto por accidente. ¿(Ellos/Ellas/Los/Las) vas a invitar también?

D: Por supuesto que sí. Ahora viven en Acapulco.

### Appendix C

#### Output Processing Instruction Packet

##### Sample exercise

Daniel y Viviana están conversando en la playa de Acapulco. Lea el diálogo y escriba las palabras necesarias en los espacios en blanco.

D: ¿Tienes el bronceador?

V: Sí, aquí \_\_\_\_ tengo. \_\_\_\_ traje para tí porque siempre te quemas demasiado con el sol. Oye, ¿a qué hora vas a llamar a tu abuela por teléfono?

D: \_\_\_\_ voy a llamar a las dos. Mi tío siempre \_\_\_\_ lleva de paseo durante la mañana.

V: \_\_\_\_ debes llamar pronto. ¿No \_\_\_\_ quieres invitar a nuestra fiesta?

D: Por supuesto que sí. Es la invitada de honor. Pero ya conoces a mi tío.

V: No, no \_\_\_\_ conozco.

D: Pero sí que \_\_\_\_ conoces. \_\_\_\_ viste en nuestra fiesta de fin de año. El mismo día que mis parientes de México llegaron a los Estados Unidos.

V: Ah, es cierto. \_\_\_\_ recuerdo muy bien. \_\_\_\_ encontré en el aeropuerto por accidente. ¿\_\_\_\_ vas a invitar también?

D: Por supuesto que sí. Ahora viven en Acapulco.

### Appendix D

#### Selected samples of native and non native narratives

##### Native #1

Un hombre está esperando en la calle, aparentemente tiene una cita con su novia. Huele una flor y la tira. Entonces mira su reloj y se da cuenta de que está parado, o que no funciona bien y lo tira al suelo. Finalmente llega su novia y parece que está enojada.

##### Native #2

Un muchacho llega con su traje y su flor. La huele y apoya sobre un estante. Saca de su bolsillo una cajita. La abre y pone cara de sorpresa y preocupación. La cierra, la da vuelta y muestra a cámara que la cajita está vacía. De pronto sonríe, parece que se le ha ocurrido una idea. Pone la mano en su bolsillo y saca una llave en su arandela. Separa la llave de la arandela y coloca esta última en la cajita. Antes se prueba la arandela como anillo. Se muestra satisfecho y guarda la caja con la arandela en su bolsillo.

##### #1632 Pre-test (Output processing instruction)

En este película primero ves una casa roja, segundo una hombre viene con una flora en su mano. El hombre de el flores con una sonrei. Antes el llevo una caja de anillo de su bolsillo. Pero a su sorpresa no hay es un anillo en la caja. Pero el tiene una solución remueve el llavero de su bolsillo y lo pone en la caja de anillo. El el muy feliz; es una buena solución.

##### #1632 Post-test

En este video primero veo una casa roja. Despues un hombre viene enfrente de la casa. Este hombre tiene una flores en su mano y el ole las flores. Como el hombre remueve un reloj de su mano a ver el tiempo. Pero su reloj no es trabaja. El hombre se furioso y tiro el reloj a la piso.

##### #4620 Pre-test (Input Processing instruction)

Un muchacho que lleva un traje ole una flor. Despues el tomó un caja de su bolsillo y lo abrí dos veces. Despues de este accion, el tomo un llavero de su bolsillo y lo sacudió. En la caja que está en el bolsillo, es un anillo. El mira su reloj porque tiene un

##### #4620 Post-test

El muchacho ole una flore. despues el mira a su reloj, pero no está trabajando. El sacude el reloj pero no está trabajando. El lo lanza a la tierra. El habla con un otro persona y lo pregunta que tiempo es. El está tarde para un cita y esta muy triste.