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INPUT-BASED APPROACHES TO TEACHING GRAMMAR: A REVIEW OF CLASSROOM-ORIENTED RESEARCH

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INTRODUCTION

There is now a substantial body of research that has investigated the role of form-focused instruction in assisting learners to learn the grammar of a second language (L2). Recent comprehensive surveys of this research have been provided by N. Ellis (1995), R. Ellis (1990; 1994; 1997), Larsen-Freeman and Long (1991), Long (1988), Spada (1997), and Williams (1995a). However, it is becoming increasingly difficult to draw clear conclusions given the sheer amount of research now available, the problems of comparing results across studies, and the interactivity of the variables involved. Spada, for example, identifies seven questions that the research has addressed but acknowledges that "we do not yet have clear answers to any of these questions" (p. 74). One way of achieving a clearer understanding of how form-focused instruction contributes to acquisition might be to examine in detail studies that have investigated the effect of specific instructional options. This article will follow such an approach by examining one particular option—input-based grammar teaching.

The term 'option' refers to a specific strategy for delivering instruction (see Ellis 1997, Stern 1992). Ellis (1998) identifies four macro-options based on a psycholingusitic model of L2 acquisition. These are (1) input-based instruction, (2) explicit instruction, (3) output-based instruction, and (4) feedback. Each macro-option can be realized by various micro-options. For example, there are a great variety of techniques for providing production practice. Typically, grammar lessons are not constructed around a single macro-option but rather involve combinations of options. For example, a fairly traditional grammar lesson might start with a grammar explanation (option 2) and then move on to production practice (option 3) in conjunction with feedback (option 4). From a research perspective, however, it is useful to try to tease out the relative effectiveness of instruction based on these different macro-options.

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The input-based option, the focus of this article, involves an attempt to intervene directly in the process of interlanguage development by manipulating the input to which learners are exposed. It constitutes, therefore, one type of comprehension-based language teaching (Gary 1978, Winitz 1981). Comprehension-based language teaching can be unfocused in the sense that it is geared to providing roughly tuned comprehensible input through written and spoken texts, as recommended by Krashen (1981), or it can be focused in the sense of being finely tuned to expose learners to input rich in a specific grammatical structure. Input-based grammar teaching involves focused, finely tuned input of one kind or another. VanPatten (1996) has claimed that this is necessary to enable learners to internalize some parts of the L2 grammar.

This article will begin by examining the theoretical rationales for input-based grammar teaching. It will then review classroom-oriented research that has investigated this option.

THEORETICAL RATIONALES FOR INPUT-BASED FORMAL INSTRUCTION

The study of form-focused instruction has been motivated in part by a desire to improve pedagogy, but it has also served as one of the major ways of testing theoretically-based hypotheses (Ellis 1985). Research examining input-based grammar teaching has been informed by a number of theories of L2 acquisition.

1. Universal Grammar

Universal Grammar (Chomsky 1981, Cook 1988) is a mentalist theory that claims that human beings are biologically endowed with an innate language faculty that enables them to acquire the grammar of particular languages. This faculty, which is considered to be independent of other cognitive faculties, contains knowledge of certain abstract principles regarding the properties of language together with knowledge of the parameters through which the principles are realized in different languages. The language learner's task is to discover which parameters need to be 'set' for whatever language he or she is trying to learn.

The role of input in this model is to 'trigger' parameter setting. That is, through exposure to input, UG is activated, enabling learners to discover which of several possible parameters to select. According to UG theory, parameter setting occurs instantaneously as a result of a minimal exposure to input containing the appropriate triggers (Cook 1989). Also, it is claimed that parameter setting requires only 'positive linguistic evidence'; that is, there is no need for 'negative linguistic evidence' of the kind provided by error correction.

Whether adult L2 learners have continued access to UG is a matter of some controversy (see White 1989:48ff). In the case of L2 acquisition, learners

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have to reset parameters where their native language manifests different settings from those of the target language. For example, French-speaking learners of L2 English need to discover that adverbs can be placed between the subject and the verb as in:

Mary usually eats fish on Friday.

This position, however, is not permitted in French. Also, they need to discover that, where French allows an adverb between the verb and the object, English does not:

*Mary eats usually fish on Friday.

The question arises, then, whether French learners of L2 English can achieve the necessary parameter resetting simply through exposure to positive linguistic evidence. Input-based formal instruction becomes a way of testing whether positive evidence is sufficient.

2. Information-processing theories

In contrast to UG, information-processing theories claim that language learning proceeds like other kinds of learning. General cognitive mechanisms process information available in the input in order to arrive at a mental representation of the target language. This knowledge is then accessed via other cognitive mechanisms in order to comprehend and produce utterances in the target language. (See Robinson 1995 for a review of information processing theories as they apply to L2 acquisition.)

According to the **noticing hypothesis** (Schmidt 1990; 1994; 1995a), L2 learners need to attend consciously to linguistic features in the input in order for intake to occur. Schmidt recognizes that 'consciousness' is a slippery concept and takes pains to explain it. For example, Schmidt (1990) distinguishes between consciousness as intentionality and consciousness as attention. He argues that learners can learn incidentally (i.e., they do not have to make a conscious decision to learn) but that they cannot learn sublimally (i.e., they must be conscious of what they attend to). In this respect, Schmidt differs from Krashen (1985) and more recently Tomlin and Villa (1994), who claim that learners can detect linguistic features in the input subconsciously. It follows from Schmidt's position that form-focused instruction can assist learners by leading them consciously to notice linguistic features in the input. This results in intake. However, although noticing is necessary, it is not sufficient for acquisition because not everything that becomes intake is integrated into the learner's developing interlanguage system (i.e., is acquired).

Information-processing theory also posits that human beings have limited processing capacities. Filter models suggest that attention is selective, permitting learners to store only selected information. Capacity models allow for attention to be allocated to more than one task but only if one or both of the tasks can be

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performed automatically. In the context of L2 acquisition, VanPatten (1989) has suggested that learners, particularly beginners, may have difficulty in attending simultaneously to form and meaning. Thus, asking learners to attend to form while processing input for meaning may negatively affect comprehension. Conversely, asking learners to attend to meaning may prevent them from noticing linguistic forms in the input, particularly if these forms are not meaning-bearing. The role of input-based grammar instruction is meant to assist learners to attend to form, or rather form-meaning relationships, in the input.

Language learners make use of specific strategies to process input. For example, in order to process the argument structure in sentences like 'Mary was cursed by John,' both L1 and L2 learners make use of a 'first noun strategy' (Gass 1989). That is, they assume that the agent of the sentence is the first noun. In many cases this works, but in some cases, such as the sentence above, it results in an incorrect parsing. In languages such as Spanish, which have flexible word order, such a strategy is not effective. Input-based instruction can show learners which processing strategies do and do not work.

3. Skill-learning theories

Skill-learning theories claim that new skills are learned as a result of practice. For example, Anderson's Adaptive Control of Thought Model (see Anderson 1976; 1980; 1993) views language learning, like other kinds of skills, as involving a progression from an initial declarative knowledge stage to a final procedural stage where knowledge is automatic. According to Anderson, L2 learners achieve proceduralization through extensive practice in using the L2. Johnson (1996) details the kind of practice needed to achieve full automatization of linguistic knowledge, arguing that learners need to practice specific forms under 'real operating conditions' (i.e., in actual communication) in order to master them.

According to skill-building theories such as Anderson's, large amounts of input are necessary to provide enough practice to achieve automatization. This contrasts with UG, which claims that minimal amounts are sufficient for parameter setting. Moreover, skill-building theory views proceduralized knowledge as highly specific, with different sets of skills involved in comprehension and production (see Anderson 1993:37–38). The implication here is that practice via input-based instruction will only serve to develop learners' ability to comprehend the target feature, not to produce it. In this respect, skill-building theory differs from information-processing theory, which claims that, because comprehension and production draw on the same underlying knowledge source, input-based instruction will facilitate both.

To sum up, different theoretical positions can be tested through studies designed to investigate the effects of teaching L2 learners specific grammatical structures under different conditions. In the case of input-based grammar instruction, showing that positive input alone is sufficient for acquisition to take

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place lends support to a role for UG. Demonstrating that input-based practice works better than production-based practice can be taken as evidence in favor of an input-processing model. In contrast, a finding that input-based and production-based instruction leads to gains only in the particular skill being practiced (i.e., comprehension or production) would support skill-building theory. The following section reviews the results of input-based grammar studies.

EMPIRICAL STUDIES OF INPUT-BASED GRAMMAR INSTRUCTION

It is possible to distinguish two broad types of input-based approaches to teaching grammar. In the first, 'enriched input' provides learners with input that has been flooded with exemplars of the target structure in the context of meaning-focused activities. In other words, this instructional approach caters to incidental acquisition and what Long (1991) has referred to as a 'focus on form.' In the second, in what has become known as 'processing instruction' (VanPatten 1996), learners are expected to pay conscious attention to specially designed input in order to learn a specific target structure. This kind of approach invites learners to engage in intentional learning and caters to a 'focus on forms.' What these two approaches have in common, however, is that they do not require learners to produce the target structure.

1. Enriched input studies

One way of intervening instructionally in interlanguage development is by contriving input that contains numerous exemplars of a grammatical feature known to be problematic to learners (e.g., adverb placement for French speaking learners of L2 English). Enriched input can vary in a number of ways. It can take the form of oral/written texts that learners simply listen to or read, or written texts in which the target structure has been graphologically highlighted in some way (e.g., through the use of underlining or bold print), or oral/written texts with follow up activities that focus attention on the target structure. Three groups of enriched input studies can be identified: 1) studies designed to investigate whether the forms targeted in enriched input are noticed by learners, 2) studies designed to investigate whether enriched input promotes acquisition, and 3) studies designed to compare the effects of enriched input with some other instructional option.

In accordance with the noticing hypothesis referred to above, enriched input can only work for acquisition if learners actually pay attention to the target structure. It is, therefore, important to demonstrate that noticing does in fact occur. However, only one published study has investigated this issue. Jourdenais, *et al.* (1995) found that English-speaking learners of L2 Spanish were more likely to make explicit reference to preterit and imperfect verb forms when thinking aloud during a narrative writing task if they had previously read texts where the forms were graphologically highlighted. They also found that the learners exposed to the enhanced text were more likely to use past tense forms than the learners who read the non-enhanced text even though both texts had been enriched. This study, then,

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confirms the common sense expectation that noticing a grammatical structure in an enriched text is more likely if the structure is highlighted. It also suggests that noticing the structure may have an impact on learners' use of the structure.

Other studies have investigated whether enriched input has an effect on acquisition. Trahey (1996) and Trahey and White (1993) showed that input that is enriched but non-enhanced can trigger the learning of new rules but is not effective in eliminating non-target interlanguage rules. Leeman, *et al.* (1995) examined the effects of input enhancement by comparing two groups of L2 Spanish learners enrolled in advanced university classes. One group, the Communicative Group, experienced content-based instruction. The other, the Focus on Form Group, experienced enhanced input. This took the form of highlighting preterit and imperfect verbs forms in written input, telling the students to pay special attention to how temporal relations were expressed in Spanish, and correcting learner errors. Post-tests consisting of a debate, an essay, and a modified cloze passage were completed shortly after the instruction. They showed that the Focus on Form Group supplied the target forms more frequently than the Communicative Group. The Focus on Form Group also increased or maintained accuracy on all the tasks whereas the Communicative Group improved slightly on the essay task but deteriorated on the other two. However, the advantages found for the Focus on Form group may not have been solely due to enriched input as the instruction this group received involved several options.

Studies that have examined the effects of enriched input on acquisition relative to other instructional options have produced somewhat mixed results. White (1995) failed to find any effect for either enriched input or explicit instruction on Japanese and francophone learners' abilities to master reflexive binding in English, possibly because the test she used (a truth-value judgement task) lacked validity. Alanen (1995) also found that enriched input had little effect on beginner learners' acquisition of L2 Finnish locative suffixes and consonant gradation (i.e., an enhanced input group did no better on post-tests than a control group). However, Alanen did find that the enhanced input group used a variety of suffix forms, albeit ungrammatical, whereas the control group used zero forms. In contrast, the learners receiving explicit instruction outperformed both the control and the enhanced input group. One of the problems with this study was that the quantity of enriched input was very small (only two short written texts).

In studies that have provided much more substantial exposure to enriched input, a clear effect is evident and, in some cases, it is as strong as that for explicit instruction. Doughty (1991) found that computerized input enriched through careful explication of the meaning of the target structures (relative clauses) worked as well as explicit instruction for acquisition and better for comprehension. Williams (1995b) also found that enriched input and explicit instruction with feedback were equally effective in enabling learners to learn how to use English passive constructions. However, in a parallel study she found that explicit instruction with feedback was more effective than enriched input for teaching

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English participial adjectives (e.g., 'I was touched'/'It was touching'), although the enriched input group did outperform the control group. One possible reason for these results is that different grammatical structures may benefit from different kinds of instructional treatment. Enriched input, when it is plentiful, may be as effective as or even more effective than explicit instruction when the structure is complex, as is the case with relative clauses and passives, but less effective when the structure is easily explainable, as with participial adjectives.

Given the relatively small number of studies that have investigated enriched input and the limited amount of exposure to the input in some of them, the following conclusions must be tentative:

1. There is some evidence that enriched input with highlighting induces noticing of target features. However, little is yet known about whether highlighting is necessary or which method of highlighting works best.
2. There is fairly convincing evidence that enriched input (with or without highlighting) can help L2 learners acquire new grammatical features and use partially learned features more accurately. Moreover, the evidence suggests that acquisition can be maintained over time. However, clear positive effects are only evident when the treatment provided is prolonged and exposes learners to frequent use of the target structure.
3. There is some evidence to suggest that enriched input (positive linguistic data) does not enable L2 learners to eliminate non-target interlanguage rules.
4. There is some evidence to suggest that when the exposure to enriched input is substantial, it works as, or more, effectively than explicit instruction in promoting acquisition of complex grammatical structures. However, explicit instruction may be more effective with simple structures.

2. Input-processing studies

The input-processing studies examined here involve experimental comparisons of input-based and production-based instruction. Whereas traditional grammar teaching attempts to manipulate learner production, 'processing instruction' employs 'interpretation tasks' (Ellis 1995) that invite learners to engage in intentional learning by consciously noticing how a target grammatical feature is used in input specially contrived to contain numerous exemplars of the structure.

All the studies that we will examine make use of both comprehension-based tests which favor processing instruction, and production tests which favor production-practice instruction. The studies differ in a number of other respects such as the kind of production tests administered and whether explicit instruction accompanied the structured-input. As we will see, it is necessary to pay careful attention to these design features in interpreting the results.

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Tuz (1992) studied Japanese university students learning general English. The target structure was word order with psychological verbs such as 'like,' 'attract,' and 'disgust,' which Burt (1975) has shown to be problematic to L2 learners. For example, learners have been observed to make errors such as the following:

> * My mother worries the cat. (= 'My mother is worried by the cat.')

The learners were pre-tested using a discrete-item reading comprehension test and a written production test, both based on pictures. The same tests were administered as post-tests. In the presentation stage of the lesson, both groups were shown 16 pictures on an overhead projector and listened to sentences containing psychological verbs. Pairs of pictures were used to contrast the meaning of sentences with different noun orders (e.g., 'Sometimes people disgust animals' and 'Sometimes animals disgust people'). This presentation was followed by a practice stage which differed according to experimental group. In the case of the production-practice group, the pictures were used as stimuli for sentence production, whereas in the processing group, they were used to practice comprehension of sentences containing psychological verbs. The results of this study were striking. The learners receiving the comprehension-based instruction showed greater gains than those receiving the production-based instruction on both a comprehension test of the structure and on a production test.

VanPatten and his co-researchers have carried out a series of studies investigating the effects of input processing on English learners' acquisition of Spanish word order rules (the position of object clitic pronouns) and Spanish past tense morphology. In the first study, VanPatten and Cadierno (1993a; 1993b) found that learners receiving explicit instruction together with processing practice outperformed learners receiving explicit instruction and production practice on a comprehension test of the target structure, and they did as well on a production test. Cadierno (1995) obtained identical results for Spanish past tense verb morphology.

A limitation of both the Tuz and the VanPatten and Cadierno studies was the kinds of tests used to measure production. In both cases, they used an item-based written test, which the subjects may have been able to answer using explicit knowledge. Thus, the studies did not convincingly demonstrate that the comprehension treatment was effective in promoting interlanguage development. To address this issue, VanPatten and Sanz (1995) compared a group receiving explicit instruction followed by processing practice with a control group that received no instruction directed at the target structure (object clitic pronouns). They administered a number of different tests (e.g., sentence-completion and video narration) in written and oral versions. The processing group significantly improved their accuracy in producing the target structure on all the written tests. The control group showed no improvement. In addition, the processing group also improved on one of the oral tests—sentence completion. However, this test was

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item-based; the subjects, therefore, may have been able to use explicit knowledge. No statistically significant difference was found between the structured-input group and the control group on the oral video narration test—an integrative test involving on-line production and, consequently, a better measure of acquisition. The study, therefore, does not provide convincing evidence that processing instruction led to changes in implicit knowledge.

In both the VanPatten and Cadierno and the VanPatten and Sanz studies, the instruction involved two focus-on-form options—explicit explanation combined with processing practice. A question of some importance, then, is whether the advantage found for the processing groups in these studies was due to the explicit explanation, the processing practice, or a combination of the two. VanPatten and Oikkenon (1996) set out to investigate this. Fourth semester high school students were used in this study. The focus was again object pronoun placement in Spanish. There were three experimental groups: The first group received a grammatical explanation together with processing practice, as in the earlier studies; the second group received just explicit instruction; and the third group received just processing practice. On the comprehension test (a discrete-item listening test involving pictures), both group one and group three performed better than group two, but there was no difference between group one and group three. On the production test, group one but not group three performed better than group two, but the difference between group one and group three was not statistically significant. VanPatten and Oikkenon conclude that "significant improvement on the interpretation test is due to the presence of structured input activities and not to explicit information," and that even on the production-test "the effects of explicit information are negligible" (1996:508). However, it should be noted that explicit instruction did lead to better performance on both tests and also that the tests used in this study did not include a measure of communicative performance.

Tanaka (1996) compared the relative effects of input processing and production practice on the acquisition of English relative clauses by 123 high school students in Japan. In this study, both groups again received explicit instruction followed by processing or production practice. An aural comprehension test and a written production test were administered five days after the treatment and again two months later. On both the immediate and delayed comprehension test, the processing group outperformed the production group. In fact, the production group showed hardly any improvement on post-test scores. On the production test, both groups showed significant gains, with the production group obtaining significantly higher scores than the processing group on the immediate post-test but not on the delayed post-test. This suggests that processing practice (with explicit instruction) resulted in durable learning that was available for use in both comprehension and production tasks. In contrast, production practice (with explicit information) resulted in learning that was available for use only in production and that atrophied markedly over time.

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Three other studies, however, have produced results suggesting that input processing instruction is not more effective than production practice. DeKeyser and Sokalski (1996) found that input practice worked better for comprehension skills but output practice was better for improving production skills. They explain this result in terms of skill-building theory. An unpublished study by Toth (1997) reached a similar conclusion. This study compared the effects of input-processing instruction and two kinds of production-based instruction (task-based and question-and-answer) on the acquisition of the reflexive Spanish pronoun *se*. Explicit grammar explanations were also provided to all groups. Both types of instruction resulted in gains in accuracy but the production practice led to more frequent use of the target structure on a free production task.

Salaberry (1997) set out to replicate the VanPatten studies using similar subjects (33 third-semester university students studying Spanish). The results show that both the input and production groups improved on the comprehension test with the production-practice group performing as well as the structured input group. No group differences were evident on the discrete-item production tests. Also, as in VanPatten and Sanz (1995), there were no group differences on a free narration test, although Salaberry notes that this test produced few obligatory occasions for object clitic pronouns. In short, this study found that the effects of input processing were similar to those of output production on all the tasks.

Design differences make it difficult to compare the results of these studies. The studies differ with regard to the target structures taught, the sizes of the samples, the proficiency levels of the subjects at the beginning of the studies, the precise nature of the processing and production instruction provided, the instructors used for the treatments, the nature of the tests used to measure comprehension and production, and the ways in which these tests were scored. Any of these differences might account for the variation in the results obtained. For example, the sample sizes in both Salaberry (1997) and DeKeyser and Sokalski (1996) are small compared to the other studies. These two studies also did not use the same instructor in all the experimental groups, as was the case in the other studies. Furthermore, DeKeyser and Sokalski's subjects seemed more proficient with regard to the target structures than the subjects in the other studies. For example, their input group achieved a comprehension score of 75 percent on the pre-test for the conditional structure, leaving little room for improvement. DeKeyser and Sokalski's study also differed from other studies in allowing the subjects to keep and refer to explanations of the target structures throughout the instruction. Finally, Salaberry (1997) used a written comprehension test whereas VanPatten and Tanaka used an aural comprehension test. Toth (1997) used a grammaticality judgement test rather than an interpretation task to measure comprehension. These differences may be crucial, for they affect the extent to which subjects need to engage controlled or online processing of the target structure.

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However, a number of general conclusions about the effects of input-processing instruction do appear possible:

1. All the studies provide evidence that processing instruction in conjunction with explicit instruction leads to gains in the ability to comprehend the target structures.
2. All the studies except Salaberry (1997) provide evidence that processing instruction works better than production-based instruction in this respect. DeKeyser and Sokalski (1996), however, found this was true for only one of the structures they investigated. Toth (1997) did not really measure comprehension.
3. All the studies except DeKeyser and Sokalski (1996) and Salaberry (1997) show that processing in conjunction with explicit instruction leads to significant gains in tests measuring the controlled production of the target structures.
4. With the exception of one study (Tuz 1992), no study found that processing with explicit instruction led to better performance on controlled production tests than output practice with explicit instruction.
5. There is insufficient evidence to judge whether processing without explicit instruction is as effective as processing with explicit instruction. The one study (VanPatten and Oikkennon 1996) that has investigated this important issue indicates that it may be more effective where comprehension is concerned but not with production.
6. The effects of processing instruction on both comprehension and production are durable. In contrast, there is evidence (DeKeyser and Sokalski 1996, Tanaka 1996) that the gains from production practice can disappear over time, although other studies (e.g., Toth 1997) have reported durable effects.

While it is possible to conclude that processing instruction promotes **intake,** *it is not yet possible to claim that it promotes* **acquisition** (i.e., interlanguage development). There is no clear evidence that learners can use the target structures in communicative language use.

CONCLUSION

To conclude, I will consider the contribution of input-based studies of grammar teaching from the perspective of both pedagogy and SLA theory. From a pedagogical perspective, input-based grammar teaching is to be seen as complementing communicative language teaching, not replacing it (Ellis 1993, VanPatten 1996). In the case of enriched input, this can be achieved through a 'focus on form,' that is, in the context of activities that require a primary focus on meaning, as suggested by Long (1991) and as illustrated by the enriched-input studies discussed in this article. In the case of input-processing, it is achieved by means of grammar lessons taught alongside communicative lessons that cater to spontaneous language use with a focus on meaning. In Long's terms, this involves a 'focus on forms.' Processing instruction, then, requires a structural syllabus

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taught by means of 'interpretation tasks' (Ellis 1995). This syllabus needs to be used in parallel with a communicative syllabus (e.g., a task-based syllabus). The relative advantages and disadvantages of these two types of input-based grammar teaching have not yet been properly debated, but both would seem to have merit.

From a research perspective, the input-based studies discussed in this article have contributed to SLA theory in a number of ways. Research by Trahey (1996) and Trahey and White (1993) suggests that positive evidence is not sufficient to reset parameters already set in the L1 and that, therefore, L2 learners may not have full access to UG. The enriched input and input-processing studies lend general support to information-processing theories of L2 acquisition. Enriched input has been shown to result in noticing and also in improved accuracy in the use of problematic grammatical structures. Processing instruction enables learners to focus attention on specific grammatical features with beneficial effects on intake. The studies lend less support to skill-learning theory; indeed, with the exception of the somewhat flawed study by DeKeyser and Skolanksi (1996), they contradict it.

The study of input-based grammar teaching is likely to continue to prove profitable for both teachers and researchers. It constitutes one of the more obvious ways in which SLA can be of benefit to teachers. However, it is also likely to remain a controversial area, as shown by the recent exchange of views by Sanz and VanPatten (1998) and Salaberry (1998).

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This study investigated the effects of input-processing and production-practice instruction on first-year university students' acquisition of Spanish object clitic pronouns and conditional forms. The results of discrete-item post tests, administered on the final day of the treatments, showed that, in the case of object clitic pronouns, input practice was significantly better for comprehension and output practice was better for production. In the case of the conditional forms, output practice proved better than input practice for both comprehension and production. The results of delayed post-tests, however, showed that the effects of output practice tended to fade over time, whereas those of input practice were more durable.

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Doughty, C. 1991. Second language instruction makes a difference: Evidence from an empirical study on relativization. *Studies in Second Language Acquisition*. 13.431–469.

This study investigated the effects of enriched input on the acquisition of relative clause structures by adult intermediate ESL learners. Learners in a Meaning Oriented Group (MOG) completed a series of computerized reading tasks that required them first to read the text for general understanding and then read each sentence separately, with the opportunity to obtain assistance in the form of lexical and semantic rephrasings and overall-sentence clarification. A Rule Oriented Group (ROG) received a computerized explanation of the rules for relativization with examples. A control group simply viewed the sentences in the text without any assistance. All three groups showed some gains in oral and written post-tests with the MOG and ROG performing similarly, both gaining more than the control group. However, the MOG outperformed the ROG in comprehension of the reading texts, with ROG doing no better than the control group.

Ellis, R. 1995. Interpretation tasks for grammar teaching. *TESOL Quarterly*. 29.87–105.

Ellis discusses the theoretical rationale for input-processing instruction and reviews research that has examined its effects on L2 acquisition. He also provides a set of guidelines for developing 'interpretation tasks' for input-processing instruction and provides an example of one set of such task for teaching psychological predicate constructions (e.g., 'Mary worries her mother').

Schmidt, R. 1994. Deconstructing consciousness in search of useful definitions for applied linguists. *AILA Review*. 11.11–26.

In this paper, Schmidt explains his views regarding the role of consciousness in L2 acquisition. These views have been instrumental in providing a theoretical rationale for input-based grammar research. Schmidt identifies four different senses of 'consciousness': 1) learners can learn intentionally (consciously) or incidentally; 2) learners need to notice a form consciously in the input to acquire it; 3) learners may or may not be aware (conscious) of what they acquire; 4) as learners automatize knowledge of the L2, they need to exercise less conscious control over its use.

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Trahey, M. and L. White. 1993. Positive evidence and preemption in the second language classroom. *Studies in Second Language Acquisition*. 15.181–204.

This study examined whether enriched input (viewed as positive linguistic evidence) was sufficient to enable francophone learners of L2 English to learn that English permits adverb placement between the subject and the verb but not between the verb and object. The experimental treatment (i.e., the instruction) took the form of stories, games, and exercises containing sentences with adverbs in the three sentence positions permitted by English (i.e., ASVO, SAV, and SVOA). The adverbs were not highlighted in the input. Exposure occurred 1 hour a day for 10 days. Four tasks (a grammaticality judgement task, a preference task, a sentence manipulation task, and a guided oral production task) were administered the day after the input flood was concluded and again three weeks later. The results showed that the learners succeeded in learning the SAV position but failed to 'unlearn' the ungrammatical SVAO position. Comparisons with an earlier study involving explicit instruction in adverb position (see White 1991) revealed that the input flood worked as well where SAV was concerned but was much less effective in helping learners discover the ungrammaticality of SVAO. Trahey (1996) showed that this same pattern of results was evident in a follow-up test using the same four tasks administered one year after the treatment.

VanPatten, B. 1989. Can learners attend to form and content while processing input? *Hispania*. 72.409–417.

VanPatten argues that the limited processing capacity of learners makes it difficult for them to attend simultaneously to form and meaning. He reports a study that compared the effects on learners' ability to comprehend a passage in L2 Spanish under four conditions: (1) listening for content only, (2) listening for content while also noticing the bound morpheme *-n*, (3) listening for content while also noticing the definite article *la* (a free morpheme), and (4) listening for content while noting a key lexical item. Comprehension scores were higher for conditions (1) and (4) than for (2) and (3). VanPatten suggests that if learners focus on content they may not be able simultaneously to attend to grammatical forms that bear no or little meaning.

VanPatten, B. and T. Cadierno. 1993a. Explicit instruction and input processing. *Studies in Second Language Acquisition*. 15.225–243.

This study compared traditional production-oriented practice with listening practice that required learners to process specially contrived input. Both groups also received explicit instruction in the target structure, albeit of a slightly different kind. The focus of this study was the positioning of object clitic pronouns in Spanish and the subjects were university level

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learners in the United States. They were tested by means of a discrete-item listening comprehension test and a discrete-item written production test. The results showed that the learners who were asked to process input by means of interpretation-based grammar tasks outperformed those taught by means of production-based practice on the listening comprehension test and did just as well on the written production test. These results were repeated in follow-up tests administered one month later. VanPatten and Cadierno suggest that, whereas the production-based instruction only contributed to explicit knowledge, the comprehension-based instruction created intake which the learners were able to integrate into their interlanguage systems (i.e., it led to implicit knowledge).

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