

Explicit versus implicit rule presentation: Generalizability of acquired knowledge to new contexts

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ABSTRACT

The present study investigates the interaction between the degree of explicitness in which a linguistic feature is presented and subsequent language learning. Moreover, it explores learners' ability to generalize any learned knowledge to new contexts. Forty-two students enrolled in low-intermediate English as a second language participated in this study. Students were divided randomly into four groups: a rule-oriented group, a textual input enhancement group, a content-oriented group, and a control group. Results show that (a) explicit instruction of rules correlates positively with gains on multiples measures of linguistic accuracy and language production, and (b) only learners in the rule-oriented group were able to transfer learned knowledge to instances that were not encountered in the treatment sessions.

1. Introduction

For several decades, researchers in the field of second language acquisition (SLA) have debated the role of formal instruction in language learning. Two dichotomous and competing positions have developed in reaction to the issue of whether grammar instruction should be incorporated as an integral part of the curriculums/syllabuses of foreign language classrooms. In the eighties, Krashen (1981, 19985; also see Hulstijn, 2002) supported a noninterface position between formal instruction and language acquisition and claimed that formal instruction would only lead to developing declarative knowledge of the target language and would not result in procedural knowledge (i.e., will

not lead to language acquisition). Furthermore, proponents of this position regards grammar instruction to be counterproductive because it does not focus on achieving any communicative goals.

Krashen's noninterface position was not firmly based on theories and research on how languages are learned, and was largely based on studies that explored the acquisition of English morphology (e.g., Dulay and Burt, 1974; Bailey, Madden, and Krashen, 1974; and Larsen-Freeman, 1976)⁽¹⁾. These studies revealed that second language learners, regardless of their linguistic background and age, or conditions of exposure (instructed or non-instructed), follow a similar order of acquisition. Accordingly, since formal instruction does not alter the order of acquisition, the logical conclusion for this type of research will rule out any role for formal instruction in the process of acquiring a second language. Krashen's position, thus, eliminates any role for conscious learning in language acquisition, and alternatively promotes meaningful interaction in the target language, where speakers are concerned with the message- *not the form*, as the primary means of language acquisition (see Gregg, 1984; McLaughlin 1978, 1987 for detailed critique of the model).

Krashen's conceptualization of second language acquisition and his view of knowledge representation, as represented in his Monitor Model, and in particular his noninterface position have generated considerable controversy among second language learners and practitioners alike encountered. Contrary to Krashen's view, the interface position, advanced by Sharwood Smith (1981) and promoted by DeKeyser (1998) and supported by a large body of research (e.g., Doughty 1991; Swain, 1991; Robinson, 1997a, 1997b; Sanz & Morgan-Short, 2004; Izumi, 2002; Loewen, 2005, to name just few), claims that formal instruction is beneficial for second language learners as it helps learners develop their overall proficiency, and more specifically helps them attain accuracy in the target language. More importantly, this position advocates that through practice, explicit declarative knowledge of the

(1) A major "pitfall of the morpheme order studies was their predetermined desire to diminish the role of the learner's first language and to demonstrate linear development as a result of some innate mechanism" (De Bot, Lowie, and Verspoor, 2007, p. 16).

target language could be converted into implicit, procedural knowledge (Ellis, 2005)⁽²⁾.

The interface position encompasses two distinct views one supporting a strong interface position and the other advocates a weaker version of this position. In support of the strong interface position, Bialystok (1994) points out that explicit knowledge converts into implicit knowledge through various stages of analysis. Similarly, Andersen (1983) and N. Ellis (1994) assert that explicit, declarative knowledge becomes procedural knowledge through continuous production practices. Adherents of the strong interface position contend that formal instruction is beneficial for SLA, particularly with regard to rate of acquisition and ultimate attainment. On the other hand, the major underpinnings of the weak interface assume that while formal instruction may not alter the acquisition sequence of developmental features, it can at least accelerate the process of acquisition when the learners are psycholinguistically and developmentally ready to acquire a second language (see Pienemann, 1984, 1989).

2. Literature Review

2.1 Reconsidering the Role of Grammar Teaching

Recent research in second language acquisition exploring whether formal instruction makes a difference has largely shifted in its preferences toward an the interface position. In the 1990s, research findings have cast serious doubts on the validity of meaning-based approaches to language instruction (Lee, 2007). Support for the facilitative function of form-focused instruction comes from a variety of sources including (a) experimental and classroom-based research (e.g., Leow, 2001; Ellis, 2002; Rosa and Leow, 2004; Carpenter, Jeon and Mackey, 2006, among many others); (b) results from immersion programs (e.g., Swain, 1984; Swain and Lapkin, 1989, 1998), and attention studies (e.g., Tomlin and Villa, 1994; Schmidt, 2001; Robinson, 2005). Moreover, in a meta-

(2) It should be noted that Hulstijn (2002) rejects any association between practice and language acquisition and claims that practice will not transfer explicit knowledge into implicit knowledge. He, however, argues that explicit learning and practice may lead to mastery of the target language by providing learners with opportunities for implicit learning.

analysis of 40 focus-on-form instruction (FFI) studies, Norris and Ortega (2000) found that results are conclusively in favor of formal instruction. Their analysis found that not only did FFI make considerable difference, but also it was more effective than implicit instruction and its effects were even more durable. In general, these studies suggest that meaning-focused instruction by itself may not be sufficient to assist learners in acquiring the formal components of the target language, and that some type of form-focused instruction is necessary for developing learners' L2 system.

A large body of experimental studies, focusing on various aspects of the target language at the lexical, morphological, syntactic, and morphosyntactic levels, suggests that formal instruction positively influences language learning (e.g., Day and Shapson, 1991; Day and Shapson, 1991; Lyster, 1994; Alanen, 1995; Harley, 1998; Leow, 2001, among others). These studies suggest that formal instruction has facilitative effects on both accuracy in the second language as well as the ultimate attainment. Abu Radwan (2005), for example, compared the effects of various types of instructional treatments both explicit and implicit on the acquisition of a syntactic feature and found that explicit form-focused instruction was superior to implicit instruction (consisting of textual input enhancement and content-oriented treatment), as it led to significant gains in several post-treatment measures.

Based on research findings from students in French immersion programs where grammar instruction is usually overlooked in favor of meaning-based communication, Swain and Lapkin (1998) and Harley and Swain (1984) reported that despite extensive exposure to the target language, learners, though developed remarkable receptive skills, experienced persistent difficulties in their morphosyntactic development. More significantly, they presented evidence that noticing a particular linguistic form in the input triggers mental processes that lead to modified output, the comprehensible output hypothesis⁽³⁾. Hence, they and many others have forwarded the *output hypothesis* which emphasizes that L2 production can occasionally lead the learner to notice a linguistic problem and

(3) It should be noted that while Swain attributes learners' difficulties to absence of production, other researchers (Harley, 1989, Lyster, 1984, Day and Shapson, 1991) relate these difficulties to absence of sufficient form-focused instruction.

that noticing may force the learner into syntactic processing triggering mental processes that lead to modified output (Swain and Lapkin, 1995: 372).

Over the past few years, second language acquisition research has witnessed an explosion of studies that examined second language acquisition under cognitive and information processing frameworks (e.g., Leow, 1997a, 1997b; Schmidt, 2001; White, 2001; VanPatten, 2002; Gass, Svetic, Lemelin, 2003; and Robinson, 2005). A major focus of this type of research has been exploring the relationship between certain cognitive processes such as noticing and attention and language acquisition. The interest in the role of cognitive mechanisms reflects some consensus among researchers in the field of SLA that attention is critical in explaining how learners deal with and regulate a seemingly overwhelming, and often times incoherent, influx of the input to which they are exposed during the language learning process.

Contrary to Krashen's position (see e.g., Krashen 1981, 1985), attention researchers reject any dissociation between learning and awareness, and argue that learners need to consciously notice some particular form in the input before that form can be further processed and eventually acquired. Schmidt (1990, 1993, 1995, 2001), for example, suggests that noticing or awareness of target forms is the necessary requirement for language learning to occur. However, Robinson (1997b) and Alanen (1995) have questioned the noticing hypothesis and demonstrated that merely noticing a form in the input does not correlate with progress in language learning. Moreover, they emphasized that awareness at a higher level than noticing, which is understanding, is a stronger predictor of success in language learning. Further support for this position comes from Rosa and O'Neill (1999) and Leow (1997a) who found that meta-awareness (understanding) contributed to more recognition and accurate production of the noticed forms.

Despite the controversy regarding the level of attention necessary for language acquisition to take place, the majority of researchers in SLA agree that some degree of attention to problematic aspects of the input is necessary before language acquisition takes place. This general agreement, nonetheless, disguises clear diversity among researchers as to how to achieve that goal, thus, paving the way to a multiplicity of

approaches, including consciousness-raising (e.g., SharwoodSmith, 1981; Rutherford, 1987), focus on form (e.g., Long, 1991), explicit instruction (e.g., DeKeyser, 1998), output practice (Swain, 1985; Shehaddah, 2003), analytic teaching (Lyster, 1994), and input processing (e.g., VanPatten, 2003). This preponderance of approaches to formal instruction, if anything, reflects resurgence of interest in grammar teaching after a period in which its role in language learning was severely marginalized (Nassaji and Fotos, 2004).

2.2 Approaches to Form-Focused Instruction

Although recent research in SLA provides ample evidence in support of the positive and facilitative effects of form-focused instruction, there is still considerable disagreement regarding the degree of explicitness necessary for language learning to occur. In this regard, focus-on-form instruction (FOF) emerges as an essential concept. It refers to a type of instruction that attempts to draw learners' attention to the formal properties of the target language as they arise incidentally in lessons whose overriding emphasis is on communication or meaning (Long, 1991). This is different from focus-on-forms instruction, which is a traditional approach to grammar teaching where learners treat language as an object of study (Ellis, 2001). While Long still adheres to his original position and to a very narrow and an implicit view of FOF instruction (see e.g., Long et al., 1998; Long, 2000), others such as DeKeyser (1998), Alanen (1995), and Rosa and O'Neill (1999) adopt a more liberal view of the concept which slants more towards the other end of the continuum, i.e. what Long (1991) calls focus-on-forms (see Doughty and Williams, 1998, for a review of different positions on focus-on-form instruction). This diversity has led to advocating different ways to draw learners' attention to the formal aspects of the target language, including (1) output practice; (2) input processing instruction; (3) interactional feedback; (4) textual input enhancement, and (5) explicit rule-based instruction.

2.2. 1 Output practice

In the Output Hypothesis, Swain (1985: 249) argues that producing the target language may serve as "the trigger that forces the learner to pay attention to the means of expression needed in order to successfully convey his or her own intended meaning." Swain (1998) argues that

output practice helps learners to notice the gap in their interlanguage knowledge, which prompts them to find appropriate ways to address this deficiency in their system. Another function of output is hypothesis testing. Swain (1998:79) states that “students formed hypotheses and tested them against available resources. Vocabulary, morphology, and complex syntactic structures each became the focus of their attention, and in turn, their attention became focused by talking about the problem.” Research on the role of output (see Izumi, 2002) showed that learners engaged in output activities outperformed those who were exposed to the same input for purpose of comprehension in terms of their learning gains.

In another study, Shehadah (2003), investigating how output can also be a process by which second language learners test out hypotheses about the target language, found out that nonnative speakers tested out one hypothesis about the target language every 1.8 minute. He showed that whenever these hypotheses were not challenged by the interlocutor, it constituted a signal for confirming the utterance, albeit non-target like. This, in turn, leads to internalizing the linguistic forms. It should be noted that while the various studies conducted within this framework have established a direct link between output practice and language use, no study has convincingly established that a relationship between output practice and L2 learning.

2.2. 2 Input processing instruction

Input processing instruction is an approach to explicit grammar instruction that starts with “direct[ing] learners’ attention to relevant features in the input and...encourage[ing] correct form-meaning mapping that in turn results in intake” (VanPatten and Sanz, 1994:6; also see VanPatten, 2002, 2003). This view rejects the traditional production-based approach to grammar instruction and alternatively suggests engagement in tasks encouraging comprehension of the targeted feature over production. Lee and VanPatten (1995: 764) argue that this approach “assist[s] the learners in making form-meaning connections during IP.” In a study exploring the effectiveness of input processing instruction, VanPatten and Cadierno (1993) showed that learners receiving processing instruction were superior to other learners on processing (interpretation) tasks but not on production tasks. While

VanPatten and several colleagues advocate the effectiveness of processing instruction in learning various components of the target language, other researchers (see e.g., Allen, 2000; Benati, 2001) failed to demonstrate any advantage for input processing instruction over traditional grammar instruction. Moreover, DeKeyser and Sokalski (2001) suggest that this type of instruction is effective only in promoting comprehension skills and that production skills require production-based instruction.

2.2.3 Interactional feedback

Interactional feedback refers to various negotiation and modification strategies that aim at drawing the learners' attention both explicitly and implicitly to various aspects of the target language. This approach generally involves responsive and occasional shifts to certain salient linguistic and pragmatic problems as they arise using various techniques such as recasts, clarification requests, confirmation checks, and the like (see Doughty and Williams, 1998; and R. Ellis 2003, for a review of the Interaction Hypothesis). The interaction hypothesis states that L2 acquisition is promoted if learners have opportunities to solve communication problems by means of conversational modifications. These modifications provide learners with opportunities to negotiate meaning and restructure their language to make themselves more understandable (Pica, 1996). Long (1996) also emphasized that negotiation of meaning usually results in negative feedback which draws learners' attention either to the gaps in their interlanguage system or to mismatches between their output and the input they encounter⁽⁴⁾.

Most of the studies that explored the relationship between input, interaction modification and language acquisition failed to exhibit a direct relationship among them notwithstanding they showed improved comprehension for the interaction groups. Mackey and Philip (1998) tried to overcome this problem by exploring the short-term effects of recast in conversational interactions on the production and development of question forms in English. They found that interaction with intensive recasts resulted in interlanguage development. These results

(4) Long's (1996) position represents a significant change in the evolution of the interaction hypothesis. His original position emphasized that negotiation of meaning draws learners' attention to gaps in their interlanguage.

were corroborated by a series of studies conducted by Mackey (Mackey and Oliver, 2002; Mackey and Silver, 2005; and McDonough 2005). Though these studies form a step in the right direction towards assessing the effects of interactional modifications on the learners' interlanguage, they suffer few major shortcomings ranging from using arbitrary criterion in assessing learners' development to having very short-term effects (see Ellis, Loewen and Erlam 2006, for a review and a critique of corrective feedback studies).

2.2.4 Textual enhancement

In an attempt to investigate the effects of focus on form instruction on learners' interlanguage, a large number of studies manipulated implicit and less intrusive techniques to draw learner's attention to certain aspects of the target language. Textual enhancement involves using a variety of techniques such as bolding, coloring, capitalizing, and highlighting to increase the visual salience of the target feature in hope of helping learners notice the form. In an early study of the effects of textual enhancement on language learning, Doughty (1991) reported positive results for textual enhancement in terms of awareness of the targeted structure (English relativization) and proficiency gains. Contrary to these findings, Leow (2001) investigated the effects of textual enhancement on the acquisition of Spanish formal imperatives and did not find any positive effects. Overall, textual enhancement studies have demonstrated that while this technique may result in noticing of the target structure, it will not lead to language acquisition, for noticing by itself, as mentioned earlier, is not sufficient for language learning to take place.

2.2. 5 Explicit rule-based instruction

DeKyser (1998), and Harley (1998) support a broader, more liberal and explicit approach to focus on form. In these studies, explicit instructional conditions have generally demonstrated positive effects on learners L2 development. Comparing various instructional conditions manipulating varying degrees of explicitness, Alanen (1995), Robinson (1997b, 2005), and Rosa & O'Neill (1999) found that learners exposed to explicit learning conditions outperformed those exposed to implicit learning conditions. This conclusion, along with the favorable attitude to explicit focus on form, as demonstrated by both second language

instructors and students (see Burgess and Etherington, 2002; Hyland, 2003), emphasize that grammar learning should be an indispensable component of the second language learning experience.

As the discussion above indicates, while research in second language acquisition has emphasized that grammar instruction is essential for language acquisition, there is considerable disagreement on how to present problematic aspects of the target language. Solutions to this dilemma cover a broad continuum ranging from a very narrow and implicit view of focus-on-form instruction to a more explicit view.

3. The Study

In general, SLA research has shown positive short-term effects for explicit form-focused instruction, which provides learners with direct presentation of rules (Alanen, 1995; DeKeyser, 1995; Robinson, 1997b; The author, 2005) over less explicit forms of instruction such as textual input enhancement that serve to initiate noticing of a specific targeted form and eventually learning it. However, de Graaff (1997) and DeKeyser (1995) caution that effectiveness of rule presentation is constrained by the complexity of the target feature, suggesting that it only works for categorical rules. Long and Robinson (1998), on the other hand, questioned the effectiveness and sufficiency of rule presentation as a pedagogic technique and advocated learning through more meaningful activities. Contrary to this position, N. Ellis (1993) argues that L2 learning under implicit conditions is “laboriously slow” because many instances of the target feature need to be noticed in the input before being registered in memory, and eventually retrieved for various tasks (see Norris and Ortega, 2000 for a comprehensive reviews of studies in this area).

The current study attempts to investigate the validity of the above-mentioned claims through teaching a complex syntactic feature (English dative alternation) using various instructional treatments that range in the level of explicitness with which the target feature is presented. Another issue worthy of investigation is the learners’ ability to generalize or transfer any acquired knowledge of the rules governing the target feature to novel contexts. Unfortunately, little research has explored the second issue, which jeopardizes any claims about effectiveness of focus-on-form instruction on learners’ second language development. In one

of the very few studies addressing this issue, Robinson (1997b), asserts that learners in both enhanced and instructed conditions (all being rule-based) are expected to generalize any learned knowledge because the type of instruction which these groups receive facilitates relevant noticing. On the other hand, implicit learning conditions lead to incidental learning, which he claims to be “memory-based, item-specific, and nongeneralizable”; therefore, in the absence of any memory-based knowledge for grammatical instances of the target feature, their performance will be negatively affected. These expectations were partially borne out in his study, as the group which received explicit rules managed to transfer successfully the learned knowledge to judgments of new sentences.

3. 1 Research Questions

This study deals with the following research questions:

- 1 - Do differences in the degree of explicitness manipulated in various instructional conditions differently affect learning of the target feature, as measured by a range of tasks assessing production and comprehension of the target feature?
- 2 - Will learners in the various instructed conditions be able to generalize any acquired knowledge to novel contexts, as measured by a range of tasks?

3.2 Participants

Four intact classes comprising forty-two participants, enrolled in low-intermediate English as a second language in a university in Washington, D.C. participated in this study. Participants in these classes were a mixture of graduate and undergraduate students from different linguistic backgrounds including Arabic, Chinese, Korean, etc. The four classes were randomly assigned to one of four groups: a textual enhancement group (TEG), a rule-oriented group (ROG), a content-oriented group (COG), and a control group (CG). All participants had to participate in a pretest, a posttest, and a delayed posttests. The tests consisted of three tasks: (1) a grammaticality judgment task and (2) a preference task (the students had to decide to what degree

sentences sounded natural or unnatural); each of these two tasks consisted of 60 sentences, of which 16 were distractors; and (3) a picture description task consisting of 26 pictures.

3.3 Target of Instruction

A complex syntactic feature, English dative alternation, was chosen as the target of instruction. Many researchers in both first and second language acquisition have pointed out that dative alternation is one of the most problematic areas for both L1 and L2 learners (e.g., Baker, 1979, and Gropen, Pinker, Hollander, Goldberg, for first language acquisition, and Carroll and Swain 1993; Hamilton 1994; Hawkins 1987, and Sawyer, 1995 for SLA). The problem with dative verbs stems from learners' tendency to observe regularities in the input, and subsequently form overgeneralizations of these regularities to cases where they do not apply.

Upon observing that a verb such as *buy* allows two types of complements, namely [NP PP] and [NP NP], learners acquire both complements as possible subcategorization for the verb, as shown in 1 and 2 below.

- 1 - Tom bought a book for Jane.
- 2 - Tom bought Jane a book.

However, upon encountering cases that follow the same pattern (e.g., grant, lend, send, throw, etc.), the issue goes beyond noticing subcategorization frames to capturing a regularity in the input which they receive. Accordingly, learners cognitively generalize this observation to all cases where a verb takes the complement [NP PP]. Thus, learners assume that each verb that occurs in the frame [NP PP] can also appear in [NP NP]. This overgeneralization is further promoted by the semantic similarity between verbs such as *buy* and *purchase*, *give* and *donate*, etc., leading to erroneous sentence as in 4 below.

- 3 - John purchased a book for Jane.
- 4 - * John purchased Jane a book.

Learners do not appear to be aware of the complex restrictions governing this phenomenon. Lack of awareness of the constraints on dative alternation may be a result of the semantic and morphological

opaqueness of these restrictions. In fact, the distinction between the two types of dative verbs could remain obscure unless some type of formal treatment intervenes to overcome the problem.

Twenty-six English dative verbs were chosen for this study, half of them alternate and the other half do not (see Appendix A, for the list of selected verbs). The choice of these verbs was based on a grammaticality judgment test conducted by Al-Osaili (1993). Further support for verb selection was obtained by the present researcher who gave a grammaticality judgment test to three native speakers of English. Their accuracy on the selected set of verbs exceeded 97%.

The selection of these 26 verbs was further scrutinized, following Robinson and Ha (1993), to meet another criterion such that all alternating verbs were monosyllabic and all non-alternating were disyllabic. This criterion was rather significant because the majority of native verbs could be defined in terms of their phonological and morphological make-up, where they generally are monosyllabic but sometimes disyllabic with initial stress. For this study, the morphological structure of verbs was the major defining criterion for the structural pattern in which any given dative verb occurred. Therefore, if the verb was disyllabic, no alternation was permitted. This principal, however, was complemented with a semantic criterion which required only monosyllabic verbs to have an animate recipient for alternation to occur. Applying this semantic criterion to disyllabic words results in an ungrammatical sentence, as shown in sentence (4) above.

3.4 Materials and Procedure

Three teaching packages were prepared for the three instructional treatments (TEG, ROG, COG). The treatment materials were administered in two fifty-minute sessions the next day following the pretest. In the first meeting, participants in all instructional groups were handed out the materials, which consisted of a short story that contained 18 instances of dative verbs showing both types of complement options (namely, NP NP and NP PP in the case of alternating verbs, and only one option, NP PP, for non-alternating verbs). The textual enhancement group received the same text with all dative verbs bolded and enlarged and each of their complements highlighted distinctively using bolding and underlining. These textual enhancement techniques purported to

present the target feature implicitly through increasing its visual salience. On the other hand, the rule-oriented group received the same text with a half-a-page explanation of the rules governing dative verbs (see Appendix B). As for the content-oriented group, it received the same text without any modifications or explanations. The short story was followed by two sets of comprehension questions, which intended to test their comprehension of the story to make sure that comprehension or its lack of did not intervene in the students' performance.

The second treatment session, conducted the next day after the first session and lasted for 50 minutes-the duration of the class time, was designed to reinforce what had been learned, if anything. Participants in all groups received the text, textually enhanced in the case of TEG and with explanation in the case of ROG. To avoid confounding the design and to make up for the time, which ROG spent on reading the rules, participants in the other groups were given a reading text which contained exemplars of the target feature.

The following day after the second treatment, the first posttest was administered. One month later, a second posttest was administered to assess the delayed effects of the instruction. It should be noted that at no point during the different phases of this experiment had the regular teachers of the four classes taught the dative alternation construction.

The assessment tasks used in this study included: (1) grammaticality judgment, (2) a preference, and (3) controlled writing. The first task consisted of 60 sentences created in a systematic manner, representing the various possibilities and constraints on dative alternation, including grammatical and ungrammatical ones. To avoid drawing the participants' attention to the target feature during the pretesting phase, which would jeopardize the validity of the treatment, 16 distractors, some of them grammatical and some ungrammatical, were included in the test. The second task, which was designed following White (1991) and Sawyer (1995), tested the participants' preference for the different combinations (whether permissible or not) in which dative verbs could occur. This task also consisted of 60 sentences of which 16 were distractors, and the participants had to circle their preference on a five-point naturalness scale ranged from completely unnatural to completely natural. While the first two tasks measured their recognition of the target feature, the third task measured the participants' ability to

produce in writing the target feature in a controlled context which intended to maximize the production of the relevant target feature. The task comprised a set of 26 pictures with each picture representing a single action. The students were given three noun arguments for each picture as well as the targeted verb (the verbs were split evenly between alternating and non-alternating). Underneath each picture, there were three blanks (this idea was similar to one used by Sawyer (1995), but with a different set of verbs). The students were asked to describe each picture in as many ways (up to three) as they could. If the participants were not able to provide more than one or two sentences, they were directed to write “no other way,” (see Appendix C for a sample from each task).

To explore the issue of whether learners were able to generalize any acquired knowledge to new contexts, the test verbs were divided into two sets: 11 old verbs, including only those verbs to which the subjects were exposed during the treatment, and 15 novel verbs, comprising verbs that were not part of the instruction (see Table 1 below).

Table 1

Table 1. Classification of dative verbs into novel and old verbs.

Novel Verbs			Old Verbs		
ANNOUNCE	BUILD	DICTATE	BRING	BUY	CONVEY
DONATE	LEND	PAY	DESCRIBE	EXPLAIN	MAKE
READ	PRESEN	PROPOSE	PASS	RECITE	REPORT
SAVE	SELECT	SELL	RETURN	THROW	
SEND	TRANSFER	WRITE			

3.5 Scoring

Each task had its own scoring procedure. The grammaticality judgment task (Task 1) consisted of 44 sentences, excluding the distractors. Each correct response received one point if a grammatical or ungrammatical sentence was correctly identified. An incorrect response received zero points. As for the preference task, a different scoring system was used. For grammatical sentences, the subject's choice was considered his/her score for that particular item, so if a subject circled 2 for a completely natural sentence, his/her score was 2. The reverse order was considered for ungrammatical sentences, so whenever, a subject

circled 1 (completely unnatural) for ungrammatical sentence s/he was given a score of 5. However, if s/he circled 5, s/he received 1 point. Each score was then divided by 5 to give each response a maximum score of one point for a maximum score of 44 points. Scoring for the production task was more complex because the participants had to provide more than one sentence to describe each picture. The following table conveys the different types of answers provided by the subjects and the scoring system used to calculate their scores:

Table 2
Scoring system for the picture description task.

Answer type: alternating verbs	Score	Answer type: non-alternating verbs	Score
0	0	0	0
NP PP	1	NP PP	2
NP NP	1	NP NP	0
Both	2	Both	1

As shown in the table, two scoring systems were used to distinguish between alternating and non-alternating verbs. In the case of alternating verbs, if a subject provided each of the correct arguments (NP PP, or NP NP), s/he received one point. If both structures were provided, two points were awarded. As for the second set of verbs, if a subject provided [NP PP], which is the only correct choice, s/he was given two points, the equivalent of full answer in the first set of verbs. In case s/he provided both structures, one point only was given. Thus for each set of verbs, the total score would be 26- giving the whole task a total of 52 points.

4. Results

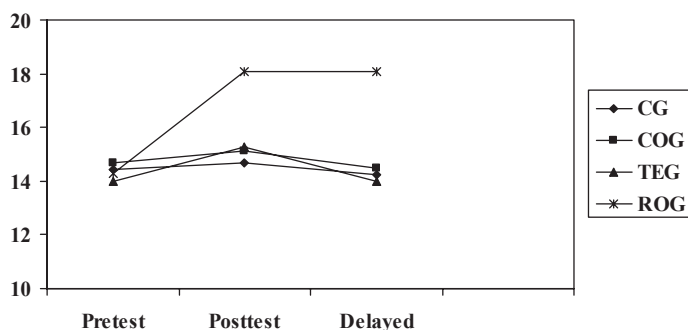
4.1 Explicit vs. Implicit Instruction: Performance on old verbs

The first research question deals with the issue of whether differences in the degree of explicitness manipulated in three different instructional conditions would affect the learning of the target feature in different ways. The set of old verbs consisted of those verbs which the subjects encountered during the treatment sessions. It comprised 11 verbs, of which 6 were non-alternating and 5 were alternating. To ensure that the subjects started at the same level at the outset of the experiment,

a one-way ANOVA was performed on the subjects' raw scores on each of the test tasks. ANOVA results indicate no significant difference between the four groups at the outset ($F = .200$, $p = .896$ for task 1, $F = 1.876$, $p = .154$ for task 2, and $F = 1.846$, $p = .159$ for task 3). So any improvement they had demonstrated would be attributable to the instruction which they received during the experiment.

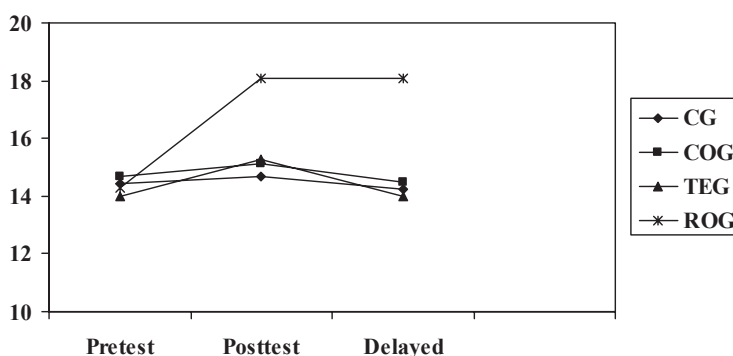
A repeated-measures ANOVA, with a one-within subjects (test), and one-between subjects (condition) factorial design conducted on the subjects' raw scores on task 1, showed a near significant main effect for test ($F = 5.644$, $p = .006$), a significant main effect for condition ($F = 3.072$, $p = .042$), and a significant interaction between test and condition ($F = 3.138$, $p = .009$). A post-hoc Scheffé test did not reveal any significant differences between groups on the immediate posttest and indicated that the condition effects were due to the following contrasts: ROG performed significantly better than CG ($p = .022$), COG ($p = .046$), and TEG ($p = .014$) on the delayed posttest. Despite the fact that ROG gained approximately a total of 4 points between the pretest and the immediate posttest, this gain was not enough to differentiate it statistically from other groups. Lack of significance on the immediate posttest could be attributed to the improvement which all groups demonstrated between the pretest and the immediate posttest; each of the instructional groups gained more than one full point. However, when CG, COG and TEG dropped their gains on the delayed posttest, and ROG maintained its progress; hence, a significant difference between ROG and the other groups was obtained.

Figure 1
Means scores for type of instruction by time: Task1, old verbs.



A repeated-measures analysis ANOVA performed on the subjects' raw scores on task 2 revealed a significant main effect for test ($F = 9.068, p = .000$), a significant main effect for condition ($F = 3.721, p = .021$), and a significant interaction between test and condition ($F = 6.684, p = .000$). A post-hoc Scheffé test showed that the condition effects were a result of the following contrasts: ROG performed significantly better than CG, TEG (.000 for all contrasts), and COG ($p = .02$) on the immediate posttest. There were no significant differences between CG and both COG and TEG ($p = .756, p = 1.000$ respectively), nor between COG and TEG ($p = .547$). Post-hoc analyses of the delayed posttest did not reveal any significant differences between the groups.

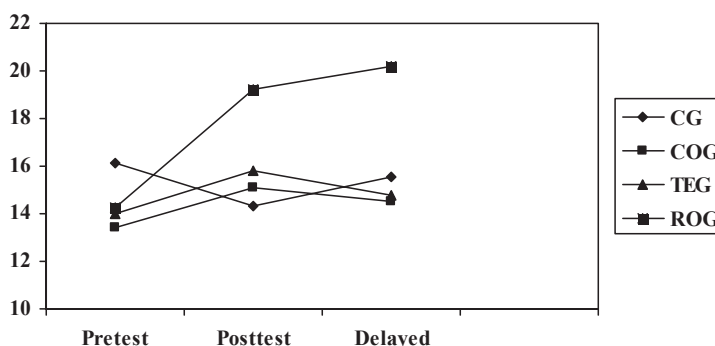
Figure 2
Mean Scores for type of instruction by time: Task 2, old verbs



To investigate the effects of treatment on subjects' performance on the old set of verbs in task 3, a repeated-measures ANOVA with a one within-subject, one between-subject factorial design was conducted on the subjects' raw scores. Results of analysis revealed a significant main effect for test ($F = 13.597, p = .000$), a significant main effect for condition ($F = 6.358, p = .002$), and a significant interaction between test and condition ($F = 8.522, p = .000$). A post-hoc Scheffé test indicated that the condition effects were due to the following contrasts: ROG performed better than CG ($p = .000$), COG ($p = .006$), and TEG ($p = .010$), no significant difference between CG and both COG and TEG ($p = .788$ and $.579$ respectively), and no significant difference between COG and TEG ($p = .989$) on the immediate posttest. Contrasts

for the delayed posttest showed that ROG performed better than CG ($p = .003$), COG ($p = .000$), and TEG ($p = .001$), no significant difference between CG and both COG and TEG ($p = .847$ and $.951$ respectively), and no significant difference between COG and TEG ($p = .990$).

Figure 3
Mean scores for type of instruction by time: Task 3, old verbs.



In sum, analyses of participants' performance on the three test tasks provide a positive answer for the first research question. Learners in ROG outperformed learners in all other groups in accuracy of use of the targeted feature in all tasks. Moreover, while TEG showed some progress, though not significant, between the pretest and the posttest in the three tasks, it failed to distinguish itself from CG and COG and to pattern in performance with ROG. In addition to that, while the ROG was able to maintain its gains over a long period, TEG's gains were almost completely lost on the delayed posttest. The COG manifested a pattern similar to TEG in achieving modest gains on the posttest only to drop them later on the delayed posttest, and CG did not show any improvement at any stage of the experiment.

To ensure that performance of the instructional groups (COG and TEG) was not affected by any of lack of understanding of the instructional text, two comprehension tasks which were part of the treatment were used to measure the participants' level of comprehension. Results of the three experimental groups are shown in Table 3.

Table 3.
Means, Standard deviations, and Standard errors on Comprehension Tasks.

	Comp1*			Comp2*		
	Mean	SD	SE	Mean	SD	SE
COG	8.44	1.236	.412	7.78	1.64	.547
TEG	7.55	2.544	.767	6.91	1.70	.513
ROG	8.23	1.641	.455	7.46	.877	.243

* Comp1 = multiple choice task; Comp2 = true and false task.

Results of ANOVA conducted on the participants' scores showed no significant difference between the three instructional groups in their comprehension of the treatment text, ($F = .635$, $p = .537$ for task 1, and $F = .990$, $p = .383$ for task 2). These results lead to the conclusion that the instructional materials were comprehensible and that comprehension was not an intervening factor in the participants' performance on any of the test tasks.

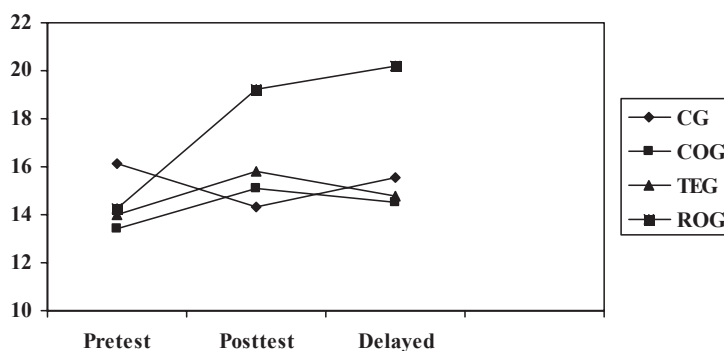
4.2. Generalizability of Learned Knowledge: Performance on Novel Verbs

The second research question deals with whether learners in the various instructional conditions would be able to generalize any acquired knowledge to new contexts. To answer this question, subjects' performance on the set of novel verbs in the three different tasks was analyzed. The set of novel verbs consisted of 15 verbs, which were not included in the treatment which the students received. Of these verbs, 8 were alternating and 7 were non-alternating. A one-way ANOVA, conducted on the subjects' performance on the pretest on each of the test tasks, revealed no significant difference among the four instructional conditions in regard to their knowledge of the targeted verbs ($F = .445$, $p = .722$ for task 1, $F = .807$, $p = .499$ for task 2, and $F = .744$, $p = .534$ for task 3). This shows that the subjects' knowledge of the new dative verbs was statistically similar at the outset of the experiment.

The subjects' performance on the new set of verbs in each of the three test tasks was submitted to a number of separate repeated-measures ANOVAs with one within (test), and one between-subject (condition) factorial design (test x condition). Results of ANOVAs for

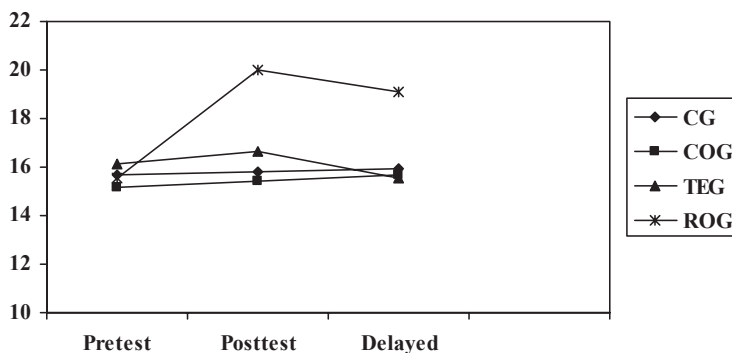
task 1 revealed a significant main effect for test ($F = 8.683, p = .000$), a significant main effect for condition ($F = 5.143, p = .005$), and a significant interaction between test and condition ($F = 3.245, p = .008$). A post-hoc Scheffé test revealed that the condition effects were due to the following contrasts: ROG performed significantly better than CG ($p = .003$) and both COG and TEG ($p = .018$) on the immediate posttest, and there were no significant differences between CG, COG, and TEG. Analysis of the delayed posttest showed that ROG performed significantly better than TEG ($p = .031$). Contrasts between ROG and both CG and COG were not significant ($p = .081, p = .135$ respectively). Lack of significance between ROG and both CG and COG on the delayed posttest was a result of a slight increase in both groups' means as well as a decline in the ROG's performance.

Figure 4
Mean scores for type of instruction by time: Task 4, old verbs.



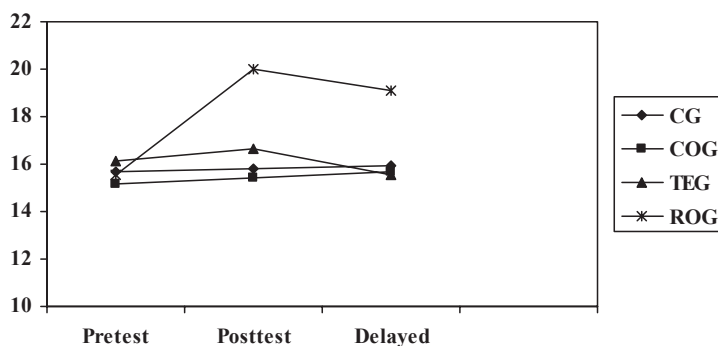
Results of a repeated-measures ANOVA conducted on task 2 also revealed a significant main effect for test ($F = 10.413, p = .000$), a significant main effect condition ($F = 7.993, p = .000$), and a significant interaction between test and condition ($F = 6.380, p = .000$). A post-hoc Scheffé test revealed that ROG performed significantly better than CG and COG ($p = .000$ for both) and TEG ($p = .003$) on the posttest. No significant difference was found between the other groups. The test revealed the following contrasts for the delayed posttest: ROG was significantly better than CG ($p = .039$), COG ($p = .032$), and TEG ($p = .018$). Contrasts for the other groups did not show any significant differences.

Figure 5
Mean scores for type of instruction by time: Task 5, old verbs.



Results of a repeated-measures ANOVA conducted on task 3 revealed a significant main effect for test ($F = 27.434$, $p = .000$), a significant main effect for condition ($F = 4.187$, $p = .013$), and a significant interaction between test and condition ($F = 15.040$, $p = .000$). Post-hoc Scheffé tests showed that ROG performed significantly better than CG ($p = .000$), and both COG and TEG ($p = .001$) on immediate the posttest. Contrasts between the other groups did not show any significant differences. Analysis of the delayed posttest revealed that ROG was significantly better than CG ($p = .016$), COG ($p = .004$, and TEG ($p = .019$), and contrasts between the other groups were not significant.

Figure 6
Mean scores for type of instruction by time: Task 6, old verbs.



In general, results of the subjects' performance on the novel set of verbs were comparable to their performance on the old set of verbs. While subjects in ROG demonstrated steady progress between the pretest and the posttest and managed to maintain their improvement over a period of one month, the subjects in the other groups achieved only modest gains. Analysis of the results thus shows that subjects in ROG not only managed to outperform the other groups on verbs which they encountered during the treatment sessions, but were also able to generalize successfully the acquired knowledge to new verbs. As for the other groups, they generally showed some progress, but it was not significant.

5. Discussion

With regard to the first research question about the effects of condition of learning, the various analyses show that rule-oriented group achieved significant progress between the pretest and posttest. On the contrary, textual-enhancement group failed to make any significant progress. More significant was rule-oriented group's ability to maintain its gains over a period of one month. This result shows that when the object of instruction is a complex syntactic feature such as dative alternation, implicit instructional conditions such as textual input enhancement and content-oriented instruction are insufficient to induce positive changes in learners' L2 ability. Alternatively, explicit rule presentation seems to be an effective way to draw learners' attention to the formal properties of the input. This finding is corroborated by Robinson (1997a) and de Graaff (1997) who showed that learners receiving explicit instruction performed better than those who did not. Results from Rosa and O'Neill (1999) manifested similar pattern where learners receiving explicit instruction demonstrated higher levels of intake than those receiving less explicit instruction.

The insufficiency of implicit instruction as means of inducing changes in participants' interlanguage system is supported by Izumi (2002), and White (2001). These studies demonstrated that increasing the perceptual salience of the target features using textual enhancement techniques might not be sufficient to trigger the necessary cognitive processes required for language learning to occur. Lack of positive outcomes for implicit instructional conditions may be accounted for,

according to Leow (1997a), by the limited exposure to the enhanced input and by participants' level of proficiency. Subjects in this study were exposed to the enhanced input for two fifty-minute sessions. This could have been too short to trigger the necessary cognitive processes to deal with such input, especially when considering N. Ellis's (1993) assertion that implicit instruction is often slow and laborious and usually requires longer time than explicit instruction to become effective.

While many emphasized that explicit rule presentation works only in cases of categorical rules describing simple patterns of covariance (e.g., DeKeyser, 1995), this study demonstrates that, even when the object of instruction is a complex syntactic feature, explicit presentation of rules results in significant gains in terms of accuracy of grammaticality judgment and in production as well. To find out the factors that contributed to rule-oriented group's performance, analysis was conducted on students' scores on a debriefing questionnaire which probed the students' noticing of the target feature. Results of a Chi-square test did not reveal any significant difference among the three groups in the extent of reported noticing of the target feature, ($P^2 = 4.766$, $p = .092$). This leads to the conclusion that noticing is not the attentional process that facilitated learning the target feature and generalizing the rules governing it to novel cases.

Learners' awareness at level of understanding, which was operationalized as the participants' ability to come up with structural description of the target feature, proved to be the critical factor in facilitating learning of the target feature. A 2x3 Chi-square test was conducted on the participants' frequency counts collected based on their responses to a debriefing questionnaire. Results of the chi-square showed a significant difference among the three instructional groups ($P^2 = 15.733$, $p = .000$). Post hoc 2x2 chi-square comparisons showed that the difference was a result of ROG significantly outperforming all other groups in ability to verbalize the rules governing the target feature. The rule-oriented group did significantly better than both the textual-enhancement group ($p = .001$) and the content-oriented group ($p = .003$). No significant difference was found between content-oriented group and the textual-enhancement group ($p = .660$).

Both rule presentation and textual enhancement led to noticing of

the target feature. However, it seems that since the target is a complex feature, noticing by itself was not sufficient to induce changes in learners' system, which is why the TEG did not achieve any significant results. On the contrary, understanding, another measure of attention, appears to correlate positively with language development. Only learners in the ROG were able to verbalize the rules governing the target feature, and since ROG was the only group to demonstrate positive gains, we may safely conclude that understanding was responsible for the positive outcomes.

As for the second research question, analyses of the results show that the rule-oriented group was superior to all other groups in their ability to generalize acquired knowledge to novel verbs. The group performed significantly better than all other groups on all tasks. Moreover, the group's retention of learned knowledge was maintained over a relatively long period. Contrary to our expectations, TEG failed in all test tasks to perform at a higher level than the other groups, which leads us to conclude that learning under this enhanced condition and, to that matter, instance-based condition (COG) may not be sufficient to facilitate the acquisition of a complex syntactic feature, let alone generalize any learned knowledge to new instances. This result concurs with Robinson (1997a) which showed that learners in the instructed conditions displayed greater generalizability to novel stimuli than learners in the enhanced, implicit and incidental conditions. Having rule-based representation of the constraints governing dative alternation was probably the main factor that facilitated generalizability of knowledge acquired during the treatment sessions to novel instances. Robinson (1997a: 242) explains that generalizability of acquired knowledge in explicit learning condition is a result of these rules being "accurate, determinate, and practice."

6. Conclusion

The main results of this study have confirmed that explicit rule-based instruction is more facilitative than implicit instruction in acquiring knowledge regulating a complex syntactic feature. It was found that explicit rule presentation aided L2 learners in attending to the rules governing the English dative alternation construction. On the other hand, meaning-based treatments (whether in the form of textually

enhanced input, or high incidence of the target feature in a given text) failed in making the targeted linguistic form salient to induce any significant changes in the learners' knowledge of the form as measured by their performance on the posttests.

A more significant contribution of this study pertains to the result showing that not only does explicit rule-based instruction lead to the acquisition of the target form, but it also leads to generalizing any acquired knowledge to new contexts. The majority of the studies in SLA which explored the facilitative effects of form-focused instruction have overlooked the issue of whether L2 learners would be able to generalize any acquired knowledge to new contexts. Results of this study shows that learning under an explicit learning condition is not necessarily instance-based; learners were able to move beyond the various instance of the target feature to successful application of the learned rules to new verbs.

With reference to grammar pedagogy, the present study offers strong evidence that, for language instruction to be successful, total reliance on meaning-based instruction may not be sufficient and that explicit shift to form is necessary, especially when the form is a complex one, is critical for language learning to occur. This conclusion highlights a serious pedagogical drawback in all content/task-based programs. As much as learners need to understand content or be able to perform a specific task, they need to learn how to formulate their utterances in an accurate way. Accordingly, in designing L2 materials, both teachers and educators need to find the appropriate way to incorporate explicit presentation of certain rules into the L2 curricula.

Appendix A. Alternating and non-alternating dative verbs used in the study.

Alternating Verbs		Non-alternating verbs	
PAY	SEND	REPORT	RETURN
SAVE	THROW	DONATE	EXPLAIN
READ	BRING	ANNOUNCE	SELECT
BUILD	LEND	CONVEY	TRANSFER
MAKE	PASS	RECITE	PRESENT
WRITE	SELL	DESCRIBE	DICTATE
BUY		PROPOSE	

Appendix B: Metalinguistic Explanations Handout

Verbs that have one syllable (such as *give, buy, make*, etc.) occur in the following types of sentences:

1. John gave Tom a book.
2. John gave a book to Tom.

Note that the noun which directly follows the verb in sentences such as (1) must be animate (human). Consider the following examples:

3. * John brought the kitchen a sack of rice. * = incorrect
4. John brought Sam a sack of rice.

Verbs that have two syllables (such as *report, explain, convey*, etc.) occur in sentences like (5) only:

5. John reported the accident to the police.

But not in a sentence like (6):

- 6.* John reported the police the accident. * = incorrect

Note that the animacy rule does not apply for two-syllable verbs, as shown in (5) above.

Appendix C: Sample of the testing method

1. Grammaticality Judgment

Read the following sentences carefully, and (a) decide if they are correct (or incorrect (X)). If a sentence is incorrect, (b) please think of some rule or generalization that the sentence violates (i.e., explain why you think the sentence is wrong). If you have the same reason for more than one sentence, with no additional comments, simply put “same reason as #____.”

1. ____ John spilled the couch with water.

Rule: _____

2. ____ Sara paid James a lot of money to clean her apartment.

Rule: _____

3. ____ Alan selected his son a collection of new novels.

Rule: _____

2. Preference Task

(A) Decide to what degree each of the following sentences sounds natural or unnatural. Circle the number that best reflects your opinion.

A rating of (1) would mean that the sentence sounds completely unnatural (odd) to you, while a rating of (5) would mean that the sentence sounds completely natural.

Circle (2) for sentences that sound unnatural but not totally unnatural, (3) for sentences you are unsure of, and (4) for sentences that sound slightly less than perfectly natural.

(B) For each sentence you judge to be unnatural, please circle the odd part.

Completely Completely
Unnatural Natural

1. Tom drove recklessly his car

1. The judge conveyed no sentiments towards the defendant.

1 2 3 4 5

2. Alan recited his new poem to the audience.

1 2 3 4 5

3. Writing Task

Please describe the actions that are shown in each picture using complete English sentences. In each sentence, please use all the verbs and nouns provided in the pictures. Describe the pictures in as many ways as you can (up to 3) as long as they sound natural to you. For some pictures you may not be able to make more than one sentence. In this case, please put "No other way" next to numbers 2 & 3.

1. report

تدريس قواعد اللغة بطرق مباشرة أو غير مباشرة: تطبيق المعارف النحوية المكتسبة في سياقات جديدة

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مسقط - عُمان

الملخص

يتناول هذا البحث العلاقة بين طريقة عرض قواعد اللغة وتعلم تلك القواعد، كما أنه يبحث في مقدرة متعلمي اللغات الأجنبية على تطبيق قواعد اللغة المكتسبة في سياقات جديدة، شارك في هذه الدراسة ٤٢ طالباً مسجلين في برنامج تعلم اللغة الإنجليزية للمستوى المتوسط - الأدنى في إحدى الجامعات في مدينة واشنطن العاصمة - تم تقسيم الطلاب بشكل عشوائي إلى أربع مجموعات كما يلي: ١ - مجموعة تعلم القواعد بطريقة مباشرة. ٢ - مجموعة تعلم القواعد بطريقة غير مباشرة. ٣ - مجموعة المعاني. ٤ - المجموعة الضابطة. ولقد أظهرت النتائج تفوق المجموعة الأولى على باقي المجموعات في جميع القياسات سواء تلك المتعلقة بالدقة اللغوية، أو باستخدام اللغة، علاوة على ذلك تمكن الطلاب في هذه المجموعة من تطبيق المعارف النحوية المكتسبة في سياقات جديدة.

REFERENCES

- 1 - Abu Radwan, A., (2005) The effectiveness of explicit attention to form in language learning. *System*, 33, 69-87.
- 2 - Alanen, R., (1995) Input enhancement and rule presentation in second language acquisition. In R. Schmidt (ed.) *Attention and awareness in foreign language learning* (pp 259-302). Honolulu:University of Hawaii at Manoa.
- 3 - Allen, Q. (2000) Form-meaning connections and the French causative. *Studies in Second Language Acquisition*, 22, 465-483.
- 4 - Andersen, R. (1983) *The architecture of cognition*. Mass: Harvard University press.
- 5 - Al-Osaili, A. (1993) *The acquisition of dative alternation in English by native speakers of Arabic*. A dissertation submitted to the University of Pittsburgh.
- 6 - Bailey, N., C. Madden, & S. Krashen (1974) Is there a “natural sequence” in adult second language processing? *Language Learning* 24, 234-243.
- 7 - Baker, C. (1979) Syntactic theory and the projection problem. *Linguistic Inquiry* 10, 533-81.
- 8 - Benati, A. (2001) A comparative study of the effects of processing instruction and output-based instruction on the acquisition of Italian future tense. *Language Teaching Research* 5, 95-127.
- 9 - Bialystok, K. (1994) analysis and control in the development of second language proficiency. *Studies in Second Language Acquisition*, 16, 2, 157-168.
- 10 - Burgess, J. & S. Etherington (2002) Focus on grammatical form: explicit or implicit? *System* 30, 433-458.
- 11 - Carpenter, H., K. Jeon, K. & A. Mackey (2006) Learners’ interpretation of recasts. *Studies in Second Language Acquisition* 28, 209-236.

- 12- Carroll, S. & M. Swain (1993) Explicit and implicit negative feedback. *Studies in second Language Acquisition* 15, 357-386.
- 13- Day, E. & S. Shapson (1991) Integration of formal and functional approaches to language teaching in French immersion: An experimental study. *Language learning*, 41, 1, 25-58.
- 14- De Bot, K. W. Lowie, & M. Verspoor (2007) A dynamic systems theory to second language acquisition. *Bilingualism: Language and Cognition*, 10, 1, 7-21.
- 15- De Graaff, R. (1997) The Esperanto experiment: Effects of explicit instruction on second language acquisition. *Studies in Second Language acquisition* 19, 249-276.
- 16- DeKeyser, R. (1998) Beyond focus on form: Cognitive perspectives on learning and practicing second language grammar. In C. Doughty and J. Williams (eds.) *Focus on Form in Classroom Second language Acquisition* (pp 42-63). Cambridge: Cambridge University Press.
- 17- DeKeyser, R. (1995) Learning second language grammar rules: An experiment with miniature linguistic system. *Studies in Second Language Acquisition* 17, 3, 249-97.
- 18- Doughty, C. (1991) Second language instruction does make a difference: Evidence from an empirical study of relativization. *Studies in Second Language Acquisition* 13, 431-469.
- 19- Doughty, C. & E. Varela (1998) Communicative focus on form. In C. Doughty and J. Williams (Eds.) *Focus on Form in Classroom Second language Acquisition* (pp 114-138) Cambridge: Cambridge University Press.
- 20- Doughty, C. & J. Williams (eds.) (1998a) *Focus on Form in Classroom Second language Acquisition*. Cambridge: Cambridge University Press.
- 21- Doughty, C. & J. Williams (1998b) Pedagogical choices in focus on form. In C. Doughty & J. Williams (eds.) *Focus on Form in Classroom Second language Acquisition* (pp. 197-261). Cambridge: Cambridge University Press.

- 22- Dulay, H. & M. Burt (1974) Natural sequences in child second language acquisition. *Language Learning* 24, 37-53.
- 23- Ellis, R., S. Loewen & R. Erlam (2006) Implicit and explicit corrective feedback and the acquisition of L2 grammar. *Studies in Second Language Acquisition* 28, 339-368.
- 24- Ellis, R. (2001) Introduction: Investigating form-focused instruction. *Language Learning*, 51 Supplement, 1-46.
- 25- Ellis, R. (2002) Does form-focused instruction affect the acquisition of implicit knowledge? *Studies in Second Language Acquisition* 24, 223-236.
- 26- Ellis, R. (2005) Measuring explicit and explicit knowledge of a second language: A psychometric study. *Studies in Second Language Acquisition* 27, 141-172.
- 27- Ellis, N. (1993) Rules and instances in foreign language learning: Interactions of explicit and implicit knowledge. *European Journal of cognitive Psychology* 5, 289-318.
- 28- Ellis, N. (1994) Implicit and implicit learning of languages. London, Academic Press Limited.
- 29- Gropen, J., S. Pinker, M. Hollander, R. Goldberg, & R. Wilson (1989) The learnability and acquisition of the dative alternation in English. *Language* 65 (2), 203-257.
- 30- Gass, S., I. Svetics, & S. Lemelin (2003) Differential effects of attention. *Language Learning* 53(3), 497-545.
- 31- Gregg, K. (1984) Krashen's monitor model and Occam's razor. *Applied Linguistics*, 5, 79-100.
- 32- Hamilton, R. (1994) Double object dative and the possession condition in L2 English relativization: A proto-role entailment analysis. *Proceedings-Eastern-State-Conference-on-Linguistics (ESCOL)* 11, 140-151.
- 33- Harley, B. (1998) The role of form-focused tasks in promoting the second language acquisition of children in grade 2. In C. Doughty and J. Williams (eds.) *Focus on Form in Classroom Second language Acquisition* (pp 156-174). Cambridge: Cambridge University Press.

- 34- Harley, B. & M. Swain (1984) The interlanguage of immersion students and its implications for second language teaching (pp. 291-311) In A. Davies, C. Cripser and A. Howat (eds.) *Interlanguage*. Edinburgh: Edinburgh University Press.
- 35- Hawkins, R., 1987. Markedness and the acquisition of English dative alternation by L2. *Second Language Research*, 4, 20-55.
- 36- Hyland, F. (2003) Focusing on form: student engagement with teacher feedback. *System* 31 (2), 217-230.
- 37- Hulstijn, J. (2002) Towards a unified account of the representation, processing and acquisition of second language knowledge. *Second Language Research* 18, 193-223.
- 38- Izumi, S. (2002) Output, input enhancement, and the noticing hypothesis: An experimental study on ESL relativization. *Studies in Second Language Acquisition* 24, 541-577.
- 39- Krashen, S. (1993) The effects of formal grammar teaching: Still peripheral. *TESOL Quarterly* 27, 722-725.
- 40- Krashen, S. (1989) We acquire vocabulary and spelling by reading: Additional evidence for the input hypothesis. *The Modern Language Journal* 73, 440-64.
- 41- Krashen, S. (1985) *The input Hypothesis: Issues and implications*. New York: Longman.
- 42- Lee, J. & B. VanPatten (1995) *Makign communicative teaching happen*. San Francisco: McGraw-Hill.
- 43- Lee, S. (2007) Effects of textual enhancement and topic familiarity on Korean EFL students' reading comprehension and learning of passive form. *Language Learning*, 57, 1, 87-118.
- 44- Leow, R. (2001) Attention, awareness, and foreign language behavior. *Language Learning* 51, 113-155.
- 45- Leow, R (1997a) Attention, awareness, and foreign language behavior. *Language Learning* 47 (3), 467-505.

- 46- Leow, R. (1997b) The effects of input enhancement and text length on adult L2 readers' comprehension and intake in second language acquisition. *Applied Language Learning* 8 (2), 151-182.
- 47- Loewen, S. (2005) Incidental Focus on Form and second language learning. *Studies in Second Language Acquisition* 27, 361-386.
- 48- Long, M. & P. Robinson (1998) Focus on Form: Theory, research and practice. In C. Doughty & J. Williams (eds.) *Focus on Form in Classroom Second language Acquisition* (pp. 15-41) Cambridge: Cambridge University Press.
- 49- Long, M. (1991) Focus on Form: A design feature in language teaching methodology. In K. de Bot, R. Ginsberg and C. Kramsch (eds.) *Foreign language research in cross-cultural perspective* (pp. 39-52). Amsterdam: John Benjamins.
- 50- Long, M. (1996) Implicit negative feedback in SLA. *A paper presented at Georgetown University*.
- 51- Long, M. (2000). Focus on form in task-based language teaching. In R. Lambert and E. Shohamy (eds.) *Language policy and pedagogy: Essays in honor of A. Ronald Walton* (pp. 179-192). Philadelphia: Benjamins.
- 52- Long, M., S. Inagaki, & L. Ortega (1998) The role of implicit negative feedback in SLA: Models and recasts in Japanese and Spanish. *Modern Language Journal* 82(3), 357-371.
- 53- Lyster, R. (1994) The effect of functional-analytic teaching on aspects of French immersion students' sociolinguistic competence. *Applied Linguistics* 15, 262-287.
- 54- Mackey, A. & R. Silver (2005) Interactional tasks and English L2 learning by immigrant children in Singapore. *System*, 33, 239-260.
- 55- Mackey, A. & R. Oliver (2002) Interactional feedback and children's L2 development. *System* 30, 459-477.
- 56- Mackey, A. & J. Philip (1998) Conversational interaction and second language development: Recasts, responses, and red herrings? *The Modern Language Journal* 82, 3, 338-356.

- 57- McDonough, K. (2005) Identifying the contributions of negative feedback and learners' responses to L2 development. *Studies in Second Language Acquisition* 27, 79-103.
- 58- McLaughlin, B. (1978) The monitor model: some methodological considerations. *Language Learning*, 28, 309-332.
- 59- McLaughlin, B. (1987) Theories of second language learning. London: Edward Arnold.
- 60- Nassaji, H. & S. Fotos (2004) Current Developments in research on the teaching of grammar. *Annual Review of Applied Linguistics* 24, 126-145.
- 61- Norris, J. & O. Lourdes (2000) Effectiveness of L2 instruction: A research synthesis and quantitative meta-analysis. *Language Learning*, 50, 3, 417-528.
- 62- Pica, T. (1996). Do second language learners need negotiation. *IRAL XXXIV/1*, 1-21.
- 63- Pienemann, M. (1984) Psychological constraints on the learnability of languages. *Studies in Second Language Acquisition*, 6, 2, 186-212.
- 64- Pienemann, M. (1989) Is language teachable? Psycholinguistic experiments and hypotheses. *Applied Linguistics*, 10, 1, 52-79.
- 65- Robinson, P. (2005) Cognitive abilities chunk-strength, and frequency effects, and implicit artificial grammar and incidental L2 learning: Replications of Reber, Walkenfeld, and Hernstadt (1991) and Knowlton and Squire (1996) and their relevance for SLA. *Studies in Second Language Acquisition* 27, 235-268.
- 66- Robinson, P. (1997a) Individual differences and the fundamental similarity of implicit and explicit adult second language learning. *Language Learning* 47 (1), 45-99.
- 67- Robinson, P. (1997b) Generalizability and automaticity of second language learning under implicit, incidental, enhanced, and instructed conditions. *Studies in Second Language Acquisition* 19, 223-247.

- 68 - Robinson, P. & M. Ha (1993) Instance theory and second language rule learning under explicit conditions. *Studies in Second Language Acquisition* 15, 413-438.
- 69 - Rosa, E. & R. Leow (2004) Computerized task-based exposure, explicitness, type of feedback, and Spanish L2 development. *The Modern Language Journal* 88, 192-216.
- 70 - Rosa, E. & M. O'Neill (1999) Explicitness, intake and the issue of awareness: Another piece to the puzzle. *Studies in Second Language Acquisition* 21, 511-556.
- 71 - Rutherford, W. (1987) The meaning of grammatical consciousness-raising. *World Englishes* 6, 3, 209-216.
- 72 - Sanz, C. & K. Morgan-Short (2004) Positive evidence versus explicit rule presentation and explicit negative feedback: A computer-assisted study. *Language learning* 54, 35-78.
- 73 - Sawyer, M. (1995). Learnability, teachability, and argument structure: Adult Japanese learners' acquisition of the English dative alternation. *A dissertation presented to the University of Hawaii*.
- 74 - Schmidt, R. (1990) The role of consciousness in second language learning. *Applied Linguistics* 11, 17-46.
- 75 - Schmidt, R. (1993) Awareness and second language acquisition. *Annual Review of Applied Linguistics* 13, 206-226.
- 76 - Schmidt, R. (1995) Consciousness and foreign language learning: A tutorial on the role of attention and awareness in learning. In R. Schmidt (ed.) *Attention and awareness in foreign language learning*. University of Hawai'i, Second Language Teaching and Curriculum Center, Honolulu, Hawai'i.
- 77 - Schmidt, R. (2001) Attention. In P. Robinson (ed.) *Cognition and second language instruction* (pp. 3-32). New York: Cambridge University Press.
- 78 - Sharwood Smith, M. (1981) Consciousness-raising and the second language learner. *Applied Linguistics* 2, 159-169.
- 79 - Shehadah, A. (2003) Learner output, hypothesis testing, and internalizing linguistic knowledge. *System* 31, 155-171.

- 80 - Swain, M. (1991) French immersion and its offshoots: Getting two for one. In B. Freed (ed.) *Foreign language research and the classroom*. Lexington, MA: D. C. Heath.
- 81 - Swain, M. (1998) Focus on form through conscious reflection. In C. Doughty and J. Williams (eds.) *Focus on Form in Classroom Second language Acquisition* (pp 64-81). Cambridge: Cambridge University Press.
- 82 - Swain, M. & S. Lapkin, S. (1995) Problem in output and cognitive processes they generate: A step towards second language learning. *Applied Linguistics*, 16, 3, 371-391.
- 83 - Swain, M. & S. Lapkin, S. (1998) Interaction and second language learning: two adolescent French immersion students working together. *The modern Language Journal* 82(3) 320-337.
- 84 - Swain, M. & S. Lapkin (1989) Canadian immersion and adult second language teaching-What's the connection. *The Modern Language Journal* 73, 150-159.
- 85 - Tomlin, R. & V. Villa (1994) Attention in cognitive science and second language acquisition. *Studies in Second Language Acquisition* 16, 183-203.
- 86 - VanPatten, B. (2003) *Processing Instruction*. Hillsdale: Erlbaum.
- 87 - VanPatten, B. (2002) Processing instruction: An update. *Language Learning* 52, 755-803.
- 88 - VanPatten, B. & C. Sanz (1994) From input to output: Processing instruction and communicative tasks. *Unpublished manuscript*.
- 89 - VanPatten, B. & T. Cadierno (1993). Input and processing and second language acquisition: A role for instruction. *The Modern Language Journal* 77, 45-57.
- 90 - White, L. (1991) Adverb placement in second language acquisition: Some effects of positive and negative evidence in the classroom. *Second Language Research* 7, 2, 133-161.
- 91 - White, J., 2001. The effectiveness of spontaneous attention to form. *System* 29, 325-329.