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DOES EXPLICIT GRAMMAR INSTRUCTION WORK?

明示的文法教授法は有効か

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Abstract: This article examines the role that explicit instruction plays in second language acquisition. It argues that it is necessary to make a clear distinction between implicit and explicit instruction and also to distinguish different types of explicit instruction in terms of whether they are proactive or reactive and inductive or deductive. It is also important to examine the effects of explicit instruction in terms of the kind of L2 knowledge that results (i.e. implicit vs. explicit). In general, studies that have investigated the effects of the two types of instruction have been inconclusive as they have not included a convincing measure of implicit knowledge. However, they do show that explicit instruction is often superior for developing explicit knowledge. Even if explicit instruction only results in explicit knowledge, this can be seen to be of value as (1) explicit knowledge is an integral part of language proficiency and (2) it primes the processes responsible for the development of implicit knowledge. The article concludes with an examination of the relative merits of proactive deductive and inductive explicit instruction and a case is made for the greater use of consciousness-raising tasks (a type of proactive inductive explicit instruction) when teaching explicit knowledge.

《要旨》本論は、明示的教授法が第二言語習得にどのような効果をもたらすのかについて検証する。まず暗示的教授法と明示的教授法の違いを明確にする必要性について論じ、さらに能動的・受動的、帰納的・演繹的という観点から幾つかの異なるタイプの明示的教授法を区別する必要性を述べる。また、学習者が第二言語として得る知識の種類（暗示的知識と明示的知識）という観点から明示的教授の効果を検討することも重要である。明示的・暗示的という2種類の教授法の効果を調査した従来の研究は、学習者が獲得する暗示的知識の妥当な測定方法を示していないために、その結論も概して中途半端なものになっている。しかしながら、これらの研究によって、明示的知識の発達には明示的教授の方が優れている場合が多いことが立証されていることは確かである。たとえ明示的教授が明示的知識の獲得だけに終わるとしても、(1) 明示的知識は言語運用力に不可欠な要素であり、(2) 明示的知識は暗示的知識の発達をつかさどる過程の切っ掛けとなるという点において明示的教授法は意義があるといえよう。本論の最後では、能動的演繹的教授法と帰納的明示的教授法の相対的な長所を検討し、明示的知識を教える際に学習者の意識を高めるタスク（コンシャスネス・レイジングタスク、能動的帰納的明示的教授法の一つ）を多く使うほうが有効であることを主張する。

1. Introduction

It is probably true to say that all language teachers engage in explicit instruction at some time or another and in some form or another. Traditionally, language instruction has involved ex-

explicit instruction. Grammar translation, the audiolingual method, the oral-situational method and PPP (present-practise-produce) involve either deductive or inductive explicit instruction. But even methods that are more communicative in nature, such as task-based language teaching (Ellis 2003), have recourse to explicit techniques.¹ It is very pertinent to ask, therefore, whether explicit instruction works.

In order to answer this question it is necessary to answer a number of separate questions:

1. What do we mean by explicit instruction?
2. What do we mean by 'works'?
3. How can we investigate whether explicit instruction results in L2 acquisition?
4. Does explicit instruction result in acquisition?
5. Do some types of explicit instruction work better than others?

The purpose of this article is to address these questions, drawing on both literature relating to language pedagogy and to second language acquisition (SLA).

2. Defining explicit instruction

2.1. Explicit vs. implicit instruction

To understand what is meant by 'explicit instruction' it is first necessary to consider how it differs from 'implicit instruction'. In Ellis (2008) I explained the difference as follows:

1. Explicit instruction involves 'some sort of rule being thought about during the learning process' (DeKeyser 1995). In other words, learners are encouraged to develop metalinguistic awareness of the rule. This can be achieved deductively, as when a rule is given to the learners or inductively as when the learners are asked to work out a rule for themselves from an array of data illustrating the rule.
2. Implicit instruction is directed at enabling learners to infer rules without awareness. Thus it contrasts with explicit instruction in that there is no intention to develop any understanding of what is being learned.

It should be noted, however, that implicit instruction need not be entirely devoid of attempts to induce learners to attend to form. As Housen and Pierrard (2006) point out, the key difference lies in whether the instruction 'directs' or 'attracts' attention to form. Explicit instruction directs learners to not just attend to grammatical forms but also to develop conscious mental representations of them. Learners know what they are supposed to be learning. Implicit instruction aims to attract learners' attention to exemplars of linguistic forms as these occur in communicative input but does not seek to develop any awareness or understanding of the 'rules' that describe these forms. Housen and Pierrard also identify a number of other characteristics that differentiate implicit and explicit instruction, as shown in Table 1.

¹ For a good example of how explicit instruction can be woven into a task-based lesson see Samuda (2001).

Table 1: Implicit and explicit forms of Form-focused Instruction (Housen and Pierrard 2006)

Implicit FFI	Explicit FFI
<ul style="list-style-type: none"> * <i>attracts</i> attention to target form * is delivered <i>spontaneously</i> (e.g. in an otherwise communication-oriented activity) * is unobtrusive (minimal interruption of communication of meaning) * presents target forms in context * makes no use of metalanguage * encourages free use of the target form 	<ul style="list-style-type: none"> * directs attention to target form * is <i>predetermined</i> and <i>planned</i> (e.g. as the main focus and goal of a teaching activity) * is obtrusive (interruption of communicative meaning) * presents target forms in isolation * uses metalinguistic terminology (e.g. rule explanation) * involves controlled practice of target form

The perspective adopted by Housen and Pierrard (and Ellis) is that of the designer of the instruction (i.e. the teacher or the materials writer). However, as Batstone (2002) pointed out the external, instructional perspective may not match the internal, learner's perspective. Thus, instruction that is intended to be explicit may be responded to as affording opportunities for incidental, implicit learning and, conversely, instruction that is designed to be implicit may be responded to as an opportunity for intentional, explicit learning. However, teachers must necessarily operate on the assumption that students will respond to the instruction as intended.

Note should be taken of the fact that there is an ongoing and unresolved debate between the proponents of task-based instruction (a form of implicit instruction) and proponents of the more traditional PPP (a form of explicit instruction) – see for example Swan (2005) and Ellis (2009). My main concern here is with explicit instruction but later I will consider research that has compared the effects of implicit and explicit instruction. First I will consider the different ways in which explicit instruction can manifest itself.

2.2. Types of explicit instruction

In Ellis (2008) I distinguished four types by referring to two dimensions of explicit instruction. The first is the deductive/inductive dimension. As noted above, deductive explicit instruction involves providing learners with explicit information about a grammatical feature. Inductive explicit instruction provides learners with the data and guidance that they need to derive their own understanding of the grammatical feature. It entails the use of what I have called 'consciousness-raising tasks'. It can also take the form of practice exercises designed to develop learners' awareness of how a grammatical structure works. The second dimension concerns whether the explicit instruction is proactive (i.e. involves planned interventions designed to prevent error from occurring) or reactive (i.e. involves responding explicitly to errors that learners make). Proactive explicit instruction is based on a structural syllabus (i.e. a graded list of the grammatical structures to be taught). Reactive explicit instruction can occur in lessons based on a structural syllabus or on lessons based on focused tasks (i.e. tasks that have been designed to elicit the use of a specific target feature in a communicative context). The four types of explicit instruction that result from juxtaposing these two dimensions are shown in Table 2.

Table 2: Types of explicit instruction

	Deductive	Inductive
Proactive	Metalinguistic explanation	Consciousness-raising tasks; Production-based and comprehension-based practice exercises
Reactive	Explicit correction; Metalinguistic feedback	Repetition; Corrective recasts

These four types of explicit instruction are often combined in a single lesson. For example, proactive deductive explicit instruction in the form of metalinguistic explanation of a grammatical feature is often followed by practice exercises (proactive inductive explicit instruction) and, if learners make errors, by explicit correction (deductive reactive explicit instruction) and/or corrective recasts (inductive reactive explicit instruction). Indeed this is probably many teachers' prototypical idea of what explicit instruction entails. Nevertheless, there is merit in separating out the components of such instruction as it allows us to consider exactly what each consists of. I will now draw on Ellis (2008) to provide a more detailed description of each type.

2.2.1. Proactive/deductive explicit instruction

This type is realised by means of metalinguistic explanations. These typically consist of information about a specific linguistic property supported by examples. Metalinguistic explanations can be provided orally by the teacher or in written form in a text book or reference grammar.

2.2.2. Proactive/inductive explicit instruction

Proactive/inductive explicit FFI involves either practice exercises or consciousness-raising tasks. In Ellis (1991), I defined a CR task as 'a pedagogic activity where the learners are provided with L2 data in some form and required to perform some operation on or with it, the purpose of which is to arrive at an explicit understanding of some regularity in the data' (p. 239). Thus, CR tasks constitute a form of discovery learning. Practice activities are sometimes viewed as a form of implicit instruction if learners are not told what structure they are practising. But, in fact, intensive practice, even when there is no accompanying metalinguistic explanation, will almost certainly involve awareness of the target structure on the part of the learners and for this reason I have classified practice as a kind of explicit instruction. Only when the learners view an activity as requiring them to 'communicate' rather than to 'practise' (as with 'focused tasks') does the practice become implicit.

2.2.3. Reactive/deductive explicit instruction

There are two types of reactive/deductive explicit instruction – explicit correction and metalinguistic feedback. Lyster and Ranta (1997) define explicit correction 'as the explicit provision of the correct form' (p. 46) accompanied by a clear indication that what the learner said was incorrect. They define metalinguistic feedback as follows:

Metalinguistic feedback contains either comments, information, or questions related to

the well-formedness of the student's utterance, without explicitly providing the correct form. (p. 47)

Often these two types are combined when teachers correct learner errors.

2.2.4. Reactive/inductive explicit instruction

The key characteristic of this type of explicit instruction is that learners are provided with feedback that is unambiguously corrective in force by indicating that an error has been committed. Two kinds of corrective feedback manifest this characteristic – repetition and corrective recasts. The former involves the repetition of the student's erroneous utterance with the location of the error signalled by means of emphatic stress. A corrective recast reformulates the learner's erroneous utterance with the correct form highlighted intonationally, as in this example from Doughty and Varela (1998; 124):

- L: I think that the worm will go under the soil.
T: I *think* that the worm *will* go under the soil?
L: (no response)
T: I *thought* that the worm *would* go under the soil.
L: I *thought* that the worm *would* go under the soil.

Such feedback can be considered inductive because learners are required to carry out a cognitive comparison of their original and reformulated utterances. I have chosen to consider repetition and corrective recasts as explicit (see Ellis and Sheen 2006). However, other researchers (e.g. Long 2006) view them as implicit.² I argue that they are explicit because the intention is to make learners aware that they have made an error.

3. The aims of explicit instruction

The second question was “What do we mean by ‘works’?” This is an important question to consider because teachers frequently think about their grammar teaching in terms of what ‘works’. To answer this question we will need to consider what explicit instruction is intended to achieve.

Explicit instruction can have two aims – to develop learners' implicit knowledge of a grammatical structure or to develop their explicit knowledge. An understanding of the differences between these two types of knowledge is, therefore, fundamental, to determining whether explicit instruction works.

In Ellis (2004), I characterised explicit knowledge as conscious, declarative, accessible only through controlled processing, verbalizable, learnable (in the sense that any fact is learnable), and typically employed when learners experience some kind of linguistic problem. Implicit knowledge, in contrast, is unconscious (i.e. we are not aware of what we know implicitly), procedural, accessible for automatic processing, not verbalizable (except as an explicit representation), ‘acquirable’ (i.e. can be internalised implicitly) and typically em-

² Corrective feedback can be implicit, in which case the corrective force is disguised. Many recasts are implicit in nature. Explicit and implicit corrective feedback are best seen as poles on a continuum rather than dichotomous.

ployed in unproblematic, free-flowing communication. There is some disagreement as to whether these two types of knowledge are distinct and separate – as Paradis (1994) and N. Ellis (1994) claim – or whether they comprise poles on a continuum (i.e. there are degrees of explicitness and implicitness). I have argued for the former position – a view lent support by the growing evidence that the two types of knowledge are located in different neurological structures in the brain (see, for example, Lee 2004).

Usually, the stated or unstated aim of explicit grammar teaching is to develop learners' implicit knowledge (i.e. to enable them to use grammatical features accurately in fluent, communicative language use). There is an assumption that providing learners with explicit knowledge will create a foundation for the development of implicit knowledge. The main basis for such an assumption is skill-learning theory, which underpins the ubiquitous PPP approach to teaching grammar. This adopts a strong interface position by claiming that explicit knowledge can be proceduralized (i.e. converted into implicit knowledge) if learners are first provided with explicit knowledge of a grammatical feature and then engage in controlled and communicative practice. As DeKeyser (1998) put it:

... proceduralization is achieved by engaging in the target behavior – or procedure – while temporarily leaning on declarative crutches ... Repeated behaviors of this kind allow the restructuring of declarative knowledge in ways that make it easier to proceduralize and allow the combination of co-occurring elements into larger chunks that reduce the working memory load. (p. 49)

Explicit knowledge provides learners with 'declarative crutches' which can be ultimately removed once proceduralization has taken place. Proactive deductive explicit instruction in conjunction with practice activities is seen as the means for achieving this.

Skill-learning theory is, however controversial. Krashen (1981) has supported a non-interface position – he claims that explicit and implicit knowledge are entirely separate in that they involve different learning processes (what he calls 'acquisition' and 'learning'). According to this position, explicit knowledge does not convert into implicit knowledge no matter how much and what kind of practice is provided. Krashen draws on SLA studies that show that the acquisition of implicit knowledge is gradual process, involving transitional constructions that learners cannot bypass. He argues that explicit instruction is powerless to alter the natural order and sequence of acquisition. Such an argument amounts to a more or less total rejection of explicit grammar teaching³ and support for some form of implicit instruction (e.g. Krashen and Terrell's (1983) 'Natural Approach').

We need to ask, however, whether there is a case for making explicit rather than implicit knowledge the goal of explicit instruction. In some teaching contexts, it might be argued that the intellectual challenge of understanding how the grammar of a language work is of educational value in and of itself. In effect, this amounts to treating the teaching of language as 'linguistics' rather than the development of 'proficiency'. Clearly, however, this would not be appropriate in the majority of contexts in which an L2 is being taught. The educational policy for the teaching of L2s in most countries (including Japan) currently emphasizes the development of communicative competence, which to a large extent relies on learners' acquiring

³ Krashen (1981) does accept that teaching explicit knowledge can assist learners to monitor their production (i.e. to self-correct errors that result from a lack of implicit knowledge). However, he claims that only simple, 'portable' explicit rules can be taught. Thus, Krashen sees very little purpose in teaching explicit knowledge.

implicit knowledge.⁴ However, there is a theoretical basis for limiting the aim of explicit grammar instruction to explicit knowledge even if the ultimate goal is implicit knowledge. This draws on what has become known as the weak interface hypothesis.

In a series of publications (Ellis 1993; 1994; 1997) I have argued in support of the weak interface hypothesis. This claims that, by and large, explicit knowledge does not convert directly into implicit knowledge but that it can function as a ‘facilitator’ of implicit knowledge. Drawing on Schmidt’s (1994) notions of ‘noticing’ and ‘noticing the gap’, I propose that explicit knowledge of grammatical features will assist the processes that are responsible for developing implicit knowledge. Explicit knowledge enables learners to pay attention to linguistic forms in the input that they might otherwise ignore and also to carry out a cognitive comparison of their own interlanguage and the target language. Further, through using explicit knowledge to monitor their output in planned language use, learners can strengthen the procedures needed to produce target forms in unplanned language use. A very similar position has been advanced by N. Ellis (2005). He affirms ‘the functional and anatomical separations of systems of conscious attended processing and systems of implicit processing’ but then goes on to say that ‘conscious and unconscious processes are dynamically involved together in every cognitive task and every learning episode’ (p. 340) and provides an impressive range of evidence from psychology, neurolinguistics, and SLA to support this claim. However, what I and N. Ellis argue is that it is impossible to direct this dynamic involvement when learners are constructing the connectionist networks that house their implicit knowledge. Thus, instruction should (1) aim to equip learners with explicit knowledge (through explicit instruction) and (2) provide ample opportunities for the mechanisms responsible for the development of implicit knowledge to function. In other words, there is a case for teaching explicit knowledge but not as a ‘declarative’ stage that leads into a ‘procedural’ stage (as claimed by skill-learning theory and proponents of PPP) but rather as ‘hooks’ that the implicit learning processes can latch onto in learners’ own time. It follows that instruction should decouple the teaching of explicit knowledge from the activities that cater to implicit learning.

So where are we? How can teachers tell whether explicit instruction ‘works’? Clearly, the answer to this question will depend on what the teacher thinks explicit instruction can achieve. If the teacher adheres to skill-learning theory then the criterion will be whether instruction enables learners to use the target feature accurately and without conscious effort in communicative language use. If the teacher adheres to a weak-interface position, the criterion will be whether the learners have gained a clear understanding of the target feature. In this case, there is no expectancy that understanding will result in immediate correct use in communication. From this theoretical perspective, there is no point in instruction trying to develop implicit knowledge as this is something that learners must do for themselves.

The challenge facing teachers who see the goal of explicit grammar lessons as that of providing a platform for the practice intended to develop implicit knowledge is to demonstrate that learners do indeed develop implicit knowledge. Teachers who limit the goal of explicit instruction to teaching explicit knowledge face a lesser challenge. All they need to establish is that the learners have formed a clear understanding of the target feature. In the next section, I will examine more closely how we can investigate whether explicit instruction

⁴ It can be argued that ‘communicative competence’, while reliant primarily on implicit knowledge, also requires some explicit knowledge in order to cope with the demands of decontextualised language use such as that required by most types of writing. According to this view ‘proficiency’ is a mixture of implicit and explicit knowledge.

‘works’.

4. Investigating whether explicit instruction works

There is now a large body of research that has investigated the effects of explicit grammar instruction on acquisition. This research is reviewed in the following section. First, though, I want to consider how this research has measured the effects of the instruction.

In Ellis (2006a) I pointed that ‘acquisition’ can mean three different things:

1. the internalization of completely new forms
2. increased control over forms that have already been partially acquired.
3. progress along a sequence of acquisition (i.e. movement from an early to later stage of development in an attested sequence)

By and large studies of explicit instruction have investigated only (2). This requires a pre-test of some kind to establish learners’ existing knowledge of the target feature followed by a period of instruction, and finally one of more post-tests (ideally an immediate and a delayed post-test). Acquisition in the sense of increased control is established if it can be shown that there is a statistically significant gain in accuracy from pre-test to post-tests.

A variety of instruments have been used to measure accuracy. Norris and Ortega (2000) distinguished four types:

1. metalinguistic judgments (i.e. learners evaluate the appropriateness or grammaticality of L2 target structures presented in a series of isolated sentences)
2. selected response (i.e. learners choose the correct response from a range of alternatives as in multiple choice tests)
3. constrained constructed response (i.e. learners produce the target form within a highly controlled linguistic context as in fill-in-the-gap tests)
4. free constructed response (i.e. learners produce the target form in a task that involves meaningful communication)

Doughty (2003) provides a very useful list of specific measures for each of Norris and Ortega’s four types. The question that needs to be asked in the light of the above discussion is what kind of knowledge these instruments measure.

In Ellis (2005) I proposed a set of criteria that could be used to determine whether such instruments were likely to provide measures of implicit or explicit knowledge. These were:

1. Degree of awareness – the extent to which learners use ‘feel’ or ‘rule’ to respond the task/test stimulus.
2. Time available – whether learners are pressured to respond to the task/test stimulus rapidly or have time to plan their response.
3. Focus of attention – whether the task/test stimulus causes learners to prioritize fluency or accuracy in their response.
4. Systematicity – whether learners respond in a consistent fashion or variably to the task/test stimulus.
5. Certainty – how certain learners are that their responses conform to target language

norms.

6. Metalinguage – the extent to which the test stimulus encourages or allows the learners to access metalinguage in order to respond.

I then argued that to measure implicit knowledge it was necessary that the learners responses were based on 'feel', they were time-pressured, they involved a primary focus on meaning, they were consistent and were made with a high degree of certainty and they did not require metalinguistic knowledge of the target structure. Conversely, to measure explicit knowledge the responses needed to be based on 'rules', there was no time pressure, they involved a primary focus on form, they were variable and were likely to be uncertain, and they required or encouraged the use of metalinguistic knowledge.

Applying these criteria to Norris and Ortega's 4 types of instruments, it is clear that only (4) – 'free constructed response' satisfies the conditions that need to be met to measure implicit knowledge. In the case of (1), (2) and (3), it is possible – and perhaps likely – that learners will draw on their explicit knowledge. This raises a measurement problem for what is needed are instruments that measure specific grammatical features. While it is relatively easy to design instruments that require metalinguistic judgments, selected responses and even constrained responses to measure specific grammatical structures, it is much more difficult to design instruments consisting of freely constructed responses that do so. Not surprisingly, then, as Doughty (2004) noted, there has been a bias in studies that have investigated the effects of form-focused instruction (FFI) in favour of instruments that are likely to provide measurements of explicit knowledge. Norris and Ortega's (2000) meta-analysis demonstrates the extent of this bias. Of the 39 studies they examined relatively few included measures involving free-constructed responses and thus of implicit knowledge.

Clearly, then, if we are to determine precisely what kind of knowledge results from explicit instruction we need to give more thought to how we measure learning. There have been some recent advances in this direction. In Ellis (2005) I reported a factor-analytic study that showed that it was possible to design relatively separate measures of implicit and explicit knowledge. Using a battery of tests on 111 participants (20 native speakers and 91 L2 learners of mixed language proficiency), I reported that three tests (an Oral Elicited Information Test, an Oral narrative Test, and a Timed Grammaticality Judgment Test) that satisfied the criteria for the measurement of implicit knowledge loaded on one factor, while two other tests (an Untimed Grammaticality Judgment Test and a Metalinguistic Knowledge Test) that met the criteria for measuring explicit knowledge loaded on a separate factor. Another promising approach is to use a combined behavioural/event-related potential (ERP) approach. This involves combining the use of traditional types of measurement (e.g. grammaticality judgment tests) with a measure of brain activity as learners respond to the test items. Two recent studies (Tokowicz and MacWhinney 2005; Morgan-Short, Sanz, Steinhauer and Ullman 2010) have adopted this approach with interesting results (e.g. the two types of instruction result in different patterns of neurological activity).

In the next section I will examine the research that has examined the effects of explicit instruction on learning. In doing so I will give careful consideration to the instruments used to measure acquisition in interpreting the results of the studies.

5. Research investigating the effects of explicit instruction on acquisition

Mostly researchers have elected to investigate explicit instruction in combination with input-processing activities or production practice (i.e. a combination of proactive deductive and inductive explicit instruction). This reflects the general assumptions that the goal of form-focused instruction should be to develop learners' implicit knowledge and that proactive deductive or inductive explicit instruction by itself is not likely to achieve this. In this section, therefore, I will examine two groups of studies. First, I will consider a number of studies that have examined the relative effects of instruction with and without an explicit component (i.e. explicit versus implicit instruction). Second, I will consider studies that have investigated the effects of structured input with and without explicit instruction. Rather than attempting a comprehensive survey of these two groups of studies, I will focus on a number of representative studies.

5.1. Studies comparing the effects of explicit and implicit instruction

The studies I will consider here operationalised explicit instruction in two major ways. Some of them (e.g. DeKeyser 1995; Robinson 1996) simply provided metalinguistic information about the target structure together with examples. Others (e.g. De Graaff 1997) provided both metalinguistic information and various kinds of practice exercises. Most of the studies investigated proactive deductive explicit instruction but one study (Ellis, Loewen and Erlam 2006) examined the effects of reactive deductive instruction. Implicit instruction was operationalised variably but in every case there was no explicit component. The studies are summarised in Table 4.

Table 4: Summary of selective studies comparing the effects of implicit and explicit instruction

Study	Participants	Treatment	Target structure(s)	Measures of acquisition	Results
Doughty (1991)	20 intermediate ESL students	Computer-presented reading passages containing examples of clauses. Learners skimmed the texts first. (1) meaning oriented group received input enhancement; (2) rule-oriented group given explicit rule; (3) control group read the text again.	English relative clauses	A variety of tests used as pre-tests and post-tests: (1) a grammaticality judgment test; (2) a sentence combination task; (3) guided sentence completion test; (4) an elicited oral production test using pictures. Scores for the oral and written tests were combined into a total score. Participants were also asked to write a summary of the text in their L1.	Both experimental groups outperformed the control group and there was no difference between the experimental groups. However the input-enhancement group performed better on a test of the comprehension of the text.

(continued)

Table 4 (continued)

Study	Participants	Treatment	Target structure(s)	Measures of acquisition	Results
DeKeyser (1995)	61 university undergraduate/graduate students	Computer delivered exposure to 124 Implexan sentences with illustrative pictures. Two instructional conditions: (1) explicit (rule explanation); (2) implicit (exposure only).	Miniature linguistic system (Implexan) involving categorical and prototypical allomorphic marking of plural nouns, of gender, of object and of plural verbs.	(1) Judgement tests – errors in vocabulary only (administered within treatment and at the end); (2) written production test in response to pictorial stimuli; (3) metalinguistic test of ability to state rules (administered within and at end of the treatment).	Learners receiving the explicit treatment outperformed those receiving the implicit treatment for new forms of the simple categorical features on new forms. Learners receiving the implicit treatment outperformed those receiving the explicit treatment for the more complex prototypical target features.
Robinson (1996)	104 predominantly intermediate-level Japanese ESL learners	Four instructional conditions: (1) implicit condition (remembering sentences); (2) incidental condition (exposure in meaning-centred task); (3) rule-search condition (identifying rules); (4) instructed condition (written explanations of rules).	(1) pseudo-clefts of location (hard rule); (2) subject-verb inversion following adverbial fronting (easy rule).	Grammaticality judgement test – measuring correctness of judgments and response times. Debriefing questionnaire to measure awareness.	The instructed condition proved more effective than the implicit condition for both the easy and difficult structures but the difference only reached statistical significance for the easy structure. The instructed learners were better than the implicit learners at verbalizing the easy rule but, the implicit learners were better at verbalizing the hard rule.
De Graaff (1997)	56 Dutch speaking undergraduate student	Two instructional conditions: (1) Implicit – a variety of activities involving both input-processing and controlled production activities; (2) Explicit – same as Implicit group + explanation of the grammatical structures.	A number of different grammatical structures in <i>eXperanto</i> . These varied in terms of complexity and whether they were morphological or syntactical (i.e. plural noun form, imperative inflection, negation and object position).	(1) A 60 item time-pressured grammaticality judgment task; (2) a 60 item gap filling task; (3) a 30 item contextualized vocabulary translation task; (4) a 45 item sentence judgment and correction task.	The explicit group outperformed the implicit group on all the tests. Scores for simple structures were higher than for complex structures. The explicit group had higher scores than the implicit group in the post-tests on the simple morphological and complex syntactic structures.

(continued)

Table 4 (continued)

Study	Participants	Treatment	Target structure (s)	Measures of acquisition	Results
Ellis, Loewen and Erlam (2006)	30 adult ESL learners with mixed L1s	Two experimental groups completed 1 hr of communicative tasks. Feedback consisted of (1) recasts and (2) metalinguistic feedback (without correction). Control group.	Regular past tense -ed	An oral elicited imitation test (OEIT); an untimed grammaticality judgement test (GJT); a metalinguistic knowledge test.	No group differences on immediate post-test; on delayed post-test the metalinguistic group outperformed both the recasts and the control group on the OEIT and on the grammatical items in the untimed GJT.
Morgan-Short et al. (2010)	41 right-handed native English speaking adults with no experience of having learned	Two instructional conditions: (1) Explicit – metalinguistic explanation and 33 meaningful examples; (2) Implicit (127 meaningful examples). Learners completed a computer-based game in three sessions – this involved both comprehension and production.	Noun-adjective agreement and noun-article agreement in a Romance language – based artificial language – Brocanto.	(1) A grammaticality judgement test consisting of 240 grammatical and ungrammatical sentences. (2) Recordings of event-related potential as learners performed the test. (3) ERP recordings during performance of the computer game.	(1) GJT results – both implicit and explicit groups showed significant gains for noun-article agreement but only the implicit group showed gains for noun-adjective agreement. (2) ERPs results – the implicit and explicit groups showed different ERP patterns at lower levels of proficiency but not higher; also different patterns evident for the two target features.

Norris and Ortega's (2000) meta-analysis of form-focused instruction studies reported an overall effect size for 29 implicit treatments of $d = 0.54$ and $d = 1.13$ for the 69 explicit treatments. In other words, there was a clear advantage for explicit treatments. In fact, this was the single trustworthy finding for the overall effect of different kinds of FFI that they were able to report. The studies summarised in Table 4 bear out this finding. Of the six studies, four (DeKeyser 1995; Robinson 1996; De Graaff 1997; Ellis, Loewen and Erlam 2006) reported an advantage for explicit instruction, one reported some advantage for implicit instruction (Morgan-Short et al. 2010) and one (Doughty 1991) found no difference.

A key factor in implicit instruction may be the extent to which this induces learners to attend to the meaning (s) realised by the target forms. In DeKeyser (1995) and Robinson (1996) the learners were simply exposed to sentences containing the target feature. In contrast, Doughty (1991) and Morgan-Short et al. (2010) required learners to process the input meaningfully. This may explain why the implicit instruction fared better in these studies.

Another factor that appears to influence the relative effects of explicit and implicit instruction is the complexity of the target structure. Both DeKeyser (1995) and Robinson (1996) only found a statistically significant difference in favour of explicit instruction for the simple grammatical structures they investigated. De Graaff (1997) reported that the explicit group had higher scores than the implicit group in the post-tests on the simple morphological and complex syntactic structures but not on the complex morphological or simple

syntactic structures. Morgan-Short et al. (2010) found that explicit instruction was as effective as the implicit instruction for article-noun agreement but not for adjective-noun agreement. What these studies seem to show is that the target grammatical structure is an important variable that influences whether explicit instruction is effective. However, we are a long way from understanding precisely what linguistic properties make a grammatical structure amenable to explicit and implicit instruction. See Ellis (2006b) for a discussion of the various factors that determine the inherent linguistic complexity of different grammatical structures in terms of implicit and explicit knowledge.

The final issue to be considered is the choice of instruments for investigating the effects of the two types of instruction. All the studies included a grammaticality judgement test, which is likely to favour explicit instruction. Doughty used a variety of tests but only reported results for total scores on all the tests. DeKeyser included a written production test but he admitted this might have advantaged the explicit instruction group. His other tests clearly did so. De Graaff used a variety of tests but they were all of the selected response or constrained constructed response type. No study included an instrument involving free constructed responses although Ellis et al. did employ an Oral Elicited Imitation Test, which they claimed measured implicit knowledge.

Overall, then, these studies provide no clear evidence that explicit instruction is superior to implicit instruction in developing learners' implicit knowledge. However, Ellis et al.'s study indicates that reactive deductive explicit instruction (i.e. metalinguistic corrective feedback) in a context where learners are engaged in a communicative task may assist the development of implicit knowledge. There are a number of other studies that have investigated reactive explicit feedback (see Russell and Spada's (2006) meta-analysis) but unfortunately none of them included a convincing measure of implicit knowledge. Thus whether reactive explicit feedback can contribute to implicit knowledge remains largely unexamined.

If the instruments used in these studies are assumed to provide measures of explicit knowledge, they do seem to show that explicit instruction is more effective than implicit instruction in developing this type of knowledge. This conclusion is also supported by the fact that those studies that included a task requiring learners to verbalize the target structure all reported an advantage for the explicit instruction. This is not surprising. If learners are given explicit information about a grammatical feature they are more likely to develop explicit knowledge of it than if they are not given such information.

The main conclusion to be drawn from these studies is that it is unlikely that controversies surrounding the relative effect of explicit and implicit instruction will be resolved until methodological issues to do with the operationalisation of these two types of instruction and with how learning is measured are resolved.

5.2. Studies comparing structured input with and without explicit instruction

Structured input presents learners with input in a context that requires them to demonstrate that they have correctly processed the target structure for meaning.⁵ The demonstration takes

⁵ The studies that investigated explicit instruction in combination with structured input were conducted in terms of VanPatten's (1996) theory of 'Processing Instruction'. VanPatten defined processing instruction as 'a type of grammar instruction whose purpose is to affect the ways in which learners attend to input data. It is input-based rather than output-based...' (p. 2). What is distinctive about it is the theoretical basis for identifying instructional targets.

the form of a learner response to an input stimulus, with the response being either non-verbal (for example, choosing the picture that matches the stimulus) or minimally verbal (for example, indicating whether they agree/disagree with some statement). There are now a considerable number of studies that have investigated the effects of structured input – mainly comparing this kind of FFI with FFI consisting of various kinds of production-based activities. My concern here, however, is just with those studies that have compared the effects of structured input with and without explicit instruction.

VanPatten and Oikkenon (1996) compared three groups: (1) received explicit information about the target structure followed by structured input activities, (2) received only explicit information (i.e. proactive deductive explicit instruction), and (3) just completed the structured input activities. Acquisition was measured by means of both interpretation and production tests of the selected and constrained response types. In the comprehension test, significant gains were evident in groups (1) and (3), but not in (2). In the production test, group (1) did better than group (2) but not better than group (3). VanPatten and Oikkenon interpreted these results as showing that it was the structured input rather than the explicit information that was important for acquisition. Other studies (for example, Sanz and Morgan-Short 2004; Benati 2005) have since replicated these results. Benati concluded that explicit information does not play a major role in input-processing instruction.

However, two other studies suggest that such a conclusion might be premature. Fernández (2008) conducted a study that compared the effects of structured input with and without explicit instruction on college level learners' acquisition of two L2 Spanish grammatical features – object-verb-subject word order and subjunctive. She measured learning in terms of how rapidly learners were able to process input containing the target structures online successfully (i.e. in a computer program). The main finding was that the effects of the two kinds of FFI differed according to the target structure. As in previous studies, many of which had focused on the object-verb-subject structure, no difference was found between the structured input only group and the structured-input plus explicit instruction group for object-verb-subject. However, the group receiving explicit instruction processed the subjunctive forms sooner and faster than the group that just received structured input. Fernández suggested that explicit instruction may benefit acquisition when the target structure is redundant and therefore less noticeable in the input, which was the case for the subjunctive but not for object-verb-subject.

Henry, Culman and VanPatten (2009) carried out a partial replication of Fernández's study. The target structures were object-verb-subject word order and accusative case marking in German. The instruction was again computer-based, with learners' responses to the structured input being recorded as they proceeded. The results showed an advantage for the group that received structured input and explicit instruction for both target structures. Henry et al. explained the difference between their results and Fernández's by suggesting that object-verb-subject was more complex in German than in Spanish because it involved morphological variations of the object pronouns.

Thus, whereas the classroom-based studies indicate that explicit instruction added nothing to the effect of structured input alone, the computer-based studies involving online-processing of input suggest that it can do so when the target structure is complex in nature. Henry et al. concluded:

This consists of a set of principles that is hypothesized to govern how learners process input. Only grammatical features that are governed by these principles are deemed suitable targets for investigating input-processing instruction.

... not all explicit instruction is the same, not all structures are the same, and the interaction of explicit instruction, structure, and processing problem may yield different results in different studies. (p. 573)

They suggested that there was a need for further research where explicit instruction is isolated as an instructional variable. This will require a close examination of the different types of explicit instruction.

6. Research investigating the effects of different kinds of explicit instruction

There have been relatively few studies that have set out to examine the effect of different types of explicit instruction on learning in isolation from other FFI options (e.g. structured input or production-practice activities). Several studies have compared proactive deductive and inductive FFI where both included practice activities. In a review of such studies, Erlam (2003) reported conflicting results, with some studies favouring deductive instruction, others inductive and some finding no difference. Erlam's own study investigated the effects of these two types of instruction on the acquisition of direct object pronouns in French as a foreign language. She reported a clear advantage for the deductive instruction in both comprehension and production tests but she also noted that there was much greater individual variation in the deductive group.

In the rest of this section I will focus on studies that have investigated the relative effects of providing learners with a metalinguistic explanation of the target structure as opposed to guiding learners to discover the grammatical rule for themselves through a consciousness-raising (CR) task. These studies allow for a clear examination of these two types of explicit instruction as they did not include any practice activities. It should be noted that as the focus of these studies was the acquisition of explicit rather than implicit knowledge, learning was typically measured by means of instruments more likely to tap explicit than implicit knowledge (e.g. grammaticality judgment tests).

Fotos and Ellis (1991) found that both teacher-provided metalinguistic explanation and a CR task completed in pairs resulted in significant gains in understanding of the target structure (dative alternation) as measured by performance in a grammaticality judgment task, with the former producing the more durable gains. However, in a follow-up study that investigated three different grammatical structures (adverb placement, dative alternation, and relative clauses), Fotos (1994) found no statistically significant differences between the groups that received direct explicit instruction and those that completed CR tasks. Mohamed (2001) found that a CR task was more effective than metalinguistic explanation with groups of high-intermediate ESL learners from mixed L1 backgrounds but not with a group of low-intermediate learners. This study suggests that the effectiveness of CR tasks may depend on the proficiency of learners. Eckerth (2008a; 2008b) investigated university level learners of German who completed two CR tasks (a text reconstruction task and a text repair task), where the learners worked in pairs to agree on a correct version of a text given to them. He used sentence-assembly tests to measure gains in explicit knowledge, reporting significant gains between both the pre-test and the immediate post-test and also between the immediate and delayed post-tests. In other words the learners showed incremental gains across the period of the study. This proved to be the case for both low and high intermediate learners.

CR tasks, when performed by the learners in pairs or groups, also function as information-gap or opinion-gap tasks, providing opportunities for interaction with the linguistic feature the object of discussion. Two studies have investigated the quality of these interactions. Fotos and Ellis (1991) reported that their learners engaged extensively in the negotiation of meaning as they performed the tasks but the negotiation sequences were somewhat mechanical in nature. Eckerth (2008a), however, found that his learners engaged in extensive learner-learner scaffolding, which led to them attending to 'the way in which form, meaning and context interact' (p. 104). CR tasks, then, do more than just develop explicit knowledge. They can also create opportunities for the kind of talk that has been hypothesized to promote acquisition in general. In fact, Eckerth concluded that 'consciousness-raising tasks are more likely to bring about complex L2 production than pure information-gap tasks' (p. 110).

An interesting feature of Eckerth's (2008a) study was that he also investigated 'non-predicted learning' (i.e. the learning of features that were not directly targeted by the CR tasks but that became the object of incidental attention in the interactions between students as they performed the task). Using tailor-made tests to investigate these features, Eckerth showed that 'the collaborative task completion made a sizable contribution to the articulation, reasoning and negotiation of hypotheses that lay outside the actual structural focus of the task' (p. 109). In other words, CR tasks not only contribute to learners' understanding of the targeted features but also of untargeted features.

These studies indicate that both proactive deductive and proactive inductive explicit instruction result in the learning of explicit knowledge. They also show that the inductive type is as effective as and sometimes more effective than the deductive type. None of the studies provided any evidence to suggest that either type led to the acquisition of implicit knowledge, which was, of course, not the aim of the instruction. However, Fotos (1993) went some way to showing that the explicit knowledge gained from completing CR tasks can facilitate the processes hypothesized to be involved in the acquisition of implicit knowledge. She showed that completing the CR tasks aided subsequent noticing of the targeted features. Several weeks after the completion of the CR tasks, the learners in her study completed a number of dictations that included exemplars of the structures that had been targeted in the CR tasks. They were then asked to underline any particular bit of language that they had paid special attention to as they did the dictation. Fotos found that they frequently underlined the targeted structures.

CR tasks are attracting increasing attention from researchers and teacher educators. In part, this is driven by SLA theories that stake out a case for developing learners' explicit knowledge as a means of facilitating subsequent acquisition. But there are also sound educational grounds for CR tasks. Bourke (1996), for example, pointed out that they cater to the natural tendency of learners (especially adults⁶) to want to try to work things out, they encourage learners to deal with uncertainty, and they encourage learner autonomy and, not least, learners find them enjoyable. CR tasks have also begun to appear more regularly in textbooks. Nitta and Gardner (2005) in an analysis of intermediate-level multi-course textbooks reported that contemporary coursebooks usually juxtapose CR tasks with 'practising'. However, whereas researchers have focused on CR tasks in isolation from practice activities,

⁶ Metalinguistic tasks can also be of value to younger learners. Bouffard and Sarkar (2008) report a study of 8 to 9 year-old French immersion students which showed that they developed considerable metalinguistic understanding of the L2 grammar as a result of being guided to notice their errors, repair them and identify the error components through group discussion.

textbook writers have not. As Nitta and Gardner note 'materials have not radically shifted to a full CR approach to learning grammar' (p. 10).

7. Conclusion

I began by pointing out that explicit grammar instruction is generally seen as an important component of any language programme. This is perhaps especially the case in foreign as opposed to second language teaching contexts but even in the latter it is often prominent. It is also often claimed that explicit grammar instruction is necessary for beginners in order to assure a basis for their subsequent development. These claims have been challenged by some SLA researchers, who have advocated some form of implicit instruction such as task-based teaching – for foreign as well as second language learners and for beginners as well as more advanced learners. It is essential therefore that careful consideration is given to whether explicit instruction 'works'.

In this article I have outlined the various issues that need to be addressed in order to determine whether explicit instruction works. These are:

1. Recognition needs to be given to the fact that 'explicit instruction' is not a monolithic phenomenon but highly variable. There are different types of explicit instruction depending on whether it is proactive or reactive and whether it is deductive or inductive. Most teachers' idea of explicit instruction is that it involves the direct explanation of grammatical features followed by practice activities. This is a very narrow view. Teachers need to recognize that explicit instruction can be inductive (e.g. involve CR tasks) and also reactive (e.g. explicit corrective feedback). Researchers need to investigate the different types of explicit instruction more selectively as in the studies that have compared structured input with and without explicit instruction and in studies that have compared the effect of direct explanation and CR tasks.
2. Determining whether explicit instruction 'works' requires a careful consideration of its aims. Is the aim to develop learners' implicit or explicit knowledge? Again, there is a general assumption that the goal of explicit instruction should be implicit knowledge. However, a case can also be made for treating it as a means for developing just explicit knowledge. Many critics of explicit instruction dismiss explicit instruction on the grounds that explicit instruction is unlikely to result in implicit knowledge. It cannot be so easily dismissed if the aim is explicit knowledge. What is important, however, is that teachers have a clear understanding of what they are trying to achieve through explicit instruction.
3. Little progress will be achieved in investigating what effect explicit instruction has on L2 learning until the problem of how to measure learning has been addressed. By and large the instruments that have been used to measure learning do not provide convincing measures of implicit knowledge. They are more likely to tap into learners' explicit knowledge. For this reason, there is very little convincing evidence to show that explicit instruction affects implicit knowledge. This is an issue of obvious importance to researchers but it is also of significance to teachers. If teachers wish to know whether their instruction has resulted in the kind of knowledge that is available for use in communication they need to find out if it has resulted in implicit knowledge. Simply giving learners selected response or constrained constructed response exercises to do will not do this.

Teachers need to see how learners perform in tasks that allow for free constructed responses.

It is perhaps not surprising that there is uncertainty and debate about the role of explicit instruction. By and large the research has not produced clear answers to the key questions due to the methodological problems referred to above. Perhaps, all we can say with confidence at the moment is that explicit instruction does help learners to develop explicit knowledge. Even if this is all it does, I would consider this a sufficient basis for recommending it. Further, given that the research has fairly convincingly shown that CR tasks are effective in developing explicit knowledge and given the other advantages of this kind of explicit instruction, I would argue that teachers and materials writers would do well to try out what Nitta and Gardner (2005) call 'a full CR approach to learning grammar'.

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