

Answered Questions, Questioned Answers: On Art, Science, and the Role of Instructed Learning in Second Language Acquisition

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. Introduction: The Art and Science of SLA

It has been implied (Ellis, 1998; Widdowson, 2000) that the so-called “ practical knowledge ” of language teaching practice should be informed by the existing body of “ technical knowledge ” forged through ongoing empirical research in the field of second language acquisition. On this view (Larsen-Freeman, 2000 ; Shohany, 2000), the key to understanding the process of second language acquisition (SLA) is firmly entrenched in the scientific method. Accordingly, one may be tempted to reason that second language pedagogy is more of a science than an art although, to be sure, elements of both have a place in the language classroom.

However, consideration of existing literature in the field of SLA, at the level of both general theory and specific scientific inquiry into the role of instructed learning in acquisition, suggests some serious limitations-theoretical as well as empirical-on the value of the scientific method. Such limitations raise important questions concerning the certainty and reliability of the answers that science purports to provide to key questions in the field. Accordingly, practitioners in the field of second language pedagogy might do well to maintain a healthy skepticism with respect to the science of SLA and concentrate their energies in the artistic endeavor of teaching.

.“ Survey Says... ” : Some Questions Answered

The role of instructed learning has been the subject of considerable attention in the field of SLA for well over twenty years. One of the seminal figures in the field who has

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addressed the matter rather directly is Stephen Krashen. In his view, the role of instruction is limited primarily to the provision of comprehensible input in otherwise “ acquisition-poor ” environments and then only for beginners (Krashen, 1987). In short, Krashen’s theoretical construct allows for only a “ peripheral and fragile ” role for grammar learning (Krashen, 1992).

This limited role of formal instruction derives from Krashen’s Monitor Model of language acquisition. In this descriptive account of the process of SLA, virtually all language acquisition occurs unconsciously and through implicit mechanisms ; explicit knowledge, the product of conscious learning, cannot be converted to implicit knowledge (the so-called “ no-interface ” position) ; and explicit knowledge is useful only as a monitor in language production and then only under very specific and limited conditions : sufficient *time* for a second language performer to think about and use conscious rules ; a *focus on form*, the correctness of an utterance, by the individual ; and *knowledge* of the applicable *rule*. Moreover, although the Monitor allows second language performers to supply appropriate forms that have been (consciously) learned but not (unconsciously) acquired, even in this role the utility of explicit knowledge is limited to syntactically or semantically “ simple ” grammatical rules. (For a detailed discussion, see Krashen, 1987.)

Following on these early pronouncements by Krashen, there came a flood of attempts to construct theories which better captured the reality of language acquisition at the descriptive level, and a growing number of empirical studies in which researchers attempted to confirm their views on the acquisition process and the role of instructed learning within their particular schemas. By these efforts, researchers sought, in short, to answer the key questions about second language and the usefulness of instruction-questions which cover the full range of the “ reporter’s formula, ” the so-called “ wh- ” questions and “ how? ” Some of the answers that have been suggested by the application of science to the field of SLA are summarized below.

A . Why Should We Teach?

How one answers this question, presumably, is inextricably linked to one’s account of how we learn. That is, the role of second language instruction can only be as substantial as the role of explicit knowledge and consciousness provided for in a model of second language acquisition. If, for example, one presumes that SLA is essentially identical to first language acquisition (FLA), then it follows that there is no more need for

instruction in the SLA context than there is in the FLA context.

Thus, one broad phrasing of the answer to this question might be “ Because SLA is different from FLA. ” This assumption of qualitative differences between the two processes-suggested by the wide variation in ultimate level of attainment by second language learners and often explained largely by reference to the influence of first language on the process of acquisition-underlies the work of those researchers who stress the importance of negative evidence (White, 1991), and it can be discerned in much of the literature on psychotypology.

Another answer to the question, at the level of theory, is “ Because consciousness counts. ” Schmidt’s (1990) work on noticing is perhaps the strongest and best known formulation of such an answer. According to Schmidt, “ paying attention ” is not merely facilitative for acquisition but may actually be a necessary condition, especially in the case of adult learners. For him, input cannot be converted to intake without consciousness : “ ...subliminal language learning is impossible, and... intake is what learners consciously notice ”(Schmidt : 149).

Other related answers to this question include the suggestions that “ consciousness-raising ” can render implicit knowledge explicit and foster language development (Rutherford, 1987) ; that conscious, learned knowledge is not convertible to an implicit form but facilitates acquisition (Ellis, 1990) ; that instructed practice can lead to automaticity of language through controlled processing (McLaughlin, 1990) ; and that formal instruction can help a learner to develop analyzed knowledge, which is crucial to certain language tasks (Bialystok, 1981).

Of course, the spirit of the scientific method requires more than alternative theories to “ disprove ” competing hypotheses. Rather, researchers favor empirical evidence-hypothesis-testing-as the main means of answering questions. Indeed, one answer to the question, “ Why should we teach? ” is “ Because studies demonstrate that naturalistic second language learning-either the complete absence of instruction or reliance upon a pure communicative language teaching (CLT) approach-cannot by itself lead to nativelike proficiency ”. This is the answer provided in the research of Higgs & Clifford (1982), in which learners who received instruction emphasizing vocabulary and communication without focus on grammatical form tended to develop no further than the level of “ terminal 2/2 + ” on the Foreign Service Institute (FSI) proficiency test. The primary force of Higgs and Clifford’s study lay in discrediting the position that instructed

learning is not necessary to language proficiency. For a look at some findings which seem to advance the view that instruction does make a difference in second language development, we must turn to the remaining questions.

B . Who/Where Should We Teach?

With respect to who can benefit from formal instruction, one might expect that adults would be better candidates for several reasons. For one thing, formal instruction in its traditional incarnation-i.e., the metalinguistic communication “ about ” a language, especially grammatical rules-requires linguistic “ consciousness ” attributed more often to adults than children, for whom “ awareness ” rather than “ consciousness ” appears to be the limit of their capabilities. For another thing, it has been suggested elsewhere (Zhang, 1998) that adults may in fact harbor greater *expectation* of such an approach as well as greater ability to process what Anderson (1983) and others have referred to as “ declarative knowledge ” or “ knowledge that ”.

In fact, a review of the literature suggests that children (Lightbown & Spada, 1990), adolescents (Doughty & Varela, 1995), and adults (Gass, 1982 ; Robinson, 1996) may all benefit from formal instruction. This conclusion becomes stronger if one deems university-age learners “ adults, ” given the fact that much of the research in this area has involved such subjects (Fotos & Ellis, 1991 ; VanPatten & Cadierno, 1993). Moreover, contrary to Krashen’s assertions, researchers have found that not only beginners but also intermediate-and advanced-level learners (Doughty, 1991 ; Fotos & Ellis, 1991) may benefit from formal instruction.

Likewise, it would appear from the existing body of research that instructed language learning may facilitate development in “ acquisition-rich ” environments and “ acquisition-poor ” environments alike, given the findings of studies conducted in both ESL settings (Doughty, 1991 ; Lightbown & Spada, 1990) and EFL settings (Fotos & Ellis ; VanPatten & Cadierno, 1993).

C . When Should We Teach?

With respect to this question, the most widely quoted figure is Manfred Pienemann, who suggests in his “ Teachability Hypothesis ” (Pienemann, 1984) that teachability of any linguistic item is seriously constrained by a natural order of acquisition in combination with learners’ processing limitations. This hypothesis, an outgrowth of earlier studies on

morpheme acquisition sequence proposing a “ natural ” and immutable order very much in line with Krashen’s model (Dulay & Burt, 1973), proposes that “ an L2 structure can only be learned by instruction if the learner’s interlanguage is close to the point when this structure is acquired in a natural setting ”(Pienemann : 198). The order of acquisition, in turn, proceeds in accordance with the principle that processing capacity requirements of rules determine whether they will be acquired earlier or later (Pienemann : 199). Accordingly, we must look to “ the processing prerequisites ” to answer the question of when to teach an item (Pienemann : 207). Pienemann concludes that “ if formal input is constructed in contradiction to natural sequences it impedes rather than promotes language acquisition ”(Pienemann : 209).

One potential challenge to Pienemann (and to Krashen) can be glimpsed in the work of Catherine Doughty. In a study of the effect of instruction on SL acquisition of relative clauses, she found evidence to support a potentially broader role for instruction than was allowed for by Pienemann. Doughty notes that learners instructed in relative clause forms that are more “ marked ”(and which should therefore be learned at later stages of development, according to the Teachability Hypothesis) were able to improve in both those forms and less marked forms. Learners instructed in less marked forms, however, showed evidence of acquisition only with respect to those less marked forms. Invoking Zobl’s (1985) work on markedness, Doughty suggests that the results might be accounted for by a “ projection model, ” whereby a learner exposed to more marked items may be able “ to project the particulars of a grammatical subsystem from one linguistic context (for which there are available data) to another (for which there are no data)” (Doughty : 440).

D . What Should We Teach?

The current literature includes a number of studies that have examined the effect of instruction on acquisition of a variety of items, ranging from relative clauses (Doughty, 1991) to negation (Schumann, 1978) to the very sorts of “ W-questions ” addressed herein (Spada & Lightbown, 1993). At a glance, then, one might conclude that virtually anything and everything can be “ taught ” in the traditional sense of the term. Upon closer inspection, however, it is apparent that many figures in SLA have expressed hypotheses to the effect that not all material is suitable for teaching and that some items are better candidates than others. To some extent, the literature supports Krashen’s rather broad and

vague proposition that “ simple ” grammar is a better candidate for instructed learning than is “ hard ” grammar (Krashen : 96-102).

Thus, for example, Fotos & Ellis (1991) raise the possibility that formal instruction may be effective in promoting development of implicit knowledge of “ relatively simple grammatical rules ”(Fotos and Ellis : 607). Similarly, Robinson (1995) concluded that instruction may be effective for simple rules, but not necessarily for more complex rules (VanPatten & Oikkenon : 498). Finally, DeKeyser distinguishes between “ simple categorical rules ” and “ linguistic prototypes, ” patterns without a clearly articulable rule, arguing that a more explicit, deductive method of instruction is more effective for the former, while a more implicit, inductive method is better suited to instructed learning of the latter (Dekeyser, 1995).

E . How Should We Teach?

It is perhaps this question, not surprisingly, which generates much of the richest theory and empirical research on the role of instruction in SLA. Although limitations of space prohibit the sort of in-depth treatment that the subject deserves and the author has come to deem especially provocative and worthy of further attention, a couple of points seem particularly pertinent for the present discussion.

First, if there is one especially positive development to be discerned in the body of literature on instructed learning in SLA, it may well be that the increased sophistication of the ongoing dialogue in the field has brought with it a finer appreciation of the potential richness and diversity of formal instruction. Whereas instructed language learning has traditionally been associated with a single, somewhat monolithic view of teaching rules to a passive student audience, there is now a greater awareness of the many ways to teach.

A fine, if somewhat basic, example of this awareness is Rod Ellis '(1998) work, in which four different instructional options-structured input ; explicit instruction ; production practice ; and negative feedback-are considered in terms of their relative merits. Similarly, Robert M. DeKeyser (1995) discusses explicit-implicit and inductive-deductive axes of instruction, suggesting the usefulness of these distinctions in deciding upon how best to teach particular grammar items. Victoria Jo (1997) likewise identifies several dimensions of instruction-experiential-analytic ; implicit-explicit ; and intralingual-extralingual-and extends the dialogue on instructed learning in a potentially useful direction (Jo : 52-53). Finally, Catherine Doughty (1991) discerns within

language instruction the possibility of either meaning-oriented or rule-oriented techniques, asserting the superiority of the former orientation in promoting acquisition by second language learners.

Second, there appears to exist an overall trend of growing consensus that, in a sense, points up how little we have moved beyond the initial pronouncements of Krashen and proponents of the Natural Approach. Specifically, a review of the literature suggests that, on the whole, there is widespread agreement on the importance of both input and a learning environment in which there is not only a focus on isolated forms but also considerable focus on meaning and communication (Celce-Murcia, 1992 ; Fotos & Ellis, 1991 ; Jo, 1997 ; Spada & Lightbown, 1993 ; VanPatten & Cadierno, 1993 ; Williams, 1995).

.“ Is That Your Final Answer? ”: On the Limitations of the Scientific Method

As suggested at the outset, the literature addressing the role of formal instruction in SLA, in attempting to answer many important questions, itself invites a number of questions and concerns. Some arise as a natural consequence of the nature of the subject, while others are the by-product of the sort of undertaking involved in scientific method. In either case, the best course for practitioners may well be to take what scientific hypotheses and “ proof ” are offered with a grain of salt while seeking to negotiate the difficult straits of language teaching on the largely case-by-case, idiosyncratic basis that befits what is ultimately an artistic endeavor.

At the level of theory, there is one crucial point that deserves mention. That is, it is impossible by definition to provide a descriptive account of an unseen operation such as the inner workings of the mind as it processes and develops language. As a result of this “ black box ” dilemma, and as has been acknowledged by key figures in the field, we are left to construct what we believe about a process (language acquisition) by reference to results (language product or performance). It is important to keep this inherent limitation in mind at all times, and to understand that, in fact, when we posit theories we are actually engaged in an act of imagination, an artistic endeavor. Whatever results or findings we encounter, the fact remains that we are limited to the consideration of observable behavior, product and not process. Without knowledge of how language acquisition works, we cannot answer the questions of the day definitively (or, for that matter, forge a definitive and indisputable theory).

Moreover, there may exist a tendency toward reification of theories that serves to shield them from healthy and rightful criticism and, perhaps more important in the context of the present discussion, motivates researchers (along with human qualities such as personal pride and ambition) to attempt to save their creations at any cost. Thus, for example, Stephen Krashen attempts to reconcile his theory with empirical observations by including a catchall affective factor that can “ explain ” the failure of learners to attain nativelike proficiency in a second language and discounts studies suggesting a strong positive effect for instruction by attributing this effect to the presence of comprehensible input in the instruction (Krashen, 1992). In a similar vein, confronted with findings contrary to an expectation that instruction would aid in language development, Schumann (1978) is quick to implicate motivational factors. Kadia (1988), too, resorts to post hoc explanations to account for the results in her study.

As far as the potential-and, in the present view, inevitable-shortcomings of the scientific method at the level of empirical studies, two prominent features evident in most of the studies referred to in this paper provide important examples that raise vital questions. The first concerns the manner in which “ knowledge, ” “ acquisition, ” or “ proficiency ” was measured ; the latter concerns the timing of attempts at such measurement.

In seeking to quantify the effects of instruction on acquisition, there has been a marked tendency to rely upon discrete-point tests and highly controlled, often decontextualized tasks in the studies. As many of the researchers have themselves conceded, such assessment places extreme constraints on both what is-at least arguably-being assessed and what practitioners can take away from the results. Specifically, it has been argued quite persuasively (VanPatten & Oikkenon, 1996) that failure to assess spontaneous production in communicative contexts precludes any meaningful conclusions on whether instruction has effects that extend beyond utility as a mere “ monitor ” into the realm of more implicit acquisition. To the extent that language “ acquisition ” or “ proficiency ” is assessed through discrete-point tests and controlled tasks, claims that instructed learning leads to acquisition in the fullest sense of the term seem premature, as “ task effects ” may account for improved performance on posttests. If it is true, as is generally accepted, that language competence comprises a number of constituent abilities, then existing literature seems to fall short in its account of the effects of instructed learning.

However, assessment alternatives that address production abilities other than those related to grammatical competence may be difficult to implement in any meaningful way,

in light of the likelihood that classroom learners will focus on form even in purportedly spontaneous production tasks. If production is elicited, then there exists always a strong possibility of deviation from the truly spontaneous results that might be expected in a “pure” naturalistic setting. Kadia (1988) puts the dilemma thusly: “[S]pontaneous speech data are often collected by controlling the content of the communication... However, the control itself takes away from the naturalness of the communication” (Kadia: 514).

Another limitation of most of the studies on instructed learning is the absence of delayed posttesting to measure long-term effects of instruction. This is important because, by most if not all accounts, the acquisition process takes a great deal of time. Thus, immediate posttests increase the possibility that what is being measured is not implicit knowledge but something much more along the lines of Krashen’s Monitor at work.

However, significantly delayed posttesting does not seem highly feasible. One major problem implicated by attempts to provide long-term accounts of instructed learning is that it is quite difficult to control for variables even assuming that we can define and operationalize them in any meaningful way. How are researchers to know what goes on in the classroom after they leave? In fact, as Lightbown & Spada (1993) discovered, sometimes it is quite difficult to know what goes on even during the course of a study. In their research, they found that the success of a purportedly “uninstructed” control group relative to an “instructed” group was apparently due to the fact that the control group’s teacher actually offered far more instruction than her counterparts—despite the fact that she was teaching in an intensive CLT context. She was, moreover, doing so in different ways, in terms of her classroom language and use of feedback. Similar work by Lightbown & Spada (1990) suggested, as well, that grammar can be “taught” through raised eyebrows, funny faces, and chanted correct forms—hardly the traditional image of “instruction.”

Thus, the findings in these and other studies underline the difficulties not only of defining, operationalizing, and assessing theoretical constructs but also of controlling for them. Moreover, it seems reasonable to expect that the inability to control for factors will multiply when we consider all of the variables—and variations—outside the classroom.

In any event, even if we were to take the findings of the abovementioned studies at face value, the body of research would be of limited utility. For one thing, the results have been mixed in many instances—for example, with respect to whether instructional effects

are lasting (Lightbown & Spada : 432) ; whether instruction is beneficial to intermediate and advanced learners (Long, 1983 : 376) ; whether it can aid in spontaneous production (Kadia, 1988 ; Schumann, 1978) ; and whether negative feedback truly facilitates acquisition (Ellis, 1998 : 52-53).

For another thing, where there is apparently some trend toward near-consensus, the propositions supported might easily be arrived at through common sense. This is especially true for the suggestion that focus on form and focus on meaning and communication are both important. At the same time, such a pronouncement threatens to dilute theoretical distinctions to the point where they are neither useful nor meaningful.

Furthermore, even given some agreement on how best to teach at a quite general level, it is not clear how exactly practitioners should “ do ” such teaching : some of the key studies have relied heavily upon the use of computers (DeKeyser, 1995 ; Doughty, 1991), and implementation is easier said than done. How does one “ develop effective ways of focusing learner attention on form at critical moments while learners are using the language for purposeful communication ” (Celce-Murcia : 408) ? What forms are most appropriate for such efforts ? When is the right time ? In any event, by the authors ’ own admission, tasks of the sort promoted by Fotos & Ellis (1991) are not for everyone : they may be too challenging for beginners and offer little motivation for those who are not interested in talking about grammar (Fotos & Ellis : 623).

Ultimately, then, the utility of the scientific method as applied to SLA is limited. We will never have a common denominator across all studies, a “ true north ” to guide us on the compass, as researchers each value and examine different variables, defined differently, operationalized and assessed differently. At best, studies have investigated across various native languages (Doughty, 1991) and have distinguished between and among various instructional approaches (Ellis, 1998) but they need to do more-and more than can be hoped for within the constraints of the scientific method.

Writing of error correction, Ellis (1998) notes that this technique “ involves attending to a variety of social and affective factors ” and concludes that “ technical knowledge about what works best for language acquisition can never provide a complete basis for correcting errors. ” The same can be said of all facets of instructional practice. Stated broadly, neither theory nor research adequately captures the complexity of SLA-nor can they. The scientific method, as applied to SLA, does not-and cannot-provide a definitive account of how instruction aids language development, just that it seems to. However,

understanding how instruction benefits language development (i.e., how we learn language) is vital to answering the sorts of questions posed above. Ultimately, the answer to virtually all of these questions-including the question of how instructed learning fosters second language acquisition-is determined in large part on a case-by-case basis by the many nuances of learners and learning environments that are not adequately accounted for in any of the scientific theories and research referred to above. Accordingly, the complexity of second language acquisition-suggested in the wide variation in second language proficiency as well as perceived individual differences in learning style, personality, native language, and many other factors-can best be addressed through the artistic endeavors of the teacher and not the scientific efforts of researchers.

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