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SLA AND LANGUAGE PEDAGOGY

An Educational Perspective

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Many SLA researchers have demonstrated an interest in language pedagogy (LP), yet the relationship between SLA and LP is a problematic one, not so much because of the limitations of SLA itself but because the two disciplines involve different "Discourses" (Gee, 1990). In this paper it is argued that an educational perspective is needed in order to examine how SLA can contribute to LP. Such a perspective suggests ways in which SLA can be appraised in a pedagogically relevant manner and, more importantly, what kinds of applications may be fruitful. It is suggested that relevance is more likely to be achieved if SLA is used to address issues that practitioners nominate as important to them. Different models of application are considered, reflecting different ways of viewing teaching. A behavioral model, according to which teachers implement those behaviors that research has shown to be effective, is rejected. However, SLA can serve as an important source of information that can help to shape practitioners' theories of teaching (a cognitive model). Most importantly, it constitutes a source of "provisional specifications" that practitioners can evaluate in their own contexts of action (an interpretation model). SLA also affords practitioners the means for conducting their own investigations. In short, an educational perspective suggests that for SLA to influence LP, practitioners need assistance in transforming knowledge about L2 acquisition into practice.

> '. . . researchers must justify themselves to practitioners, not practitioners to researchers.'
>
> Stenhouse, 1981

BRIDGES AND CHASMS

SLA has in part, perhaps the larger part, been motivated by an expressed desire to improve language pedagogy. Pica (1994) writes, "Much of the work (in SLA) has

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been carried out by language researchers who are deeply interested in teaching practice because many of them were teachers at one time" (p. 50). The work that Pica refers to has involved both the study of naturalistic and instructed L2 acquisition. The rationale for studying the former is provided by Hatch, Flashner, and Hunt (1986):

> For both the teacher and the teacher trainer, the task is to find those experiences that contribute most to learning and to work out ways of bringing reasonable copies of those experiences, and the ways of dealing with them, into the classroom. (p. 20)

Thus, if scaffolding learners' utterances can be shown to aid syntax learning in naturalistic acquisition (Hatch, 1978a), it might follow that teachers need to find ways of introducing such scaffolding into their classrooms. This kind of application, however, is open to challenge; it does not follow that what works well in naturalistic contexts will work well in classrooms and, even if this were to be demonstrated, it does not follow that the naturalistic way is the most efficient way of learning. In contrast, the study of instructed L2 acquisition seems to afford the possibility of more direct application to teaching. However, as we will shortly see, the application of instructed SLA to LP is also problematic.

Some SLA researchers have shown considerable reticence in applying the results of their work to language pedagogy. In early articles, Tarone, Swain, and Fathman (1976) and Hatch (1978a) argued that caution must be exercised. Hatch recognized that applying results from the domain of research to the domain of pedagogy often necessitated an "incredible leap in logic," which needed to be guarded against. Implicit in this view is the assumption that once researchers really knew the facts of L2 acquisition it will be possible to give sound advice. Long (1990a, p. 656) feels sufficiently confident to list a set of "well-attested facts." Others, myself included, however, are not so sure. For example, Long, influenced doubtlessly by the work of R. Schmidt (1990), sees the need for awareness of and/or attention to language form as an attested fact of L2 acquisition, whereas this is still subject to disputation (see, e.g., Tomlin & Villa, 1994; Zobl, 1995). The point I wish to make is not that great strides have not been made in SLA but that, not surprisingly, given the relative infancy of the field, there are still few certainties. It might be felt, therefore, that "apply with caution"—or not at all—should still be the order of the day.

Despite these doubts, courses on SLA figure regularly in teacher education programs. Richards (1991), in his survey of 50 MA TESOL programs listed in the TESOL directory, found that 29 of them included required courses on SLA. This suggests that a consensus exists among teacher educators that SLA is of relevance to pedagogy. This consensus is also evident in the publication of books with titles like *Second Language Acquisition and Pedagogy* (Eckman, Highland, Lee, Milcham, & Ruthkowski Weber, 1995), which seek to build bridges between SLA and LP. The exact nature of the bridges to be constructed, however, remains a matter of some uncertainty. What does it mean to talk about "applying" SLA? Lightbown (1985b) describes one kind of application. She argues that whereas SLA is of little value in teacher training (i.e., it provides no real guidance as to what teachers should teach) it is of consider-

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able use in teacher education (i.e., it helps teachers to understand what can and cannot be accomplished in the language classroom). If Lightbown's views reflect those of others teaching SLA courses, which I suspect they do, then the importance attached to SLA in MA TESOL courses would appear to derive from a conviction that an understanding of how learners acquire a second language can contribute to what Freeman (1994) refers to as "teaching as knowing." This constitutes a significant contribution to LP, but, as I shall argue later, it is insufficient.

Some teacher educators are skeptical about whether SLA has anything to offer LP. McDonough and McDonough (1990), for example, talk of "a dichotomy between theory and practice, building a world in which teachers talk to teachers about techniques, and researchers and theorists talk to each other about research and theory" (p. 103). Nunan (1991) points out that much of SLA research takes place in settings other than the classroom and that even in research that purports to be relevant to teachers (i.e., classroom-oriented research) much of it is not located in actual classrooms. Wright (1992) observes that even research that has taken place in classrooms is often not really research on classrooms and argues that, from an educational perspective, what is needed is research that investigates the L2 classroom "as a culture in its own right" (p. 192).

However, whereas teacher educators like McDonough and McDonough, Nunan, and Wright are not unsympathetic to the idea of SLA informing LP, others are dismissive. Bolitho (1991), for example, comments, "Teachers, particularly in a region like S.E. Asia, understandably get weary of hearing the results of small-scale SLA studies carried out in classroom contexts which are also mostly totally unrecognizable to them" (p. 31). Bolitho is also critical of the way SLA researchers report their research. He argues that researchers who want to address pedagogic matters need to present their ideas in a manner accessible to practitioners of LP.

The perceived dysfunction between the discourse world of the SLA researcher and that of the language educator or teacher has been most clearly expressed by Clarke (1994). Clarke views this dysfunction in terms of the center-periphery divide. He notes that researchers are very seldom language teachers themselves (although, as Pica has observed, many of them once were) and that discourse becomes dysfunctional when teachers are placed in a position of receiving proclamations from researchers. Clarke argues that teachers need to insist on the validity of their own perceptions of L2 learning and teaching and to rely on their own experience:

> The key point . . . is for teachers to keep their own counsel regarding what works and what does not work and to insist on an interpretation of events and ideas that includes, implicitly or explicitly, a validation of their own experiences in the classroom. (p. 23)

It would seem, then, that some SLA researchers are reticent in making claims about the pedagogic relevancy of their work, whereas a number of teacher educators are skeptical or dismissive of what researchers do.

In this article, I want to suggest that what has been missing in SLA is an educational perspective. SLA has traditionally looked to linguistics, psychology, and, to a lesser

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extent, sociology to build theories and then has assumed that these theories and the research based on them are relevant to LP. However, relevancy has to be demonstrated, and to do so requires a consideration of the educational literature that has addressed the question of the relationship between theory or research and teaching.

MODELING THE RELATIONSHIP

According to Gee (1990), different Discourses are practiced by distinct discourse communities (or social networks), each of which creates identity through participating in a particular Discourse. Gee defines "Discourse" (to be distinguished from "discourse") as follows:

> A *Discourse* is a socially accepted association among ways of using language, of thinking, feeling, believing, valuing, and of acting that can be used to identify oneself as a member of socially meaningful group or "social network," or to signal (that one is playing) a socially meaningful "role." (p. 143)

He stresses that Discourses are "inherently ideological" in the sense that one must conform to the conventions and values of a Discourse in order to claim ownership. Importantly for our concerns here, "Discourses are intimately related to the distribution of social power and hierarchical structure in society" (p. 144), such that some Discourses become "dominant."

Gee's theoretical framework is helpful in trying to understand why the relationship between SLA and LP is problematic. SLA researchers need to engage in a Discourse (i.e., that of the research report) that their social world (i.e., universities) values and rewards. In contrast, teachers and teacher educators have developed Discourses that address their particular practical needs (e.g., teachers often talk about their work in terms of "stories"). Both SLA researchers and practitioners of LP are likely to insist on the separateness and integrity of their own Discourses. The important point is that the Discourses of SLA and LP are in potential conflict with each other because they represent different social worlds with different values, beliefs, and attitudes. For this reason, the communities that owe allegiance to them find it difficult to communicate with each other and there is "a problem of mediation" (Kramsch, 1995).[1] How can this problem be overcome? We can set about seeking an answer to this question by examining the different roles of the applied linguist. Widdowson (1990) distinguishes two main roles: "appraisal" and "application." Appraisal involves both "interpretation" (i.e., the explication of ideas within their own frame of reference) and "conceptual evaluation" (i.e., "the process of specifying what might be called the transfer value of ideas" [p. 31]). Application also involves two phases: "operation" (i.e., the proposing of specific techniques based on the conclusions of the conceptual evaluation) and "empirical evaluation" (i.e., the actual testing out of proposals by practitioners). I shall begin with appraisal, focusing on conceptual evaluation. Later, I shall address how application might be accomplished.

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APPRAISING THE PEDAGOGIC RELEVANCY OF SLA

There are two broad approaches that can be adopted to appraising SLA. The first requires the applied linguist to sift through the body of research and theory in SLA in order to identify what is relevant to LP. In other words, it cannot be assumed that all of SLA is of utility to teachers or that all of it is of equal utility. Books on SLA written specifically for teachers (such as Lightbown & Spada, 1993) rightly provide a selection from the available work. The second approach has its starting point in particular issues raised by teachers. SLA becomes a means (one of many) of addressing these issues. In both cases, though, the needs of the "receiving" domain (i.e., LP) must be considered.

Making SLA Relevant

There are, perhaps, two essential criteria that govern attempts to build bridges from SLA to LP: accessibility and utility. One of Bolitho's (1991) criticisms of SLA was that its Discourse is inaccessible to teachers. As Stenhouse (1981) has pointed out, the problem of inaccessibility can be solved by either increasing the research literacy of teachers (i.e., familiarizing them with the Discourse of SLA) or by writing about research "in the vernacular." Both options seem worthy of consideration.[2] One of the goals, implicit or explicit, of many graduate programs in education is to increase teachers' research literacy. So doing enables them to read research papers critically and thereby to form their own judgments about the validity and reliability of the research. This goal is probably achieved with only varying degrees of success. For this reason alone there is a need for vernacular accounts of SLA. Canagarajah (1996, p. 325), for example, suggests that "new forms of academic writing" are required—such as the real narratives employed by historians, multivocal texts, and collaborative reports. Researchers may feel that such accounts run the risk of misrepresenting what are often highly complex matters, but Stenhouse (1983) argues that the inevitability of epistemological falsification should be acknowledged and the temptation to claim authoritativeness be avoided.

To illustrate how the criterion of pedagogic utility can be applied to SLA we will consider two examples. The first concerns the work of Pienemann and his associates (Pienemann, 1984, 1985; Pienemann, Johnston, & Brindley, 1988). This work has demonstrated the existence of a fairly robust sequence of acquisition for a number of developmental features in both L2 German and English. On the basis of this, Pienemann has proposed that attempts can be made to ensure that the teaching syllabus matches the learners' built-in syllabus. He recognizes that this will involve diagnosing the stage of development reached by individual learners and tailoring instruction to their level. Pienemann's proposal has met with a number of objections. Lightbown (1985a), for example, questions the practicality of the proposal by pointing to the difficulties of grouping students according to their stages of development and to the fact that even if psycholinguistically homogeneous groups were to be created they would not remain homogeneous for long. Hudson (1993) has criticized Pienemann's proposal on rather different grounds. He argues that the research has

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been based on "a narrow morphosyntactic view of language" (p. 484) that fails to match teachers' own idea of what it is they are trying to achieve (i.e., a broad-based proficiency). These critiques, then, suggest that Pienemann's proposal fails the test of utility, both because it is impractical and because it is too restricted in scope to address the needs of teachers and learners.

The second example of the application of the criterion of pedagogic utility concerns proposals based on SLA research carried out within the framework provided by Universal Grammar (UG). In general, UG-inspired SLA researchers have not sought to make pedagogic proposals, perhaps because their interests lie elsewhere (i.e., in linguistics). One exception is Flynn and Martohardjono (1995). They begin, wisely, by pointing out that the constant changes that have taken place in linguistic theory "prove frustrating for those attempting to . . . make connections across relevant domains" (p. 47) but they then go on to assert confidently that this problem has been overcome because they now have the "right" theory. On the basis of a number of small-scale studies they then propose that UG-based SLA research serves to identify "those areas of grammar where the acquisition task is rendered more complex and which might therefore benefit from additional pedagogic support." This, of course, constitutes one of the enormous "leaps of logic" that Hatch (1978a) warned about; it is one thing to demonstrate learning difficulty for a specific group of learners, but it is entirely another to claim, without any evidence, that such difficulty can be overcome through pedagogic intervention. It is, in fact, difficult to see what UG-based SLA research has to offer language pedagogy. Even if the "right" linguistic theory is now at hand, the conception of grammar contained in this theory differs so profoundly from the conception of grammar with which teachers work as to prohibit any applications of UG-based research. As I have pointed out elsewhere (see Ellis, 1995a), there is a problem of scope; UG is a theory of linguistic competence (or, more narrowly, of grammatical competence), whereas LP is concerned with developing the ability to use language in communicative situations (i.e., proficiency).

It is doubtful, however, whether the criterion of utility can ever be applied with any precision, as it involves evaluating work accomplished within one Discourse (SLA) from the perspective of the values enshrined in an entirely separate Discourse (LP). This, as we have seen, is problematic. Whereas there may be broad consensus on what constitutes pedagogically relevant SLA, there are also likely to be disagreements. Pienemann's proposals, for example, whereas ultimately of little practical value to teachers, do raise general issues that are potentially relevant to teachers (i.e., how teachers should take account of developmental sequences).

One way in which greater relevance might be achieved is through L2 classroom-centered research (CCR). A number of researchers and educators have argued the case for basing pedagogical decision-making on CCR. Jarvis (1983, p. 238), for example, argues that "'[o]ur knowledge' must come from our own research" and laments the fact that it has typically not done so. Long (1983) argues that CCR is "eminently practical" because it is "concerned with what actually goes on in the classroom as opposed to what is supposed to go on" (p. 284). He gives three reasons why CCR should be included in methods courses for teachers: It has already produced some practical information, teachers can use the research tools that have been employed

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to investigate their own classrooms, and CCR will help teachers become skeptical about relying on single teaching methods. In a subsequent paper, Long (1990b) argues the need for a common body of knowledge that can be transmitted to teachers in the same way that a common body of knowledge about medicine is conveyed to doctors.[3] He suggests that although CCR is limited in several respects it constitutes "a growing body of tangible evidence about language teaching" (p. 166). For Long, this constitutes "hard information," which is better than the "prejudices and suppositions" that he believes characterize most pedagogical decision-making.

The case for SLA researchers concerned with language pedagogy giving precedence to CCR is a strong one. There are good reasons for circumspection, however. First, as Nunan (1991) has noted, much of CCR has not in fact been conducted in the classroom. Furthermore, the CCR carried out inside language classrooms has often entailed interference with prevailing conditions in order to meet the requirements of experimental design. Second, the problems selected for enquiry in CCR often reflect the concerns of SLA rather than those of LP; that is, they do not always reflect what teachers themselves find problematic. Third, CCR, despite Long's assertions, is still remote from the actual practice of language teaching. It belongs to the Discourse of SLA not to the Discourse of LP and, as such, requires the same degree of interpretation as other SLA research. Fourth, and most importantly, simply transmitting the results of research, even relevant research, to teachers may not have much effect on actual practice, a point that will be taken up in the next section.

It should be noted that these caveats do not concern the technical limitations of the research itself, with which Long deals very adequately, but rather with the constraints that operate on the transfer of knowledge from one domain to another. The point here is that appraisal involves both a consideration of the reliability and internal validity of CCR and of its external validity. External validity cannot be demonstrated statistically; it depends on the judgment of practitioners operating in their own contexts of action. As Stenhouse (1978) has noted, this point is often forgotten:

> All too often educational research is presented as if its results could only be criticized technically and by other researchers. But I am arguing that it should be subject to critical appraisal by those who have educational rather than research experience and who are prepared to consider it thoughtfully in the light of experience. (p. 40)

In other words, teachers' experience—what Long (1990b) dismissively refers to as "prejudices and suppositions" (p. 166)—is needed to appraise whether the "hard information" is of any pedagogic value.

An alternative to applying research directly is to develop a pedagogically relevant theory of SLA that then serves as a basis for pedagogical proposals. Krashen (1983) has this to say about the need to apply theory rather than research:

> We cannot go directly from research results to practice. To be sure, attempts have been made to apply research directly to the classroom. I made this error several years ago when I suggested that the natural order of acquisition become

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> the new grammatical syllabus. . . . But research results first need to be integrated or fitted into a theory—only in this way can the relationship and potential conflicts between experimental results and hypotheses be determined. To go directly from theoretical research to application misses an important step. (p. 258)

A theory, such as that proposed by Krashen (1982), affords a composite view of L2 acquisition. Proposals cannot be dismissed simply by pointing out the limitations of specific research studies. Theoretically derived proposals are potentially valid in a variety of teaching contexts. Also, they are more likely, perhaps, to possess a coherence lacking in the piecemeal application of individual studies.

There are, however, dangers in theory-based applications. Stenhouse (1978) asserts that "a theory cannot prescribe action, but can only support the development of experimental actions which test and refine or elaborate the theory" (p. 29). In fact, though, theory-driven applications are vested with an authority that works against such pedagogic experimentation. Theories of SLA invite acts of faith from LP rather than critical appraisal. Furthermore, as Beretta (1991) and Long (1993) have pointed out, SLA theories do not tend to go away, even when they are in obvious opposition. Schumann (1993) has shown how adept theorists are at immunizing their theories against attack by simply adjusting one of the network of auxiliary assumptions attached to the theory. There is the whole question, then, of which theory to apply. It is interesting to note that, writing a few years later, Stenhouse (1984) seems more skeptical of the value of theory, suggesting that "perhaps general theory at the level of cause and effect is scarcely appropriate to educational study" (p. 54).

Evaluating LP Through SLA

Applied linguists, then, can draw on SLA research and theory to initiate, tentatively or confidently, various pedagogic proposals. An alternative approach is to take LP as the starting point and use SLA to address issues that are nominated as important by teachers or teacher educators.

A good example can be found in Pica (1994). Pica's starting point was not SLA itself but rather the questions that teachers have asked her "both in the privacy of their classrooms and in the more public domain of professional meetings" (p. 50). Pica offers a list of 10 questions dealing with such matters as the relative importance of comprehension and production, the role of explicit grammar instruction, and the utility of drill and practice and offers answers based on her understanding of the SLA research literature. The obvious advantage of this approach is that the information it provides is more likely to be heeded by teachers because it addresses issues they themselves have identified as important. Bahns (1990) goes so far as to claim that "the initiative for applying research results of any kind to any field of practice whatsoever should come from the practitioners themselves" (p. 115).

Eraut (1994), in an informative discussion of different kinds of professional knowledge, follows Oakeshott (1962) in distinguishing "technical knowledge," which is capable of written codification, and "practical knowledge," which is learned and expressed only through practice. Eraut (1994) stresses that "theoretical ideas usually

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cannot be applied 'off-the-shelf'; their implications have to be worked through and thought out" (p. 43). According to Calderhead (1988), new ideas have to be integrated into the "images" that comprise practical knowledge and that permit the rapid recall required for action. This suggests a need for thought to be given to the way the technical knowledge is introduced and related to professional concerns. There is, perhaps, a greater chance of establishing linkage if the starting points are the practical concerns of professionals rather than the theoretical issues of researchers.

There are, however, some limitations to an approach that emphasizes using SLA to evaluate pedagogy. The gap between the Discourse of SLA and LP makes it difficult for teachers to ask the kinds of questions that researchers can answer (cf. Kramsch, 1955). It is noticeable that the questions Pica's teachers asked seem to reflect their understanding of SLA rather than their practical classroom concerns. McDonough and McDonough (1990) found that when they asked experienced teachers, the majority of whom had been involved in research at some time or another, what issues they thought research should address, their answers were taken from their understanding of the applied linguistics literature rather than their own experience. Furthermore, even if teachers base questions on their practical experience they can only ask questions about issues of which they have knowledge. If Bahns' (1990) dictum were to be religiously adhered to, many of the developments in LP over the last 20 years would probably not have taken place. For example, teachers would have been unlikely to ask "What is the best way to organize a syllabus—in terms of structures, notions or tasks?" because they would not have known what *notions* or *tasks* (in their technical senses) referred to. These concepts have derived, top-down, from the work of applied linguists, not arisen, bottom-up, through the practice of teaching. Thus, although much can be said in favor of a bottom-up approach, which gives primacy to professional concerns, there is also a case for the top-down application of SLA. Of interest is why some top-down proposals are acted on and others are not. The growing literature on innovation in language pedagogy (e.g., Markee, 1993; Stoller, 1994; White, 1993) is of relevance here.[4]

It is, of course, not a matter of choosing between making SLA relevant and evaluating LP through SLA. These two approaches to relating technical and practical knowledge can be readily combined. A good example of such a combination can be found in Brindley's (1990) account of a course on SLA that he taught as part of a postgraduate diploma in adult TESOL in Australia. Brindley devised his course with the express purpose of breaking down the theory–practice distinction. He included a knowledge component, the purpose of which was to introduce basic information and specialized terminology relating to SLA topics. The participants were subsequently asked to state which of the topics covered they found most relevant to their concerns. Interestingly, they placed psycholinguistic studies of developmental sequences (generally considered of central importance by SLA researchers) at the bottom of their list. A data component provided participants with the opportunity to analyze authentic L2 data. Finally, a problem-solving and problem-posing component invited the participants to evaluate materials and methods in relation to what they had discovered about SLA. In his concluding comments Brindley emphasizes the

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need for criteria of relevance to come from teachers themselves, but, in fact, his course seems to illustrate how effective a mixture of top-down and bottom-up strategies can be.

APPLYING SLA TO LP

In this section, I will consider what technical knowledge of the kind embodied in SLA can do for the practitioner of LP. In this respect, Stenhouse (1981) is again helpful. He suggests that there are two kinds of general application. One concerns what he calls "the context of action":

> I can plan my farming on the prediction that there will be seasons, or my navigation on the prediction that there will be tides. Such predictions do not guide me by telling me exactly what to do, though they may tell me fairly clearly what I should not do. (p. 104)

An example of how SLA might assist LP in this way can be found in error treatment. An understanding of L2 acquisition can help teachers evaluate and make adjustments to the ways in which they handle learner errors in the classroom. It is this kind of application that Lightbown (1985b) appears to be referring to when she suggests that SLA is of value in teacher-education. Larsen-Freeman (1995) also favors it. She suggests that SLA can benefit LP in two principal ways: by helping teachers to make more effective moment-by-moment decisions in harmony with how learners learn and by challenging teachers' sense of what is plausible and thereby keeping teaching vital.

The other kind of application Stenhouse mentions concerns the use of general laws to predict the outcomes of specific acts. Such laws motivate the use of activities designed to elicit those behaviors deemed favorable to learning. Thus, teachers might decide to avoid display questions in favor of referential questions in the expectation that this will result in more negotiation of meaning and, thereby, foster acquisition (see Long & Sato, 1983). Stenhouse suggests that whereas the first kind of application is premised on the notion of the low predictability of research the second kind assumes high predictability. He argues, however, that in the final analysis all human behavior and cognition is essentially unpredictable. It would follow that the relevance of research and theory lies more in its ability to inform about the context of action and not in its ability to predict the outcomes of specific acts.

To understand why SLA is likely to be more successful in informing the general context of action rather than in identifying specific pedagogic actions, I would like to consider SLA in relationship to different models of teaching. Freeman (1994, 1996) suggests that teaching can be conceptualized in three ways. The first is the behavioral view—"teaching as doing." This views teaching as the mastery of a set of behaviors and actions. Freeman points out that this conceptualization has been supported and informed by process-product research (e.g., Chaudron, 1988; Dunkin & Biddle, 1986), the purpose of which is to identify those classroom processes that lead to learning. A good example of such research is the current work investigating the role

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of negative feedback in L2 acquisition (e.g., Carroll & Swain, 1993). The second view Freeman discusses is "teaching as cognition." This view emphasizes the knowledge bases on which teachers draw when they teach. It assumes that teaching combines thinking and doing. Teaching is viewed as a highly complex process of decision-making in which teachers act in accordance with their theories of teaching and learning, which can be implicit or explicit. It is supported by teacher-cognition research (e.g., Clarke & Peterson, 1986), the purpose of which is to discover the beliefs, intentions, and reasoning that underlie what teachers do. The third view is that of "teaching as knowing what to do." Freeman refers to this as the interpretivist view. It is premised on the assumption that teachers' behaviors and thinking are always related to the specific context in which they are working. Teaching involves making decisions in relation to a particular context of action—it constitutes "a fabric of interpretation" (Freeman, 1994, p. 9). This view is associated with expertise research (e.g., Richards & Lockhart, 1994).

SLA and the Behavioral View

It is probably true to say that when SLA researchers seek to make pedagogic applications they often do so, implicitly or explicitly, on the basis of a behavioral view of teaching. For example, my own recent research on the role of modified input in vocabulary learning (Ellis, 1995b; Ellis, Tanaka, & Yamazaki, 1994) was premised on the assumption that if researchers can discover the input variables that influence learning they may be able to propose to teachers how to create the optimal input conditions for learning. It is also true that many researchers, myself included, are wary of prescribing teaching behaviors on the basis of a single study or, even, a series of studies. The reticence evident in Tarone, Swain, and Fathman (1976), Hatch (1978b), and Lightbown (1985b) is a testimony to this wariness.

There are other researchers, however, who have been prepared to grasp the nettle of applying SLA to teacher behavior much more firmly. Johnston (1987) argued for "a technology of teaching." He suggested that whereas engineering has successfully defined its own "problem space" as independent from that of its supporting disciplines, such as physics, language teaching has not. This is because it lacks a sound body of practical knowledge developed through experimentation in the classroom itself. Johnston then went on to suggest that language teaching is in the same stage of development as medicine before asepsis, anesthetics, and antibiotics and that "the language teaching of 10 to 15 years hence will be rather different from the hit and miss methods of today" (p. 38). Thus, while recognizing the gap between SLA (pure research) and language teaching, Johnston believed that it could be filled by conducting experimental studies based on actual classrooms. According to this view, then, teaching is an applied science.

Johnston's views accord with mainstream educational thinking in the 1940s and 1950s.[5] Drawing on the work of R. A. Fisher (1935) in agriculture, educators such as Tyler (1949) adopted a means-end view of education. The curriculum was viewed as a delivery system with teachers functioning as "operatives." Educators established objectives with due regard for the needs of the learners, researchers conducted

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experiments to discover the most effective means of achieving these objectives, and teachers then implemented these means. This view of the relationship between research and teaching underlay the method studies of the 1960s and 1970s (e.g., Scherer & Wertheimer, 1964; Smith, 1970). However, when these were discredited it was on the basis that gross comparisons in terms of language teaching methods were too inexact to yield meaningful results. The idea of the objectives model itself, with research providing the means to the end, was not itself challenged. Means were redefined as processes whereas the model itself remained intact. However, as McIntyre (1988) points out, there are inherent problems with process-product research, the most important of which is the difficulty of generalizing across cultures and contexts.[6] Carr and Kemmis (1986) observed that in the objectives model "the role of the teacher is one of passive conformity to the practical recommendations of educational theorists and researchers" (p. 70).

By the 1970s, however, educators had begun to challenge the objectives model and in so doing to question the positivist view of research that went with it. This was in part motivated by a growing recognition that the research to date had achieved very little. Stern, Wesche, and Harley (1978), for example, commented on what research had achieved for LP:

> Educational practice has not necessarily been visibly improved in spite of a high level of research activity. Questions then begin to be asked. Has the wrong research been funded? Have researchers done a bad job? Should there be less emphasis on research? Has there been a defect in communication between the theoretician-researcher and the practitioner? . . . Is the practitioner at fault by failing to adopt what the research can offer? Are there other influences at work that override the effects of research? Is the conception of the relationship between research and practice at fault? (p. 398)

Educators set about addressing these questions. Stenhouse (1979) claimed that the wrong kind of research had indeed been carried out. He argued that psycho-statistical research in the Fisher paradigm was inappropriate to educational settings because random sampling was rarely possible, the criterion of yield was difficult to establish, and uncontrolled contextual variables muddied the results. Stenhouse demonstrated the difficulties teachers faced in applying results in an entertaining account of a hypothetical teacher's attempt to grapple with the results of experimental research that compared two different ways of teaching about race. Stenhouse's teacher concluded, "The same teaching style and the same subject matter make some people worse as they make other people better" (p. 42). Stenhouse's point is that the results of experimental research are always of the "other things being equal," "by and large," and "for the most part" kind but teachers have to deal with individual learners in particular classrooms; they deal with cases not samples. Therefore, they can never simply apply the results of such research; they must always exercise "professional judgement."

The kinds of criticisms that Stenhouse levels against experimental research are profound. Sadly they have not always been fully heeded by the SLA community. In some quarters a faith in "scientific" pedagogy has been uncritically maintained, as

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Johnston (1987) illustrates. Other researchers, however, have addressed the problem of the external validity of experimental research head on, seeking a solution in an alternative research paradigm—interpretative research.

Interpretative research deals in cases rather than samples and, as such, seems better adapted to the way in which teachers must operate. Stenhouse (1984) suggests a number of ways in which interpretative research can be applied to practice. It can provide documentary reference for the discussion of practice. It can provide points of comparison with the teacher's own particular case, thus affording "an interpretation or a theory of one's own case" (p. 54). It affords a systematic body of critical standards by which teachers can interpret and evaluate their practice. In focusing on the broader social and political context of individual cases, it can provide a basis for developing a critical theory.

SLA, and more generally applied linguistics, has been slow in taking up interpretative research (but see van Lier, 1988). Van Lier (1990) has suggested some of the practical uses of interpretative research in LP. He argues that ethnographic research can play a role in evaluating language programs, in curriculum development (e.g., Heath's [1983] use of detailed patterns of questioning in the home and the school), in solving immediate problems (e.g., the use of foreign teaching assistants in American universities), and in designing tasks that enable students to exploit ethnographic techniques to explore aspects of language use for themselves.

Despite the greater accessibility of interpretative research, it faces the same basic problem as experimental research. Interpretative researchers function as researchers, not as teachers, and as such need to stand outside the situation they are researching and adopt a disinterested stance. In contrast, teachers are part of the situation in which they are functioning and can never function simply as objective observers. As Hirst (1966) puts it, "To try to understand the nature and pattern of some practical discourse in terms of the nature and patterns of some purely theoretical discourse can only result in its being radically misconceived" (p. 40). In the final analysis, then, applying interpretative research to pedagogic problems may be no more successful than applying experimental research. The value of interpretative research may lie not so much in the application of the illuminative ideas or insights that it provides as in its methodology, which teachers can exploit in their own research.

From this educational perspective, then, SLA cannot be applied directly to LP. Irrespective of whether the research is experimental or interpretative, its findings cannot be used to prescribe teachers' behavior. Research of any kind does not convert directly into routinized action and, as Freeman (1996) points out, any attempt to use it in this way only contributes to the deskilling of teachers.

SLA and Teaching as Cognition

When we view teaching as cognition, however, SLA has a definite contribution to make. According to Schön (1983, 1987), who, like Stenhouse, is dismissive of technical rationality as the driving force of practice, professionals possess tacit knowledge that is reflected in their real-time actions and that is organized into theories. These

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theories can be in use (i.e., they cannot be articulated and reveal themselves only in practice) or espoused (i.e., they can be described). Schön argues that professionals rely on intuitive knowledge to solve problems. This intuitive knowledge takes the form of theories of action, which are developed through reflection in and on action. Reflection-in-action is rapid and can give rise to spontaneous experimentation involving testing new actions as possible solutions to some perceived problem. Reflection-on-action refers to the process of making sense of an action after it has occurred. Schön emphasizes the role of reflective thought itself in the development of theories of action, but clearly propositional knowledge has a number of potential roles to play, particularly where reflection-on-action is concerned. It can help professionals make their tacit knowledge explicit—to move from theories in use to espoused theories. Espoused theories are more open to critical appraisal. It can contribute to the process by which professionals convert that which is habitual and customary (i.e., practice) into that which is informed and committed (i.e., praxis)—see Carr and Kemmis (1986). It helps facilitate abstract conceptualization, which is an essential stage in the reflective process. It can cause professionals to reevaluate assumptions or principles that have become naturalized (i.e., accepted uncritically as truths).

How best can SLA be used to develop teachers' personal theories of teaching? SLA is, perhaps, best seen as a resource for tasks designed to stimulate reflection on particular pedagogic issues. Such tasks consist of (a) data (i.e., information of some sort) and (b) one or more operations to be performed on the data. In Ellis (1994), I give examples of tasks based on data relating to teachers' use of questions in the L2 classroom and designed to raise issues rather than provide answers about this aspect of language teaching. SLA itself provides an important source of data, both primary data (i.e., actual samples of learner or teacher language) and secondary data (i.e., readings taken from the SLA literature) for the construction of such awareness-raising tasks. Tasks provide an alternative, but not a replacement, to more traditional ways of informing teachers about SLA.

In terms of teaching as cognition, then, SLA can hope to have a positive effect. This effect, however, is not a direct one. Simply transmitting disciplinary knowledge about SLA is no guarantee it will have any effect on teachers' personal theories, let alone on their classroom actions. To have an effect, SLA has to influence teachers' theorizing, either by helping them to make explicit their existing principles and assumptions, thereby opening these up to reflection, or by helping them to construct new principles, which, of course, will subsequently need to be tested out through action. An important question, then, concerns how SLA can best be exploited to enhance teacher theorizing. It is surprising how little has been published on this important issue, Brindley's (1990) paper being a notable exception.

Because teaching is complex and contextualized, there will be occasions when teachers do not act in accordance with their theories. For example, teachers may believe in the need for students to self-correct but will, from time to time, do the correcting themselves. As Long (1977) has pointed out, teachers are often inconsistent and unclear in their treatment of error. It would be mistaken, however, to view this inconsistency as poor teaching, as teachers need to adjust constantly their actions to cater for the exigencies of the moment and the needs of individual learn-

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ers (see Allwright, 1975). It is for this reason that any influence that SLA has on teachers' thinking may be reflected only erratically in their classroom behavior and why it is so important to examine teaching as interpretation.

SLA and Teaching as Interpretation

When teaching is viewed as interpretation, classrooms are treated as differentiated and complex. Consider Wells' (1994) characterization of classrooms:

> Every class is different from every other in terms of the mix of backgrounds, personalities, and abilities of its members. . . . Together teacher and students make up a classroom community that is unique, with its own particular potentials and problems. (p. 3)

It follows from such a characterization that teachers cannot simply implement prepackaged skills but must learn how to adapt their skills to the needs of particular learners in particular situations at particular moments in time. As Stenhouse has pointed out, this calls for teachers to exercise their professional judgment. Teaching is an art, not a science.

When teaching is viewed as an art or craft it is the teacher's individual skill or personality that is emphasized rather than technical knowledge. Zahorik (1986), cited in Freeman and Richards (1993), writes, "The essence of this view of good teaching is invention and personalization. A good teacher is a person who assesses the needs and possibilities of a situation and creates and uses practices that have promise for that situation" (p. 22). The "art" comes from being able to combine technical proficiency with the ability to analyze classroom situations, identify which options may be relevant to a specific context, and select the most effective for the particular moment.

How then can SLA help teachers develop the professional judgment needed to achieve mastery of their art? One way is by supplying teachers with proposals that they can subsequently test out in the context of their own classroom (i.e., through what Stenhouse calls curricular action). To achieve this teachers need to take on the role of "insider researcher" (Widdowson, 1990).

As we have already seen, SLA can lead to pedagogic proposals in two ways. The proposals can be drawn directly from research and theory. Alternatively, the proposals may reflect ideas derived from the use of SLA to address issues teachers themselves raise, as illustrated in Pica (1994). In either case, the proposals constitute provisional specifications, not prescriptions, regarding what might work in the classroom. Whether these proposals are acted on will and should always depend on the professional judgment of individual teachers. Whether they work in particular contexts of action can only be determined by the curricular action of these teachers in their own classrooms.

If it is accepted that the proposals derived from SLA can never be anything other than provisional specifications, it does not seem to matter very much whether the source of the proposals is experimental or interpretative research. The results from

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research based on samples have the same status as the results of research based on cases; they constitute information upon which pedagogic suggestions can be based. Whether these suggestions are acted upon depends always on the professional judgment of the individual teacher. Furthermore, treating proposals as provisional specifications raises questions regarding the importance of the quality of the research on which they are based. To what extent is it necessary for proposals to be based on research that is technically sound (i.e., reliable, valid, and trustworthy) or on theory that meets such traditional criteria as completeness, accountability, predictive power, falsifiability, and so forth? Arguably it matters less whether the research or theory is technically and internally sound, to the satisfaction of other researchers and theorists, than whether they afford proposals that appeal to teachers' professional judgment and result in curricular action. As Ur (1992) has argued, it is not where the knowledge comes from but what is done with it after it has been perceived that is important. In other words, what constitutes good and bad research or theory may be entirely different from an educational perspective than from a research perspective. In this respect it is interesting to note that Krashen's theory of L2 acquisition has attracted very different kinds of criticisms (cf. Gregg, 1984, and Widdowson, 1990).[7]

One way in which teachers can carry out curricular action is by taking on the role of researcher. Research, defined by Stenhouse (1981) as "systematic enquiry made public," provides a means by which teachers can test the validity of proposals in their own classrooms. The case for teacher research or action research is now well established in education as a result of the pioneering work of such educators as Stenhouse (1975), Elliott and Ebutt (1985), and Kemmis and McTaggert (1981).[8] More recently, educators of language teachers have also argued the need for teachers to take an active role in researching their own classrooms (e.g., Crookes, 1993; Nunan, 1990; Wells, 1994) and there have been a number of published reports of action research involving L2 teachers (e.g., various articles in Bailey & Nunan, 1996; Orzechowska & Smieja, 1994; Walker, 1993; Wright, 1992).

In technical action research outside researchers coopt practitioners into working on questions derived from theory or previous research. Both Schachter (1993) and Gass (1995) see the need to involve teachers actively in research but as collaborators rather than as researchers in their own right. Gass, for example, assumes that teachers will need to investigate the same questions as researchers:

> Teachers and researchers need to work in tandem to determine how SLA findings can be evaluated and be made applicable to a classroom situation, and to determine which SLA findings to use. Teachers need to have a foundation (in SLA) to do this *in order to ask the right questions* [italics added]. (p. 16)

The right questions are, of course, the questions that SLA researchers want to see investigated. Crookes (1993) characterizes this kind of action research as "a relatively conservative line," noting that it is likely to result in work published by scholars for academic audiences. Such research, he suggests, is approved because it fosters connections between universities and schools while maintaining the values and

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standards of traditional research. It might be better described as research with teachers than action research.

Practical action research (Carr & Kemmis, 1986) entails teachers researching their own classrooms with a view to improving local practices. It involves a cycle of activities. The starting point is planning (i.e., the identification of some problem that needs solving). This results in action (i.e., the teaching of a lesson in which it is predicted the problematic behavior will arise). Observation of teaching provides material for reflection, which may then lead to further planning. The cycle links the past with the future through the processes of reconstruction and construction. Furthermore, it links discourse (i.e., talking about action) with actual practice (i.e., action in context). The starting point of the cycle, planning, is generally seen as the most problematic (Hopkins, 1985). Nunan (1990), for example, reports how the teachers he worked with experienced considerable difficulty in identifying problems for study.

How can SLA assist teachers to undertake practical action research? One obvious way is by providing proposals (i.e., provisional specifications) that teachers can test out. For example, teachers can investigate whether providing additional wait time when they ask questions leads to longer and syntactically more complex learner production in their classrooms. However, as the preceding comments suggest, teachers need to be encouraged to identify their own research questions and not to be tied to what researchers consider important. One way in which this might be achieved is through microevaluations of teaching tasks (Ellis, 1997). Teachers naturally question whether a task works but they generally do not research this; more typically they rely on impressionistic evaluations of a task rather than systematic enquiry. Inviting teachers to conduct small-scale research studies of the tasks they use in their teaching offers a way of establishing links with SLA, as the construct of task is one that is shared by both SLA researchers and teachers.

SLA also provides the practical action researcher with a variety of techniques and procedures for carrying out systematic investigations (for an overview, see Chapters 2 and 3 in Larsen-Freeman & Long, 1991). There is now, for example, a very substantial body of research on tasks in SLA (e.g., Berwick, 1990; Crookes & Rulon, 1985; Foster & Skehan, 1996; Pica & Doughty, 1985). Much of this is experimental in design, which may not be the best way to tackle action research. Teachers are likely to find naturalistic research both easier to do and more valuable to the kind of enquiries in which they wish to engage. Van Lier (1994b) argues that in order to build a "theory of practice" teachers need to engage in "the scrupulous examination of details of teaching/learning interaction." However, experimental research in SLA also affords teachers useful procedures for collecting and analyzing data. There is, of course, the danger that familiarizing teachers with SLA procedures and techniques will force teachers away from their own concerns toward those of SLA researchers.

Critical action research is not only directed at improving practice but at emancipating those that participate in it. Van Lier (1994b) writes, "Ultimately, any transformation in classroom processes must confront the social reality in which the classroom is situated and this confrontation is itself a researchable process" (p.

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10). Crookes (1993) considers teacher research with this objective more progressive. Teachers are required not only to understand local problems and to identify solutions but to examine the underlying social causes of problems and what needs to be done about them. Teachers need to become aware that their own understandings of classrooms may be distorted and that their capacities for reflection (an essential part of the action research cycle) are influenced by social factors. The mechanism for achieving this, according to Carr and Kemmis (1986), is discourse in the sense intended by Habermas (1979)—free communication among participants who share equal discourse rights. In critical action research, teachers need to take responsibility for carrying out research and discoursing on it. The presence of an outside researcher, although not outlawed, is seen as dangerous because it is likely to undermine the social symmetry needed to ensure collaborative discourse.

SLA probably has little to offer critical action research. This is because SLA, in general, has paid little attention to the social context of L2 acquisition, particularly where context is viewed nondeterministically (i.e., as something learners construct for themselves). SLA has been essentially a psycholinguistic enterprise, dominated by the computational metaphor of acquisition (Lantolf, 1995). This is now changing (e.g., Lantolf & Appel, 1994; Peirce, 1995) and, in the future, SLA may be able to contribute more directly to a critical perspective in LP. To achieve the social symmetry necessary for effective discourse with teachers, however, researchers of any persuasion will need to abandon the Discourse of SLA and take up that of LP. This is more of a challenge.

LP'S CONTRIBUTION TO SLA

An early objection leveled at action research is that it is frequently bad research. Stenhouse (1981) listed a number of the common problems. Teachers do not report accurately on what they do. The teacher's own involvement in the action leads to bias. Teachers are theoretically innocent. Hopkins (1985) adds additional objections: Teachers frequently confuse the dependent and independent variables (although such a criticism is hardly relevant to interpretative research), and they fail to clearly articulate their methodology. Brumfit and Mitchell (1990) insist that "there is no good argument for action research producing less care and rigor (than other modes of research) unless it is less concerned with clear understanding, which it is not" (p. 9).

More recent discussions, which emphasize the exploratory and emancipatory roles of action research, recognize that there is no need to conform to the objectives and methods of "proper research." Crookes (1993) argues that when research is entirely local and no attempt to generalize is made it is less necessary to satisfy the requirements of reliability, validity, and trustworthiness. He also suggests that action research reports do not need to be academic in style. They can take the form of teacher-oriented reports and thus be more discursive, subjective, and anecdotal in style. Wells (1994) argues that teacher research belongs to a different paradigm from traditional research in that it does not seek to be value-free and context-

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independent or to seek closure but instead to explore subjectively and cyclically particular contexts of action.

Both positions are warranted, as they reflect the two rather different goals of action research. On the one hand, action research functions as a tool by which teachers can hone their professional judgment and develop critical awareness. In this respect, it is the process of undertaking research that is important rather than the actual results. However, as we have seen, action research is also used as a form of curricular action, when the goal is to establish the legitimacy of some pedagogic activity for a particular group of learners. For this purpose, teachers do need to be sure that the research they conduct provides a basis for a valid and reliable judgment for the particular case they are investigating, although there is still no need to attend to the generalizability of their findings.

There are two reasons why teacher research is unlikely to make much of a mark on SLA. One is its methodological inadequacies (as viewed by academic researchers), which preclude it from making a contribution to the knowledge base of a discipline (Applebee, 1987). Teacher research is unlikely to meet the rigorous requirements of SLA gatekeepers such as the editors of journals like *Studies in Second Language Acquisition* (*SSLA*). Foster's (1993) pseudoexperimental study of task-based meaning negotiation, for example, did not survive the in-house editing process of this journal. Yet this article, the product of teacher research, raises an important issue for SLA—namely, whether, the kind of meaning negotiation that tasks provide in laboratory settings also occurs in a real classroom setting. To publish in an SLA journal like *SSLA,* teachers need to determine the research style preferred by the journal (experimental in the case of *SSLA*) and develop the technical expertise associated with that style. Without it their voices will not be attended to.

The other reason why teacher research is likely to have little impact on SLA is that it is likely to be reported in the Discourse of LP rather than the Discourse of SLA. Research must not only be rigorous, it must also be discoursally convincing before it will be taken seriously by the SLA community. The Discourse practiced by the SLA community is a reflection of their social world. It is also a means of excluding interlopers. As Stenhouse (1979, p. 82) puts it, "It is difficult for the researcher to admit practitioner research because it means a diminution of his power vis-a-vis teachers." Teachers, then, not only need to develop technical expertise but also to master the conventions of a new Discourse. This, again, is a substantial challenge.

In a different world, a true symbiosis involving SLA and LP might be possible. Teachers and researchers would engage in an interaction of mutual benefit to both. Such is the world van Lier (1994a) envisages. He advocates a critical scientific method that "uses participation in the practical affairs of the field to fuel theory, which then is put back into the service of progress in practical affairs, and so on in cyclical, reflexive ways" (p. 338). He sees practical affairs, such as teaching, as "an enormous source of theoretically relevant data." However, van Lier does not specify how such data can be used to build and test theory. Also, as Weiss (1977) notes, the kind of interactive model of research that van Lier espouses is rare because of the autonomous nature of those institutions whose primary responsibility is to conduct research.[9] Such reciprocity would require a new social order—the

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construction of a common Discourse shared by researchers and teachers. Although such a construction is not impossible, and is doubtlessly socially desirable, it is likely to require considerable effort and time.

CONCLUSION: TRANSFORMATION, NOT TRANSMISSION

In this article, I have emphasized the distinct and separate natures of the Discourses of SLA and LP. This has been deliberate because I wish to dispel what still seems to be a prevailing assumption within SLA, namely, that research or theory can be used to identify desirable teaching behaviors that teachers are then expected to implement in their classrooms. Such an assumption is not justified because SLA and LP have different goals—theory building versus practical action—and draw on different epistemologies—technical versus professional knowledge. A simple transfer of information from one Discourse to the other is, therefore, simply not possible. Transformation, not transmission, is called for.

For SLA to be of service to LP, researchers need to attend to the how of application as well as the what. We need to consider how practitioners develop professional expertise, drawing on the kind of educational perspective found in the work of Stenhouse, Carr and Kemmis, Freeman, and Wells (among others) and also on studies of how practical knowledge is organized and how this relates to technical knowledge, as discussed by Schon, Calderhead, and Eraut. These perspectives suggest that we need to go beyond the provision of propositional knowledge and involve ourselves more closely in the processes by which practitioners develop professional proficiency and expertise. We need to engage with practitioners in their professional work, as in the kind of participatory research described by Louden (1991).[10]

Finally, to avoid any misunderstanding of the arguments I have advanced in this article, I want to stress that I see no obligation for SLA researchers to attend to pedagogic issues. Many SLA researchers, quite understandably, have no interest in pedagogy, the focus of their attention being on developing SLA theory for its own sake or elsewhere (e.g., linguistics).

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NOTES

1. For example, Kramsch (1995) demonstrated the same term (e.g., *communicative competence* or *input*) frequently has different meanings in different Discourses.

2. Kramsch (1995, p. 12) offered a third option. She suggested that both applied linguists and language teachers investigate the irony of the language they use so that they both come to understand the larger social and political forces that shape their Discourses.

3. The analogy with the field of medicine is much favored by researchers who believe that the role of SLA is to provide a body of propositional knowledge that can guide teachers' actions. In fact, though, the relationship between propositional knowledge and clinical practice is recognized as highly complex by medical researchers. For example, H. Schmidt, Norman, and Boshuizen (1990) outline "a stage theory of clinical reasoning" for doctors, according to which development begins with elaborate causal networks derived from studying about medicine, giving way first to simplified frames and scripts that facilitate rapid decision-making and action, then to illness scripts, which are highly idiosyncratic, and finally to the use of case memories of previous patients, as doctors move from being novices to experts. Schmidt et al. conclude by suggesting that doctors' "expertise is associated with the availability of knowledge representations in various forms, derived

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from both experience and formal education" (p. 618). In fact, then, the key issue in medicine is the same as that in education—how formal knowledge and experience come to be integrated in the expert practitioner.

4. The literature on innovation in LP has sought to identify those factors that govern the uptake of a new proposal. Relevant factors include feasibility, relevance, and acceptability. McIntyre (1988) has suggested that such criteria may sometimes conflict with the kind of criteria that are traditionally used to evaluate proposals academically (e.g., intellectual clarity, educational value, general effectiveness). Thus, a proposal that is considered educationally valuable and generally effective may be found ineffective in a particular teaching context.

5. Arguably, the technology of teaching view is again asserting itself in the United States and the United Kingdom, where bureaucrats are imposing standards on teachers. See Apple and Jungck (1990) for an example of how this "deskills" teachers.

6. It could be argued that process-product research can be designed in such a way as to take account of the variety of situations in which teachers must make decisions. However, McIntyre (1988) disputes whether such research can ever be sufficiently sensitive.

7. Gregg (1984) emphasizes, for example, the impossibility of testing Krashen's acquisition and learning hypothesis; Widdowson (1990), whereas also attacking Krashen for failures in conceptualization, is most severe on him because of what he perceives as his attempt to spread his ideas among teachers "by the action of persuasion on uncritical acquiescence" (p. 25).

8. There have also been attacks on action research, however. Hammersley (1994), for example, comments, "There may have been excessive optimism about the contribution a research orientation can make to teaching; a misguided attempt to reconstruct practice on the model of intellectual work" (p. 147).

9. Weiss (1977) distinguishes three models of research use: decision-driven (as in a commissioned evaluation of a project), knowledge-driven (as in most university-based research), and interactive, which involves a pooling of the talents of researchers and professionals. It is this last use that Van Lier supports.

10. Louden (1991) reports on a reflective study of teaching on the classroom experiences he shared and discussed with one teacher over a period of several months.

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