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SPECIAL FEATURE ROUNDTABLE

Language Education, Language Acquisition: Working Perspectives of Four Applied Linguists

INTRODUCTION

Language education and language acquisition have been among the core areas of applied linguistics in the brief history of our field. In this Special Feature, coordinated by David Leech, four applied linguistics practitioners who have participated in the community of UCLA's Department of TESL & Applied Linguistics were invited to share their perspectives. Three of the four contributors, John Povey, Brian Lynch, and John Schumann, are presently faculty members in the department. The fourth, Leo van Lier, of the Monterey Institute for International Studies, recently visited UCLA as a guest speaker in the TESL & Applied Linguistics Graduate Students' Spring 1991 Speaker Series.

Each writer contributes an in-depth personal perspective on his particular work, discussing its relationship to applied linguistics and to contributing areas of inquiry. Van Lier, Povey, and Lynch have chosen to express their thoughts in essay form, while Schumann preferred to respond to David Leech's questions in an interview format.

The first three contributions are from applied linguists in language education. Leo van Lier offers provocative insights into what an active applied linguistics might be and into what sort of relationship would result for theory, research, and practice. John Povey reviews the status of language education within applied linguistics, especially the recent re-emergence of literature as a culturally rich vehicle for English language teaching in a culturally diverse world. Brian Lynch argues that his "context-adaptive model of program evaluation" has much to offer not only to educational contexts in the widest sense, but also to improved measurement of language abilities. The interview with John Schumann follows these essays.

Doing Applied Linguistics: Towards a Theory of Practice

Leo van Lier, *Monterey Institute of International Studies*

A central task for the applied linguist is to articulate a principled stance in relation to the three terms *theory*, *research*, and *practice*. A prominent--if not dominant--view of this relationship is that research is primarily related to theory (whether in a *theory-first* or in a *research-first* sense) rather than to practice. To illustrate this view of research in our field, let me quote the opening lines of a paper by Kevin Gregg (1989):

The ultimate goal of second language acquisition research is the development of a theory of second language acquisition. I think there is fairly widespread agreement that no such theory exists; beyond that rather minimal point, the consensus starts to dissolve. (p. 15)

This quotation squarely places research in the service of theory and furthermore (tacitly) assumes that there can surely be no disagreement on this point. But do we all agree with this? I, for one, am inclined to disagree. I think that research which addresses practical concerns is at least as valuable as theory-oriented research and, indeed, that practice-oriented or practice-driven research in general tends to be of more enduring theoretical benefit than research which is divorced from practice.¹ Such research is also more likely to be funded and to be appreciated by the public. The perspective of Gregg's statement would lead us in other fields, perhaps, to statements such as "The ultimate goal of AIDS research is the development of a theory of AIDS," rather than the understanding of the disease and its prevention.

Moreover, Gregg's paper appears in a series entitled "Applied Linguistics," published by Cambridge University Press. The professed aim of this series is to publish work which succeeds in "relating research and practice" (Series Preface, p. viii). Is the "second language acquisition research" (SLA) mentioned by Gregg something different from applied linguistics (AL)? Are SLA researchers perhaps those who look towards theory, while AL researchers those who look towards practice? Is that why some researchers prefer the SLA label to the AL label? I would be loath (or reckless) to speculate on these matters, so I will quote Newmeyer & Weinberger (1988), who call second language learning (SLL) an "immature discipline." Among the reasons they give for this temporary (one hopes) imperfection are the "ties with pedagogy" which have not yet been "completely severed" (pp. 34-45). In other words, the less SLA (or SLL) gets involved with pedagogy, the closer it gets to "maturity." This I find curious indeed. It is as if a medical researcher were to say that we can only achieve a mature theory of digestion if we ignore all reference to diet, chewing, and exercise. Further, giving advice to people about how to avoid

stomach ulcers or developing useful drugs would then be immature acts of the researcher.²

I want to make it clear that I accept the validity of theory-oriented, practice-eschewing types of research such as appears to be advocated by Gregg, Newmeyer, Weinberger, and many others who prefer to leave the qualifier *applied* out of their particular titular compound. Certainly, there is no reason why a researcher should immediately have to prove the practical applicability of every piece of research s/he does. However, it troubles me when researchers claim, tacitly if not overtly, some sort of exclusivity or primacy for their own brand of research and theory-making. On the one hand, a deliberate dissociation of SLA/SLL from pedagogy appears somewhat quixotic given that the words *learning* and *acquisition* appear in these researchers' own labels. On the other hand, such separation would make the theorist unpractical and the practitioner atheoretical, or at best turn the teacher into a passive (perhaps awestruck?) recipient of research and theoretical findings. I suggest that a dislocation of either type would signal severe immaturity rather than the converse.

I have so far questioned two assumptions: (a) that research should have theory-construction as its ultimate or exclusive goal and (b) that theory and research should be kept separate from pedagogical practice. To complete my activist's agenda, I must now add a third questionable assumption. This is the assumption, stated forcefully on at least two occasions by Jarvis (1981, 1991), that research and teaching are two entirely distinct activities which cannot be combined (except in collaborative research in which teacher and researcher join forces, each contributing his or her own expertise). Jarvis (1991) argues that, whereas research is designed "to solve a problem--to come to understand," the purpose of a teacher's research, or action research, is "to solve a problem--to make something work" (p. 302).

Like all scientific activity, action research involves problem solving,³ but it is much more than that: it includes systematic cycles of planning, acting, observing, reflecting, and documentation (Lewin, 1946; Nixon, 1981; Carr & Kemmis, 1986). If it is well done, and successful, it leads to a better understanding of a particular aspect of reality, in our case an aspect of teaching and learning. In such cases it is good educational research. Contrary to Jarvis's claim that research should be left to professionally trained researchers, there is evidence that teachers can be researchers, that they can do useful research in cooperation with other teachers, with or without assistance from academically trained researchers, and that such research is a legitimate and beneficial activity for teachers (see a recent issue of *Educational Leadership* on the theme of "reflective teaching" (The Reflective Educator, 1991). In actual fact, teachers can be (and are being) taught how to do various kinds of research in in-service workshops and postgraduate degree programs (Nunan, 1990).

The teacher who is excluded from research except in the role of collaborator, as Jarvis suggests, is a *restricted professional*, whereas the reflective teacher or teacher-researcher is an *extended* and *autonomous professional* (Stenhouse, 1975). According to Stenhouse, the extended professional has "a capacity for autonomous professional self-development through systematic self-

study, through the study of the work of other teachers and through the testing of ideas by classroom research procedures" (1975, p. 144). The extended professional, being autonomous, will engage in research when s/he sees fit to do so, without necessarily waiting for academe's approval or permission. And when theorists and researchers prefer to distance themselves from practical involvement in pedagogical affairs, teachers have no choice but to do their own research in order to investigate their own practice (or *praxis*, to use the Aristotelian term). My advice to teachers therefore is to grow some theory of their own, to take research initiatives, and to seek expertise when and where appropriate.

An activist applied linguistics aims to establish the following points:

- a) Research can be practice-based (practice-driven and/or practice-oriented). Such research reduces the gap between theory and practice, without watering down theory or encumbering practice.
- b) Practice-based research is theoretically interesting (i.e., valuable) at least to the same degree that theory-based research is practically interesting, and at times perhaps more so.
- c) It is possible, desirable, and even necessary for the teaching profession to establish its own theory of practice.
- d) It is feasible and necessary for autonomous teachers to be researchers of their own reality.

In some recent work (e.g., van Lier, 1991), I have illustrated a type of activist applied linguistics which can best be called *educational linguistics*.⁴ While teaching a regular semester-long ESL class, I conducted research on my own teaching (action research). I had several purposes in mind, some more explicitly articulated than others. As it happened, things turned out rather differently than expected, but this is not uncommon in any kind of research. Some of the goals and procedures of this project, stated as succinctly as possible, were:

- a) Try to see how an explicit focus on form/language (or consciousness-raising) can be incorporated in a communicative approach. I tried a number of different tasks, traditional and innovative, to see how language awareness might be brought about or harnessed in the service of language learning.
- b) Establish an authentic data-base for making graduate linguistics courses more in tune with the reality of language use in classrooms. To this end I recorded all my ESL lessons and planned to transcribe excerpts for immediate use in the graduate classes I was simultaneously teaching.
- c) Find out if and how action research really works by doing it myself. I kept a diary, invited others to observe my lessons, transcribed all lessons (with the help of Eve Connell and Sheila Williams, then graduate students), and tried to monitor as closely as possible what happened.

- d) Establish the relevance of as many theoretical issues as possible, from the perspective of a language teacher. That is, standing in the classroom, I asked myself what I could honestly say was important for my work, my professional self-improvement, and my understanding of my students. This question led me to investigate educational issues which I might otherwise have continued to neglect or be ignorant of, yet which I now regard as crucial.

Practice-based research is open-ended and ongoing: one cannot expect closure similar to carefully planned and circumscribed experimental projects. However, while it may not fit the preferred formats of many theorists, there is no doubt that it has powerful theoretical potential as well as immediate practical value. Furthermore, it is gaining increasing respectability and prominence in the philosophy of science and the social sciences, and the linguistic and SLA research community will inevitably have to come to terms with it.

Applied Linguistics and the Place of Literature in Language Teaching

John Povey, *UCLA*

When we became a department it seemed no one much liked our double name--"Department of TESL & Applied Linguistics"--but it was indicative that no one could suggest any more specific appellation. So it is with the field. What is applied, to what, and why?

Applied linguistics assumes that linguistics itself (housed elsewhere) pursues 'pure' studies. After that the pragmatists borrow and employ the more useful bits. Such a system can be seen as analogous to basic research and manufacturing. For the economic model, made metaphor above, there remains a third stage, consumerism, which is realistically the sole purpose of the process. TESL presumably becomes that academic also-ran serving utilitarian performance in the classroom. The sequence has a sweet logic, but within academe, it proves to offer a less calculated interaction. Between research and function, gaps seem to widen rather than narrow, compounded by a common scholarly attitude that research is the hard work and the foot soldiers can carry the burden into the classrooms. I think there is presently a tension between scholars and teachers. That may not matter at the elevated intellectual level but is damnable at the second language chalk-face. "They cry out and are not fed," as Milton put it in condemning earlier scholars. Sometimes this is for the best. Some of the more absurd hypotheses about language teaching have been mercifully restricted by the surly conservatism of long-experienced teachers to the great benefit of their students, but such exceptions do not indicate that researchers should retire from the field and abdicate from the honorable and

essential duty to guide and sustain those doing daily battle with intransigent circumstances.

Applied linguistics implicitly and increasingly borrows from other fields: mathematics, psychology, sociology, even biology, and 'applies' their discoveries to a different intellectual and educational situation. One always senses the danger. These offer a broader legitimacy in their own right, but the content becomes its own justification and the major reason for its pursuit. In the context of scholarly commitment, does our second title 'applied linguistics' lead toward our first title of TESL?--only marginally and distantly. One does not wish to return to the old days of basic teacher training; the how-to-hold-the-chalk and never-turn-your-back-on-the-class type of instruction. Even those of us most dedicated to education, after giving a passionate lecture on principles, have winced at that attacking, unanswerable question, "Yes, that's all very interesting but what do I do on Monday?" I am not sure that in any immediate way an 'applied linguist' can offer useful answers to such pleas, and there lies the problem. Our aims are long term. Needs are more immediate. We can only point out the potential effectiveness of our statistical proofs. It may be that there is an intermediate stage, that of formal teacher-training programs, through which research needs to be filtered down. Yet I think at a more fundamental level we may be forgetting purpose and substituting the more pleasurable experiences of, as Ratty (from *The Wind in the Willows*) remarked, "messing about in boats," or at least with our computers, rather than thinking of those huge, overfilled classes in the Los Angeles school system.

I remember a plenary speech by the late and lamented Peter Strevens. He took the acronym "TESOL" as his text but insisted that our concerns were partial. He reprimanded us that we fussed about 'teaching' provoked by a lot of 'SOLs' who besiege us. But what, he so eloquently and rhetorically asked about the E for English? With that inquiry he beautifully articulated my own concerns, and his anxiety would be equally justified if we argue that the principles of applied linguistics can be spread more widely to serve Russian or Chinese languages, say. The same addiction to theory and indifference to the living language would most likely apply.

There are two ways of answering Strevens. Firstly the simple dismissal. Linguistics, applied or otherwise, is too concerned with vital micro-fundamentals to consider whether the data with which it works has a living tradition admired by centuries of creativity. One imagines that bacteriologists peer through their microscopes without considering the glorious active beast from which their slide samples are drawn. Secondly and more generously, one might agree and ask for an emphasis on language as opposed to linguistics as central to the reception by those 'SOLs.' A different perspective to the emphasis on 'application.'

This issue is particularly significant when one considers English. Years of British international education, anticipating an admiration of Jane Austen as evidence of linguistic success, did require the pendulum to be pushed back. But there is the old proverb which relates the danger of "throwing the baby out with the bath water." As English becomes increasingly a global

language, what can best serve its expansion and sustenance? We can define what is needed: reading and writing skills and attendant comprehension. Interestingly enough this suggests that the secondary abilities may in many cases prove more useful, in the business sense, than speech competences. Applied linguistic research has focused upon the primary skills substantially because it is only at the most fundamental levels, when variables can be controlled into relative simplicity, that specific research can be activated. Language acquisition research can teach us something, but nothing that explains the miracle of how the ill-educated Shakespeare learned his ability to offer a phrase such as "the multitudinous seas incarnadine turn." Where did he 'acquire' that skill?

I am not pretending that the old boredom of 'lit. crit.' can solve ESL problems. I do believe that literature must play a part in redirecting priorities within the service of ESL teaching and that its incorporation into programs, at both the training and teaching levels, can be invaluable. Before I am knocked down with gales of incredulous laughter let me argue for its virtues and point to its future. I used to be alone in this fanciful belief, but there are changes in the air. The TESOL Newsletter has recently offered several articles hinting that classroom stories are useful. Recent ESL publishers' catalogs are sneaking in reading materials that look suspiciously like literature. Surely the most exciting breakthrough, though not specifically for ESL students, is the California state-wide decision to create a 'literature-centered' English language curriculum at several grade levels in the schools.

What this policy recognizes is that literature provides evidence of language used at its most expressive level. Literature is the conduit of all national thought and ideals--one does not have to be exceptionally Whorfian to recognize that phenomenon. Literature is interesting. That is not a word that can often be applied to language classes. Almost without exception, and unlike the average American high school graduate, those nonnative speakers know, respect, and love literature, even hunger for it. Stories are critical in all societies. They have been told around campfires for a thousand years to teach and entertain. Stories are everywhere listened to by rapt audiences. When, in a ESL class, did one last get a rapt audience? Perhaps only when reading a story. Literature provides thoughts about the human experience. It demands reaction. It stimulates that most precious of all teacher classroom hopes--responsiveness--which has never arisen from the conversation-stopping command: 'Let's have a discussion.' Of course, I am following, and recommending, my own path. I know it is only one direction amongst many.

If I had to summarize, I would argue that applied linguistics is at present not sufficiently 'applied' in the sense of having immediate, obvious and advantageous 'application.' In pursuing the topics that derive from its field of scholarship, the difference between linguistics and applied linguistics is not so exceptionally different. In the great context of university scholarship, my complaint may be unjustified, unfair, and irrelevant. All scholarship can defend its own ultimate utility as service to mankind, if not to the common man. I am no more immune than others to the temptations of trumpet-blowing about one's enthusiasms. There is always the hope that in research, as in taxation or

development aid, success at the upper levels must inevitably 'trickle down' to the disadvantaged below. However, the result has rarely been proven in any field. I believe that without a very determined and activist intervention, this may not be so with 'applied linguistics.'

The Role of Program Evaluation in Applied Linguistics Research

Brian K. Lynch, *UCLA*

Applied linguistics research, as I see it, is concerned with the application of knowledge and methods of inquiry from a variety of disciplines to the range of issues concerning the development and use of language (cf. Jacobs, 1990, p.156). This is, admittedly, a very broad definition. It does, however, establish the direction of application--from disciplines such as linguistics, sociology, and cognitive science to language-related concerns, rather than from linguistics to other disciplines. It also does not limit the application of knowledge and methods to traditional language concerns, but opens it up to the emerging social and political aspects of language learning and use.

From this perspective, program evaluation can play an essential role in the development of applied linguistics as a field of research. I agree with Cumming (1987) who distinguished second language program evaluation from other applied linguistic research because of its special ability to "document actual interrelationships between program policy, rationale, instructional procedures, learning processes and outcomes, curricular content, and a specific social milieu" (p. 697). In order to provide myself and others with a systematic and principled way of approaching the work of program evaluation within the context of applied linguistics, I have formulated a context-adaptive model (Lynch, 1990). This was not intended as a model in the traditional, positivist sense of the term. I did not attempt a rigid formulation of a theory to be tested for validity using experimental research design and appropriate statistical techniques. Rather, as its name suggests, it is meant to be a flexible, adaptable heuristic, a starting point for inquiry into language programs, that will constantly reshape and redefine itself, depending upon the context of the program and the evaluation. It also provides a framework for discussing the role of program evaluation in applied linguistics research.

The first steps of the context-adaptive model focus on the issues of audience and goals. Because the audience of a program evaluation often lies outside academic disciplines, the evaluator as researcher is forced to consider the issue of what counts as evidence from different perspectives. The funding agency may expect numbers as proof of program success. The community being served by the program may expect a clear description of how the program accomplishes what it does. Evaluators will have their own requirements for what counts as

evidence. This aspect of program evaluation forces a consideration of different types of knowledge and knowledge validation.

It is because of the need to deal with the question of what counts as evidence that the literature on program evaluation has addressed with regularity the issue of research paradigm. Within the education and psychology literatures this has become known as the "qualitative-quantitative debate." Unfortunately, this terminology can tend to obscure the issue. While the qualitative and quantitative paradigms are associated with certain types of data and methods (i.e., qualitative and quantitative), the real issues are ontological and epistemological: what can we know, and how do we know what we know? The quantitative paradigm stems from positivism, which takes an objectivist perspective to this question: reality is seen as independent of the mind, an external objective entity waiting to be discovered through the use of rigorously controlled experimental design and appropriate statistical procedures. The qualitative paradigm is associated with phenomenology and interpretivism, which take a relativist perspective: reality is mind-dependent and behavior is socially constructed, with no externally existing foundation against which to measure or validate our knowledge claims. Pennycook (1989, 1990) has applied knowledge from a variety of disciplines and subdisciplines (e.g., critical linguistics, critical pedagogy, and postmodern philosophy, anthropology, and sociology) to argue cogently for a critical applied linguistics that acknowledges the historical, social, and political bases for our research. Essentially, he has made the connection between the quantitative-qualitative debate and the emergence of postmodernist thought as a challenge to traditional approaches to inquiry.

In this sense, program evaluation can lead to a clarification of the epistemological basis for applied linguistic research; it can and should, I believe, play the role of keeping us honest in our inquiry. Even if the quantitative-qualitative debate is no longer productive as some have suggested (Reichardt & Cook, 1979; Howe, 1988)--that is, that there is no need to choose between research paradigms--or if the postmodernist critique of academic inquiry (e.g., Pennycook, 1990) remains unconvincing, the consideration of the issues involved have led to a recognition by some applied linguists of the need to be open to "different ways of arriving at understanding" (van Lier, 1988, p.12) in applied linguistic research.

Another step in the context-adaptive model, the context inventory, leads to an examination of the social and political climate surrounding the program being evaluated. This step involves a consideration not only of the perspectives of the program designers, implementers, and students, but also of the larger issues concerning the social and political basis and motivation for language learning and teaching. It is there that issues such as cultural and linguistic pluralism versus access to a language as a means of socioeconomic advancement arise (Gaies, 1987), as does the relationship between technology and language in preserving the status quo of dependency on the technology of certain nations (Judd, 1984). In order to document these types of issues most thoroughly, program evaluation must apply knowledge and methods from other disciplines, thereby enriching applied linguistics research.

Another important dimension assessed by the context-adaptive model is reliable and valid measurement. Most program evaluations attempt some measure of program effect, or success, using language tests of one sort or another. This has led to a consideration of the difference between norm-referenced (NR) measurement and criterion-referenced (CR) measurement. NR tests, designed to compare or rank students, are generally used for proficiency and placement purposes. CR tests measure students' performance with respect to a specific set of criteria and are generally used for achievement and diagnostic purposes. (For a more detailed discussion of the differences between NR and CR tests, see Hudson & Lynch, 1984; Brown, 1989.) Several evaluations have called for more and better CR tests in assessing program success (Whitley, 1987; Lynch, 1988; Polio, 1988). Such tests are deemed to be "program fair" (Beretta, 1986) in that they are more sensitive to the specific curricular objectives of the individual programs than are NR tests. Thus, program evaluation can lead to the application of knowledge and techniques from education and psychology for the improved measurement of particular language abilities in particular program contexts.

The final steps of the context-adaptive model, dealing with the design of a data collection system and the analysis of evaluation data, also lead to the application of methods, both quantitative and qualitative, from different disciplines. In particular, this multiple methods approach can be seen when data are collected and analyzed to investigate the match between the instructional objectives and the classroom processes in a language program. In order to effectively assess this match, program evaluation must pursue ethnographic accounts of language classrooms and introspective/retrospective investigation of individual learning processes and their interaction with language instruction. It must also pursue the measurement of student achievement of the program's instructional objectives. To the degree these objectives are operationalizations derived from language learning theory, the multiple methods approach encourages the development of better quantitative measures that can also be used in more traditional, experimental research designed to validate that theory. An adequate approach to such validation, as Bachman (1990, and personal communication) has argued, would require the development of CR tests of language ability. Ultimately, the most convincing validation of theory will combine these efforts to qualitatively describe the variables involved in classroom language learning and to quantitatively analyze those variables. Program evaluation provides a practical base (language programs) and a motivation (the need for evaluation) for this type of multidisciplinary inquiry in applied linguistics.

A Journey Through Language Acquisition

An Interview with John Schumann, *UCLA*

John Schumann presents his view of applied linguistics by guiding us through his own evolution as an applied linguist, a journey which has brought him from his continuing interest in language acquisition to the insights of neuroscience and cognitive science.

IAL: What most interests you in applied linguistics and how has that influenced your development as an applied linguist?

JS: I consider language acquisition and use to be the central concerns of applied linguistics. To that central concern we apply insights and knowledge from various other fields. Those fields include psychology, sociology, linguistics, neuroscience, artificial intelligence, anthropology, and to some extent philosophy. So I really see language acquisition and use as being at the core, and the "applied" in applied linguistics means applying these various areas to our studies of language acquisition and use.

In my own work, I've been mainly concerned with language acquisition, less so with language use. It began with a concern about failure or at least lack of total success in second language acquisition. That was something that interested me; I was a language major in college, and I observed variable success among fellow students. Then I went into the Peace Corps and was in Iran for several years. And there I observed some people doing better than others and was curious as to why. In graduate school, I began examining the social psychology of second language acquisition, particularly the work of Gardner and associates, Spolsky, and others on attitude and motivation.

Later, looking at the notion of social distance, I examined the work on ethnic relations and various aspects of social relations between groups and applied this to the study of second language acquisition. I was also interested in the work of Alexander Guiora on the notion of ego permeability or empathy. I read a good deal of psychoanalytic literature, and I began to think about it in relation to second language acquisition. I also looked at the anthropological literature, particularly work done by such researchers as Larsen and Smalley, two anthropological linguists on phenomena such as language shock and culture shock. I spent a lot of time studying a branch of linguistics--pidgin and creole studies--to try to describe the language of people whose linguistic forms had fossilized at a very early stage of development.

More recently I have been trying to incorporate a cognitive component into this pidginization/accluturation model by studying models from the fields of cognitive psychology, artificial intelligence, and cognitive science, to try to see how those various models could account for the pidginization one finds in early second language acquisition and in certain fossilized learners. I have also started studying neurobiology. My hypothesis was that if there was some sort of

social-psychological force that promotes or inhibits second language learning, it must have a neural substrate. So I was curious as to what could be going on in the brain that would cause people to acculturate better and perhaps learn better, or not acculturate well or not learn well. That led me to studies of the limbic system, and particularly of the amygdala (which seems to be that part of the brain that assesses stimuli for their motivational relevance and emotional significance). I thought that learners, whether in a target-language context or in classrooms, constantly scan the environment to assess both motivational relevance and emotional significance of incoming stimuli. These appraisals would lead to emotions; and if those emotions are more generally positive than negative, it is likely to result in attention to the stimuli. In addition, the amygdala appears to play a role in memory, and thus it seems plausible that if the amygdala evaluates stimuli positively, it will signal various parts of the brain to prepare the cortex to receive information contained in the stimulus.

This has led me to look at the neuropsychology and cognitive psychology of memory. So memory is something which I will be paying more attention to. From my perspective, memory is the heart of the cognition involved in learning. And the neural mechanisms that make memory possible, which include affective mechanisms such as the amygdala, make memory and affect link up very closely.

IAL: Given the research stage that you have reached, what relationship does it have to your original research question? How much does the stage you have progressed to match it, and how much does it go beyond it?

JS: In terms of my own intellectual progression, one could argue that there has been no progression whatsoever. The interest fossilized, and there has been no movement at all. What has happened is that I developed an interest in variable success in second language learning: why some people do it well and quickly, why some people do it slowly and accomplish very little, or sometimes nothing at all. That interest of mine has not changed one bit. It has been the core of my work. First I looked at some social psychology, then clinical psychology, pidgin and creole linguistics, neurobiology, the neuropsychology of memory, and now I am extending it to the psychology of stimulus appraisal and neurochemistry.

Looking at my work, one might say, "Gee, Schumann just jumps from one thing to the next. One time he's talking about pidgins, then he's talking about clinical psychology, now he's talking about the brain. The guy is clearly a Gemini and he's intellectually out of control." But I would argue that this is not the case; the central concern has not changed one whit. I just explore it from different perspectives.

IAL: Would you say you are now working in areas that happen to be generally "hot" or "in" right now for applied linguistics? Does it match what is going on in applied linguistics generally, if one can say that?

JS: I honestly do not see a major trend for the understanding of neuroanatomy and neurophysiology in applied linguistics right now. But, I think it would be worth having such a trend because ultimately it is the brain in interaction with other brains that leads to the acquisition and use of language. We can examine interaction, we can study input, we can analyze output as much as we want, but ultimately it is the black box that does the acquisition and use. And the box isn't even that black anymore. In the last ten years there has been enormous progress in neuroscience, and I think we can begin now to study the brain and speculate how it might be controlling the exact questions I'm interested in--the success versus lack of success in second language learning. For example, there was a recent article in *The New York Times* about a neuropeptide called oxytocin that seems to be operable in affiliative behavior. Acculturation has a lot to do with affiliative behavior, i.e., how one regards the target language group, and there may be some role for oxytocin in that.

I'm also interested in the neurochemicals that are involved in the brain's reward system, because they appear to be operable when people are exposed to stimuli they positively value. They may set off attention mechanisms which may ultimately allow the input to become intake. All these raise possibilities for aspects of the neurosubstrate that may be involved in the process of becoming bilingual.

I think there are a number of interesting ideas about brain function that could at the very least give us new metaphors for the way we think about the problems we have in second language acquisition--for all of the problems are intractable; nobody has solved anything yet. What we need are as many new conceptualizations as possible.

IAL: There is a field of inquiry which is perennially at issue: Chomskyan linguistics and other formal schools which study languages as logical rational systems. How do you see their work fitting into your own view of applied linguistics?

JS: When I say applied linguistics is something concerned with language acquisition and use, that includes both first and second languages. I think the Chomskyan perspective is a good one if one accepts the notion that there is a poverty of stimulus--and I think the jury is still out on that. I think some people accept that axiomatically, they're convinced by the logical arguments for it, but others aren't convinced. Still it's perfectly all right to ask what language would look like from the perspective of competence divorced from performance, from the perspective of a module independent of other modules, and from the assumption of impoverished input. Whether the generative approach has made progress or not is another question. We have certainly learned a lot about language from it, but whether we have learned about the language faculty is another question.

There is a related issue: second language acquisition researchers are always concerned that the field doesn't have a theory, and whenever someone proposes a theory, someone says it doesn't account for this and it doesn't account

for that--it's not global enough. But then if we look at what I think many would concede is a theory in linguistics, it's certainly not global.

IAL: So its value to you is how much linguistics can tell you about what's going on in the brain?

JS: You mean Universal Grammar? Yes, that's its goal, isn't it? It doesn't have to be psychologically real, but if there are some commonalities among natural languages, and we can define the constraints on natural language, then we have, in some indirect way at least, some knowledge about what the brain might need to be like in order to learn a language.

IAL: But do you see UG as nevertheless being useful as an adequate description of language X, do you see UG as having some applicability to some other area of applied linguistics, even if it can't inform us directly about cognition?

JS: Well it seems that it is not very informative for the kind of interlanguage analyses that we do. Rarely is anyone in generative linguistics doing anything on interlanguage, but interlanguage is performance, so you could argue that it isn't a concern of linguistics. To do interlanguage analysis you need to know about things like modality and ergativity and aspect--at this point, current generative theory doesn't seem to have much to say about those things.

IAL: Many in applied linguistics see formal or programmatic language teaching as an important if not primary concern. How do you see your own work in relation to that perspective? Is there a useful linkage between language education and other contributory areas, or do you have a different angle on this?

JS: Applied linguistics has developed out of a concern for how to teach languages, and I think that has been a terribly constraining concern. I don't say that it should abandon language teaching. But for applied linguistics to develop, I think language acquisition and language use should be more generally conceived. Language education would be just one aspect of applied linguistics.

IAL: One last question: Do you have any words of encouragement, or words of despair, about applied linguistics as a field?

JS: No words of despair, but I think we have to be sober about it. What we are constantly talking about at meetings and conferences is how we can influence linguistic theory. Basically it's begging linguists to pay attention to us. What can we say to linguists? I think the first time we have something important to say to linguists, within a year or so they'll hear it. If we really have something to say that's crucial to theory, it will get into the literature and they'll hear it. So I don't think we have to keep running after linguists to get them to come to our colloquia where they can listen to what we have to say in case we might say something worthwhile.

On the other hand, in applied linguistics, we'll know that we've accomplished something when we begin to influence another field or other fields. Right now we influence education: what's relevant in applied linguistics to language teaching gets to the language teaching field. But we've had no major influence beyond language education, and if we're to get a clear demonstration of our vitality it will be when we generate some insights that are useful to psychologists, sociologists, neuroscientists, artificial intelligence experts, and even linguists.

CONCLUSION

The views of our four contributors are obviously inspired by their individual areas of expertise within language education and language acquisition. Nevertheless, all four have articulated, in one way or another, the connections between these two core areas of applied linguistics. Moreover, they communicate in their own idioms not only that sound work in applied linguistics must in some fashion connect research and theory to experience and practice, but that language education and language acquisition must be open to influences beyond applied linguistics which can ultimately help these core areas influence other domains within our field and help applied linguistics contribute to other disciplines.

NOTES

¹ As Feyerabend (1987), the philosopher of science, has said: "The knowledge we need to understand and to advance the sciences does not come from theories, it comes from participation" (p. 284). The "theory of practice" (Bourdieu, 1990) I am advocating is designed to illuminate this participation.

² The tension between theory and practice has of course been with us for some time. For example, Lorenz (1971) long ago spoke not only of the two reasons for doing science--wanting to know and wanting to help--but also of the potential conflict between them. Another interesting case is that of Carl Jung who, as Stern (1976) recounts, "gradually became distrustful of all psychological theorizing about therapy" and came to believe that "good therapy . . . has to be tailor-made" (p. 64). A theory of practice would hope to temper the abstractions and generalizations which characterize traditional theories and not lose sight of the unique and unexpected.

³ Chomsky (1988) has made an interesting comment which is relevant to this issue. When he was asked what his method of investigation was, he replied:

As for my own methods of investigation, I do not really have any. The only method of investigation is to look hard at a serious problem and try to get some ideas as to what might be the

explanation for it, meanwhile keeping an open mind about all sorts of other possibilities. Well, that is not a method. It is just being reasonable, and so far as I know, that is the only way to deal with any problem, whether it is a problem in your work as a quantum physicist or whatever. (p. 190)

⁴ I assume a research-methodological hierarchy roughly as follows:

APPLIED LINGUISTICS > EDUCATIONAL LINGUISTICS > THEORY OF PRACTICE > CLASSROOM RESEARCH > ACTION RESEARCH (where ">" signifies "includes"). There is nothing fixed about this particular hierarchy. Rather, the different components should be seen as building blocks which can be assembled in different ways on different occasions, or as discourse worlds with multiple embedding options.

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