CHAPTER

3

Applications of Psycholinguistic Research to the Classroom

Stephen D. Krashen

RESEARCH AND PRACTICE

The purpose of this paper is to discuss what our research priorities in second language acquisition should be. It will be helpful, however, before discussing these priorities, to discuss what research is for in second language acquisition, and how it can serve the teaching profession.

Our goal in foreign language education, at all times, is to improve teaching practice, and research must always serve this goal. It can do this in two ways. First, research can serve as confirming and counter-evidence to theories of second language acquisition, which can be extremely practical tools in improving practice. We will refer to research that has this goal as "theoretical" research. Second, research can be neutral to theory, and seek only to determine what works and does not work in the second and foreign language classroom. We will refer to this kind of research as "applied" research. In this section, we will take some time to briefly describe these two kinds of research and how they relate to practice. In the sections that follow, I will present what appears to be the state

of the art (or science) in both these areas, discuss some gaps in our research efforts, and suggest some directions for the future.

Theoretical Research

Theoretical research has as its goal the development of theory. A theory is simply a set of interrelated hypotheses that are supported by empirical evidence. It is thus an attempt to account for a number of phenomena in terms of a set of generalizations. It is important to point out that theoretical hypotheses can be supported by empirical data, but cannot be "proven." The existence or discovery of just one genuine counter-example is enough to "disprove" a theory, no matter how many confirming cases are found. For illustration, let us assume that a formal linguist proposes the following universal: All languages have pronouns. He presents us with a list of 547 languages, all of which contain pronouns. Can he claim that his universal is "proven?" All he can

really claim is that his hypothesis finds support. The critic can always remain "unconvinced" and ask for more data, suggesting that some unknown, unstudied, long-dead, or yet to be developed language lacks pronouns. Science is, thus, a dangerous game, easy to lose!

Theoretical hypotheses remain our, or someone's, best guess as to how nature works. They are not objects of faith, and not truth. When scientists state their "position," they are not stating what they "believe," but which hypotheses they feel are supported by the evidence and which are worthy of further testing.

In section two of this paper, I will state my position in second language acquisition theory, a set of hypotheses which are consistent with and account for many of the phenomena and experimental results in second language acquisition and foreign language education. They are supported by evidence, but are not "proven." What is very important is that they are testable, that it is possible to find evidence counter to each of them and thus to the theory as a whole, and this makes progress possible.

Applied Research

Applied research seeks to determine which methods, techniques, and/or procedures are more efficient, which ones work, and which ones do not. This kind of research can be, and has been, conducted completely independently of theory, or it may be done in such a way that theory is affected and instructed by its results as well. Applied research may attempt to determine, for example, which of two teaching methods produces better gain scores on tests, whether older students learn faster than younger students, whether visuals help students in foreign language classes.

There is a growing body of applied research in foreign language education, and I will attempt to summarize some of it in the third section, pointing out what its main conclusions

have been, and how it relates to the theory discussed in section two.

Research and Practice

It seems logical to assume that both theoretical and applied research should have some impact on language teaching practice. My impression, however, is that neither form of research has much effect on how languages are taught today. To understand this, it is necessary to look into the past.

At one time, theoretical research was the main source of knowledge for many language teachers. They assumed, as we did, that those in the university knew best, and methodologies based on theory were widely used. The problem, however, was that these methodologies did not work very well. Our assumption, from the university, was that the fault was not with the theories but with the teachers, who clearly did not understand the true nature of our insights into language and language acquisition.

This has happened twice in recent years, with very different kinds of theories. One was audiolingualism, a method based on behaviorism, a theory of learning with serious limitations and of limited relevance (we know now) to language acquisition. The second time this occurred was when transformational grammar assumed dominance in formal linguistics. Many of us thought that this new system for describing the competence of the adult native speaker should form the basis for syllabi in language teaching. This also did not work, but many of us blamed its failure on teachers' inadequate grasp of *Aspects of the Theory of Syntax*, rather than our failure to understand that a theory of grammatical structure and language universals is not necessarily the same as a theory of language acquisition.

Because of the university's inability to provide the answers, teachers have turned away from theory and research of any sort, theoreti-

cal and applied, and have turned to a third source of inspiration and guidance: their own ideas and experience. A look at the programs of conferences and workshops shows us that this is true: we no longer see papers and presentations on topics such as "An analysis of the verb system in German," or "Pattern drilling techniques." We see, instead, teachers informing other teachers what has worked for them in the classroom. And what has worked for them is the use of language for real communication (see, for example, the 1980 ACTFL program, with such titles as "Food for thought: teaching French and German language and culture through cookery;" "Inkblots, Norman Rockwell and New Yorker Ads—Let's talk!" "Techniques for active language use at the intermediate and advanced levels").

Perhaps unknown to teachers, theoretical and applied research are now reaching similar conclusions, conclusions consistent with what teachers are coming up with on their own. Our goal for the future should thus be to restore some balance, to allow all three sources, theory, applied research, and teachers' ideas, to contribute to practice and to enrich each other.

THEORETICAL RESEARCH AND SECOND LANGUAGE ACQUISITION THEORY

I will attempt to summarize the theoretical research that has gone on in the last decade by stating five hypotheses about second language acquisition. Following this, we will look at the implications of these five hypotheses for other theoretical work in second language acquisition, and then see what this theory has to say, or predict, about second and foreign language teaching. There will be discussion of the gaps in the research literature, places where more support or testing of hypotheses is called for.

FIVE HYPOTHESES ABOUT SECOND LANGUAGE ACQUISITION

I. The Acquisition/Learning Hypothesis

This hypothesis states that we have two different and independent ways of developing ability in second languages. We can *acquire* and we can *learn. Acquisition* is defined as the process children use to acquire first language. It is subconscious in two different ways. First, the process is subconscious; we are usually not aware that we are acquiring while we are acquiring. Rather, we have the impression that we are doing something else, such as having an interesting conversation or reading an interesting book. We are also not always aware that we have acquired something; the knowledge itself is subconscious. This is illustrated by the fact that native speakers do not always "know" (consciously) the rules of their language. It is the purpose of current formal linguistics (transformational-generative grammar) to describe these subconscious intuitions about language, the native speaker's "tacit" knowledge.

Learning is conscious, or explicit knowledge about language. Learning is developed, it is thought, by explicit, or formal instruction, and is thought to be aided by the practice of error correction. Error correction, supposedly, helps the learner come to the correct mental representation of a rule. In everyday language, acquisition is "picking up" a language, while learning is "grammar," or "rules."

It is difficult to test the acquisition/learning hypothesis directly, but it plays an important role in all the other hypotheses, so evidence in favor of them serves as evidence supporting the acquisition/learning hypothesis. The issue of error correction has been investigated directly, and we will return to the possibilities in a later section, once the relationship between acquisition and learning is stated.

II. The Natural Order Hypothesis

This hypothesis states that we acquire (not learn) grammatical structures in a predictable order, that is, certain structures tend to be acquired early, and others tend to be acquired late. This order can be altered by first language influence (see below), but cannot be altered by the effects of instruction.

Much of the research supporting the Natural Order hypothesis comes from English. Brown, for example, reported that children acquiring English as a first language tend to acquire certain morphemes early (plural /s/ and progressive *ing*) and others late (third person singular ending /s/ and the possessive *'s*) (Brown, 1973). Similar claims were made for child second language acquisition initially by Dulay and Burt and subsequently by others (Dulay and Burt, 1974), and for adult second language acquisition, beginning with Bailey, Madden, and Krashen (1974). The second language order is not identical to the first language order, but there are some similarities (Krashen, 1981a).

Related to the Natural Order hypothesis is the phenomenon of transitional forms. It appears to be the case that second language learners pass through predictable stages on their way to acquiring the correct form for many, if not all, structures. For example, in the acquisition of English negation, both first and second language acquirers often pass through a stage in which the negative marker is placed outside the sentence, as in

No like it now (Ravem, 1975).

A second stage consists of placing the negative marker between the subject and verb, as in

This no have calendar (Schumann, 1978).

Finally, in the third stage, which not all acquirers reach, the correct form is acquired.

There are many areas of research and unanswered questions regarding the natural order hypothesis. A major one, of course, is why an order exists. What determines the order? Why are some structures early and others late? There has been considerable research and speculation on this topic. See, for example, Clark and Clark, 1977; Hatch and Wagner-Gough, 1976; Dulay and Burt, 1977; and Larsen-Freeman, 1976. While this is a theoretically interesting question, it may not be crucial to second language teaching practice. We need to know that an order exists to understand why students make the errors they do and to alter our expectations accordingly, but it is not yet clear that we need to know the determinants of the order.

Another possible priority is to expand our knowledge of what the order is for as many languages and as many structures as possible. We have enough evidence to state the hypothesis, but our data is limited to a few well studied languages and a handful of structures. Such additional confirming evidence is desirable in order to support the hypothesis, or to disconfirm it, but it may not be crucial for language teachers. As I will point out later, in discussing the Input hypothesis (hypothesis IV), the major implication of the Natural Order hypothesis is *not* that we teach along the Natural Order, beginning with those structures shown to be acquired early. In fact, the available evidence strongly suggests that we should not use a grammatical syllabus at all, no matter what it is based on!

A very important question is when the order appears and when it does not, that is, what conditions are necessary to show that a Natural

Order is indeed present. This is discussed as part of the next hypothesis.

III. The Monitor Hypothesis

The acquisition/learning hypothesis stated that two separate processes exist for developing ability in a second language. The Monitor hypothesis describes their interrelationship and how each is utilized by the second language performer. The Monitor hypothesis claims that acquisition, not learning, is responsible for our fluency in second language performance, for our ability to use second languages easily and comfortably. Conscious learning does not contribute to fluency, but has only one function: it can be used as an editor, or Monitor. We use conscious learning to make corrections, to change the form of the output of the acquired system before we write or speak, or sometimes after (self-correction).

This hypothesis regulates learning to a less than starring role in second language performance. Research over the last few years suggests strongly that the use of conscious learning is very limited. Not only is it restricted to the Monitor function, but it is not easy to use the Monitor effectively. I have posited that three conditions need to be met in order to use the Monitor, conditions that are necessary, but not sufficient:

1. *Time*   In normal conversation, there is rarely enough time to consult and utilize conscious rules, although some performers claim to be able to do this very well.
2. *Focus on Form*   Just having time is not enough. Even when acquirers have plenty of time, they do not always think about grammatical correctness. Dulay and Burt have pointed out that a second condition is necessary: the acquirer must be focused on form, or correctness.
3. *Know the Rule*   This is a formidable condition, considering how incomplete our knowledge of formal grammar is. Linguists concede that they have described only fragments of natural languages, and teachers and students have access only to a portion of these descriptions.

Research support for this hypothesis comes originally from studies of the natural order phenomenon. It has been found that second language performers show "natural orders" (in this case, a difficulty order similar to the longitudinal order of acquisition) in what can be considered "Monitor-free" situations, in which use of the conscious grammar is precluded, when there is little time or focusing on form. When the conditions for Monitor use are met, the natural order does not appear, which represents the intrusion of the conscious grammar.

It is interesting to note just how the natural order is disturbed by the Monitor. What we see is a rise in rank of late acquired items that are "easy" to learn. In English as a second language, for example, accuracy on items such as the third person singular morpheme will rise in rank and accuracy when students are given time and are focused on form. I would expect that similar increases would occur on similar items in other languages, items that are late acquired but are "learnable" and taught early. The simple *de + le = du* rule in French is a good example, as are case endings in German. Our students are often able to perform well on these items on pencil and paper grammar tests, but are much less accurate in free conversation.

Another very interesting point is our current hypothesis that for most students anything short of a discrete-point grammar test will not invoke the conscious grammar to any great degree. We see only mild, if any, Monitor use in composition, and in other situations in which students are asked to "be careful." Only a grammar test seems to meet all three conditions.

A great many questions can be asked with respect to this hypothesis. Most obviously, since most of the data in support of this hypothesis comes from English as a second language, we

need to confirm its validity for foreign language situations. This work has been begun by some students at the University of Southern California. We also need to gather more data on when the Monitor is used and when it is not: what situations bring out the grammar? Is it true that extensive grammar use is only possible on grammar tests?

The question of individual variation is another important one. I have suggested that we find basically three types of performers: Monitor over-users, who Monitor all the time, to the detriment of their fluency; Monitor under-users, those who fail to consult the conscious grammar at all; and optional users, performers who use the grammar when they can, but only if such use does not interfere with communication (Krashen, 1981a). Optimal users typically are able to use grammar rules in writing; for example, but may not always use them in speaking. This individual variation schema was developed from a consideration of case histories, and has found some support in other studies (So, 1980; Stafford and Covitt, 1978). It needs not only further confirmation, but investigation of what sorts of programs might be optimal for different types of learners.

IV. The Input Hypothesis

This hypothesis deals with the important question of how we acquire. It consists of three interrelated parts:

1. We acquire by understanding input containing structures that are a bit beyond our current competence. In terms of the Natural Order hypothesis we move from our current level i to the next level $i + 1$ by understanding input containing $i + 1$.

We acquire, the hypothesis states, by going for meaning, by focusing on what is said rather than how it is said. We are aided in this process by extralinguistic context, and our knowledge of the world. We do *not* acquire by first learning about the structure of the language. We try to understand the message, and structure is thereby acquired.

2. Speaking "emerges." We do not teach speaking but give acquirers comprehensible input. Speech will come on its own, when the acquirer feels ready. Early speech is not grammatically accurate, but accuracy develops as the acquirer obtains more comprehensible input.

3. The best input is *not* grammatically sequenced. Rather, if the acquirer understands the input presented, and enough of it is made available, $i + 1$, the structures the acquirer needs for further development, will be automatically provided. Thus, the best input is not grammatically sequenced. Not only is it not necessary, but it may be harmful, when the goal is acquisition (this is not the case when the goal is conscious learning). The acquirers will receive comprehensible input containing structures just beyond them if they are in situations involving genuine communication, and these structures will be constantly provided and automatically reviewed. They need not worry about missing a class and thereby missing the past tense forever (or at least until next year). With natural, comprehensible input the hypothesis predicts that they will hear the past tense again and again.

In other words, part (3) of the Input hypothesis claims that input for acquisition need not focus only on $i + 1$, it just needs to contain it. $i + 1$ will be supplied, and naturally reviewed, when the acquirers obtain enough comprehensive input.

Evidence for the Input hypothesis is given in some detail in other publications (Krashen, 1981a, 1981b), but it is useful to briefly mention two phenomena in second language acquisition that relate to and are consistent with the Input hypothesis. The first is the presence of the silent period, a period of time before the acquirer actually starts to speak. The silent period is very noticeable in child second language acquisition; young children in a new country facing a new

language may say nothing (except for some memorized sentences and phrases) for several months. According to the Input hypothesis, this is a time during which they are building up competence via input, by listening and understanding. When they are ready, they start to talk.

We generally do not allow our students to have a silent period. We insist on production, and accurate production, right away. When adults have to talk too early, before they have had a chance to acquire much of the second language, they have only one choice, and that is to fall back on their first language, an idea first proposed by Newmark (1966). They "think" in the first language, supply lexical items from the second language, and use the conscious grammar as best they can to make repairs. According to this view, first language interference is not interference at all, but is the result of using old knowledge. Its cure is acquisition, or more comprehensible input.

A great deal of research related to this central hypothesis needs to be done. Most important, we can ask whether acquirers who have had a chance to get more comprehensible input actually do better than those who do not. Also, does comprehensible input with imperfections, that is, the speech of other acquirers, help or hurt? The "first language interference" hypothesis is also quite testable (Krashen, 1981a).

The input hypothesis is perhaps the most crucial of all, since if it is correct, it will revolutionize our methodology in second language teaching (see Asher, 1979; Nord, 1980; Postovsky, 1974; Terrell, 1977; and Winitz and Reed, 1973).

V. The Affective Filter Hypothesis

This hypothesis deals with the role of affective variables. Briefly, the research literature in second language acquisition tells us that the following affective variables are related to success in second language acquisition:

1. *Anxiety*   The lower the level of anxiety, the better the language acquisition. In Stevick's terms, the student should be "off the defensive" (1976).
2. *Motivation*   Certainly, higher motivation predicts better second language acquisition. Certain types of motivation are more effective in certain situations, "integrative" motivation helping most in long-term, and "luxury" second language acquisition and "instrumental" helping for short-term acquisition where there is a practical need for the language (Gardner and Lambert, 1972).
3. *Self-confidence*   The acquirer with more self-esteem and self-confidence tends to do better in second language acquisition (Heyde, 1977).

I have hypothesized that these affective factors relate more directly to subconscious language acquisition than to conscious learning, since we see stronger relationships between these affective variables and attainment in second languages when communicative-type tests are used, and when we test students who have had a chance to *acquire* the language (and not just learn it). Dulay and Burt (1977) have made this relationship more explicit and clear by positing the presence of an "Affective Filter."

According to the Affective Filter hypothesis, acquirers in a less than optimal affective state will have a filter, or mental block, preventing them from utilizing input fully for further language acquisition. If they are anxious, on the defensive, or not motivated, they may understand the input, but the input will not enter the "language acquisition device."

According to this hypothesis, given performers with identical comprehensible input, there may still be variation in rate of acquisition and ultimate attainment in acquisition. The one with the "lower filter" will go faster and farther.

As with the other hypotheses, there is much

work left to do. The generalizations concerning affective variables and subconscious acquisition were made *post hoc,* on the basis of previously reported studies. This relationship needs to be experimentally verified. (I have similarly claimed that what we call *aptitude* in second language acquisition is closely tied to conscious learning, also on the basis of a *post hoc* analysis of previously done experiments and reports.) Also, the Filter hypothesis itself is indirectly testable. Will we find that acquirers with similar input progress at different rates, and are these differences traceable to affective factors? What other affective factors contribute to the filter, and will we find different factors prevalent in different situations? (Krashen, 1981a; Schumann, 1975).

The Causative Variable in Second Language Acquisition

We can summarize the five hypotheses with a single claim: People acquire second languages when they obtain comprehensible input, and when their Affective Filters are low enough to allow the input "in." Thus, comprehensible input is the true and only causative variable in second language acquisition. This predicts that other variables posited to be related to success in second language acquisition are actually intervening variables for comprehensive input. This is quite testable, and, of course, quite exciting.

The first testable component of this hypothesis is that *instruction* itself is an intervening variable, that it helps second language acquisition only when it provides comprehensible input. The little data that is available supports this, but

it is truly shocking how little data is available. In short, the research done to date suggests that instruction helps only when it is the main source of comprehensible input, when the acquirer has no other source. It helps, for example, for beginners, even those in second language situations (who are not yet competent enough to understand the language outside the class), but does not seem to help intermediate students who have another rich source of comprehensible input. This makes sense. It suggests that the goal of instruction is not to produce advanced native-like speakers but to bring students to the point where they can begin to take advantage of the natural input available to them outside of class.

Similarly, studies probing the effect of *exposure* and *reported use* of second languages come to similar conclusions. They predict attainment in second language when they genuinely reflect real use of the language, interaction, comprehensible input. Again only a handful of studies speak to this question, and my conclusions are again *post hoc.* This is thus a wide-open area for research.

It can even be hypothesized that *age* is an intervening variable. The literature tells us that older acquirers are faster acquirers, for early stages. Younger acquirers, however, are superior in terms of ultimate attainment (Krashen, Long, and Scarcella, 1979). The older acquirers' advantage in rate may be due to their ability to obtain comprehensible input (Scarcella and Higa, 1982), while the younger acquirers' superiority in eventual attainment has been hypothesized to be due to the strengthening of the affective filter. As Scarcella and Higa have demonstrated, these are very testable hypotheses.

IMPLICATIONS FOR TEACHING

The theory makes definite predictions for second and foreign language teaching, all of which are testable, and some of which have been tested to some extent in applied research experi-

ments. Briefly, the theory predicts that successful second language teaching programs will have these characteristics:

1. They will supply a great deal of comprehensible input that is interesting and relevant to the students. The goal of this input will not be to provide practice on specific points of grammar, but will be to transmit messages of interest.
2. They will not force students to speak before they are ready and will be tolerant of errors in early speech.
3. They will put grammar in its proper place. Some adults (and very few children) are able to use conscious rules to increase the grammatical accuracy of their output, and even for these people, very strict conditions need to be met before the conscious grammar can be applied.

Several methods come close to meeting these requirements, including Asher's Total Physical Response method, Terrell's Natural Approach, Lozanov's Suggestopedia, and recent materials developed by Harris Winitz. In addition, several nonmethods meet these requirements nicely. Successful *conversation* with a speaker of the language you are trying to acquire may be the best lesson of all, as long as the speaker succeeds in making the speech comprehensible to you. According to the theory, acquirers profit not from what they say, but from what the native speaker says. Output thus makes an indirect but powerful contribution to acquisition by inviting comprehensible input! Also, *pleasure reading* has the potential for supplying comprehensible input helpful for acquisition.

Of course, the claim that a method is successful is quite testable, as we shall see in the next section. In addition, the hypothesis that conversationalists and pleasure readers acquire (but not necessarily learn) more is also testable, but has not, to my knowledge, been tested directly in theoretical research.

A prediction that the theory makes that has

been extensively tested is that subject matter teaching can help language acquisition. The research is quite extensive for children, coming from the very well studied immersion programs (Lambert and Tucker, 1972), but the possibility that adults may also benefit remains a theoretical prediction.

Applied Research

We will focus on just one aspect of applied research here, that of method comparison studies, the attempt to determine which of two methods is better by direct comparison. While this sort of research looks to be straightforward, it is loaded with difficulties and confounds. Nevertheless, a substantial number of studies have been done, and, since they involve fairly large numbers of students in many different settings, and they give remarkably consistent results, they are worth examining.

The studies can be divided historically into two time periods. First came what can be termed "traditional" method comparison studies, studies comparing the more common methods, such as audiolingual, cognitive-code, and grammar-translation. We can summarize the results of these studies (Chastain, 1970; Mueller, 1971; van Elek and Oskarsson, 1976):

1. There is little difference between audiolingual-type teaching and grammar-based approaches (grammar-translation and cognitive-code style) for adolescents.
2. For adults, cognitive type methods are a little better. Cognitive students outperform audiolingual students, but the differences are quite small. This result had two different kinds of reactions in the field. Stevick noted the implicit contradiction, asking how methods based on totally different theories of language acquisition could produce such similar results (Stevick, 1976). Many methodologists and teachers, however, simply assumed that the answer was to be eclectic, to choose parts of each system in the

belief that the answer must be somewhere in the middle. As fair-minded as this sounds, it often resulted in teachers choosing the worst from each, the parts least likely to cause acquisition: drill from audiolingual and extensive grammar explanation from grammar-translation and cognitive code!

There is an explanation. Neither approach provided much in the way of comprehensible input, and neither met the requirements outlined above for successful language teaching methods. This predicts that methods that do not meet these requirements should do much better, and there is some indication that they do. Asher has provided the profession with an extensive series of studies demonstrating the efficacy of Total Physical Response teaching, showing that TPR is not just a little better, but is much better than audiolingual teaching. In one study, in fact, his TPR students acquired *five times faster* than controls (Asher, 1972). Swaffar and Woodruff also confirm that methods focusing on comprehensible input and that keep grammar in its place do much better than the older alternatives (Swaffar and Woodruff, 1978).

These kinds of results are very encouraging. They support the theory, even though they were done without this particular theory in mind, and point to exciting new directions.

What remains to be done? A great deal. We need, despite their flaws, more comparisons, more program development research, using the model of Swaffar and Woodruff. This includes more direct tests of newer methods. Also useful would be case histories of students in these methods, a means of getting at their reactions and problems.

Experimentation I would be particularly in-terested in involves a new direction for the language laboratory. Up to now, the lab has been a place where students can come to exercise their output and have it corrected. A far easier and technologically simpler use for the lab is as a supplementary source of comprehensible input. Here are some possibilities: taped stories, with pictures to aid comprehension and add to the enjoyment (as currently being developed by Harris Winitz), radio programs, commercials on tape, a "cheap" library, for casual pleasure reading, filled with books that the lab is not afraid of losing. And perhaps most important, a native speaker, willing to chat with whomever comes in! The theory predicts that such a lab would do great things for language acquisition, and this prediction is certainly testable.

The question of materials can also be considered an (applied) research priority. The predictions made for methods also can be applied to materials. Simply, the best materials will be those that supply comprehensible input, that do not force overuse of grammar, and that keep the student off the defensive. This predicts that specialized readers, readers on topics that truly interest students, aids to comprehension in the classroom (e.g., visuals), and materials that aid Monitor use without creating over-users will succeed. This is quite testable, and calls for a new tradition of field testing. In the past, for example, we assumed our readers were acceptable if they contained certain structures and avoided others. The theory predicts now that successful readers are simply those that are comprehensible and interesting. If these requirements are met, the structural requirements (that $i + 1$ be present) will automatically be met.

CONCLUSION

We have touched on a few places where more research needs to be done. In all cases, the gaps I have identified are related to current hypothe-ses. Of course, new hypotheses will be developed, but this is unpredictable. What is predictable is that if we continue our thinking and

research, research designed to test old hypotheses, new ideas will come, deeper generalizations to account for anomalies.

What is most important is the realization that both theoretical and applied research can contribute to progress in foreign language education, and that accepting research as a determinant of practice does not necessarily mean rejecting teachers' experiences and intuitions. But language teaching should not be based entirely on fashion, and matters of methodology should not be settled by committee and vote. Our top priority should be to form a real partnership between theoretical researcher, applied researcher, and language teacher, so we can work together toward a common goal.

REFERENCES

Asher, James J. *Learning Another Language Through Actions.* Los Gatos, CA: Sky Oaks Productions, 1979.

_____. Children's first language as a model for second language learning. *Modern Language Journal* 53(1972):133–39.

Bailey, Nathalie, Carolyn Madden, and Stephen D. Krashen. Is there a 'natural sequence' in adult second learning? *Language Learning* 24(1974):235–43.

Brown, Roger. *A First Language.* Cambridge, MA: Harvard University Press, 1973.

Chastain, Kenneth. A methodological study comparing the audio-lingual habit theory and the cognitive-code learning theory. *Modern Language Journal* 54(1970):257–66.

Clark, Herbert H., and Eve V. Clark. *Psychology and Language.* New York: Harcourt Brace Jovanovich, 1977.

Dulay, Heidi C., and Marina K. Burt. Natural sequences in child and adult second language acquisition. *Language Learning* 24(1974):37–53.

Dulay, Heidi, and Marina Burt. Remarks on creativity in language acquisition, 95–126. In Marina Burt, Heidi Dulay, and Mary Finocchiaro, eds. *Viewpoints on English as a Second Language.* New York: Regents Publishers, 1977.

Gardner, Robert C., and Wallace E. Lambert. *Attitude and Motivation in Second Language Learning.* Rowley, MA: Newbury House Publishers, 1972.

Hatch, Evelyn, and Judy Wagner-Gough. Explaining sequence and variation in second language acquisition. *Language Learning Special Issue* 4(1976): 39–57.

Heyde, Adelaide W. The relationship between self-esteem and the oral production of a second language, 226–40. In H. Douglas Brown, Carlos Alfredo Yorio, and Ruth H. Crymes, eds. *On TESOL '77. Teaching and Learning English as a Second Language: Trends in Research and Practice.* Washington, D.C.: Teachers of English to Speakers of Other Languages, 1977.

Krashen, Stephen D. *Second Language Acquisition and Second Language Learning.* New York: Pergamon Press, 1981a.

_____. The input hypothesis. In James Alatis, ed. *Georgetown Roundtable on Language and Linguistics.* Washington, D.C.: Georgetown University Press, 1981b.

Krashen, Stephen D., Michael H. Long, and Robin C. Scarcella. Age, rate, and eventual attainment in second language acquisition. *TESOL Quarterly* 13(1979):573–82.

Lambert, Wallace E., and G. Richard Tucker. *The Bilingual Education of Children.* Rowley, MA: Newbury House Publishers, 1972.

Larsen-Freeman, Diane. An explanation for the morpheme acquisition order of second language learners. *Language Learning* 26(1976):125–34.

Mueller, Theodore. The effectiveness of two learning models: The audio-lingual theory and the cognitive code learning. In Paul Pimsleur and Terence Quinn, eds. *The Psychology of Second Language Learning.* Cambridge: Cambridge University Press, 1971.

Newmark, Leonard. How not to interfere with language learning. *International Review of American Linguistics* 40(1966):77–83.

Nord, James R. Developing listening fluency before speaking: An alternative paradigm. *System* 8(1980):1–22.

Postovsky, Valerian A. Effects of delay in oral practice at the beginning of second language learning. *Modern Language Journal* 58(1974): 229–39.

Ravem, Roar. The development of wh-questions in first and second language learners. 153–75. In John H. Schumann and Nancy Stenson, eds. *New Frontiers in Second Language Learning.* Rowley, MA: Newbury House Publishers, 1975.

Schumann, John H. Affective factors and the problem of age in second language acquisition. *Language Learning* 25(1975):209–35.

_____. *The Pidginization Process.* Rowley, MA: Newbury House Publishers, 1978.

So, W. Y. Toward a more effective method in ESL writing. Paper presented at the 1980 TESOL Convention, San Francisco.

Stafford, C., and G. Covitt. Monitor use in adult second language production. *ITL: Review of Applied Linguistics* 39–40(1978):103–25.

Stevick, Earl. *Memory, Meaning, and Method.* Rowley, MA: Newbury House Publishers, 1976.

Swaffar, Janet King, and Margaret S. Woodruff. Language for comprehension: Focus on reading. *Modern Language Journal* 62(1978):27–32.

Terrell, Tracy. A natural approach to second language acquisition and learning. *Modern Language Journal* 61(1977):325–37.

van Elek, Tibor, and Mats Oskarsson. *Teaching Foreign Language Grammar to Adults.* Stockholm: Almqvist & Wiksell, 1976.

Winitz, Harris, and James Reed. Rapid acquisition of a foreign language (German) by the avoidance of speaking. *IRAL* 11(1973):295–317.

Scarcella, Robin, and C. Higa. Input and age differences in second language acquisition. In Stephen D. Krashen, Robin Scarcella, and Michael Long, eds. *Child-Adult Differences in Second Language Acquisition.* Rowley, MA: Newbury House Publishers, 1982.