
RESEARCH INTO PRACTICE

Some Problems With the Marriage Between Theory and Clinical Practice

Alan G. Kamhi
Memphis State University, TN

One of the first things Wayne Secord, the new Editor of *LSHSS*, asked me when we talked a few months ago was whether I would be interested in writing a column for the journal. The thought of being the Mike Royko of *LSHSS* had a certain appeal. I would have carte blanche to write about whatever I wanted to: politics, social issues, political correctness, sports, music, even speech-language pathology and audiology. But, no, this is a trap, I thought next. Professional suicide. The peer-review process ensures that no one says anything outrageous. Only close friends and students have been privy to all of the illogical, inaccurate, or inane things I've thought or said over the years. Although a few of these thoughts occasionally manage to slip through and get printed, the vast majority never get written or are wiped out by a benign delete key. Does anyone tell Royko when he writes a bad column? Only after the column has been printed in 300 newspapers. Who will keep me from embarrassing myself and losing all the credibility I worked so hard to achieve over the last 12 years? This is Wayne's job, right?

A column, of course, needs a topic or theme. Wayne and I both agreed that a column that links research to clinical practice might appeal to a large proportion of the readership. Other clinically-oriented journals (e.g., *The Reading Teacher*) have had similar columns for a number of years. Although much of the research published in our journals has important clinical implications, sometimes these implications are not well elaborated or obvious. In my first contribution to the column, I discuss some of my current thoughts on the relationship between theory and practice. Other authors are welcome to contribute to the column. Critical letters are also welcome.

THEORY AND PRACTICE

In the mid-1980s a number of articles were written about the role of theory in clinical practice (Johnston, 1983; Kamhi, 1984; Perkins, 1985, 1986; Siegel, 1987; Siegel & Ingham, 1987). Perkins (1986) stirred up a rather

heated debate by writing that theories were "treacherous foundations for the practice of therapy," and that "our practice of therapy is far more valid than our explanations of why anything we do succeeds or fails" (p. 31). A few years before Perkins wrote these words, Johnston (1983) argued that all language intervention is theoretically motivated. Some clinicians, however, do not acknowledge or recognize the theoretical bases of their treatment. Johnston bemoaned the frequent inconsistencies that existed between theory and practice: "When we advocate the use of 'reinforcing consequent events' to effect 'abstract rule formation,' we are not combining the best of two worlds. We are building a theory that can't work" (p. 55). This does not necessarily mean that the treatment program will be ineffective. An incoherent theory, however, cannot do what theories are supposed to do. Theories, according to Johnston, are supposed to raise new questions and generate activities that are responsive to the client and the moment (p. 56). Siegel (1987) made similar points in a direct response to Perkins' (1986) article. He also expressed puzzlement over Perkins' insistence that theories should be used for research but not for therapy: "If theories serve to guide research, why would they not do the same for therapy?" (p. 102). You can read Siegel's response to this rhetorical question.

Like most academicians, I staunchly advocated the importance of theory to clinical practice throughout the 1980's. In the last few years, however, I have begun to rethink some of the issues raised. In the paragraphs below, I discuss the need for an instructional theory and the question of whether treatment should be consistent with theory.

Need for an Instructional Theory

Robert Sternberg, a well-known psychologist, has devoted considerable energy to translating cognitive theory to educational practice. In his conclusion to a book on cognition and instruction (Sternberg, 1986), he identified

three main trouble spots in the potential marriage between cognition and instruction. These trouble spots occur at the level of (a) theory, (b) ability, and (c) instruction. At the level of theory, Sternberg (p. 377) suggests that a cognitive theory may be largely correct and yet be instructionally irrelevant because it does not specify the processes used in learning, or, if it does specify such processes, it does so at a level of analysis that is either too macroscopic or too microscopic to be applicable for instruction.

Cognitive theories also may focus on cognitive competence rather than performance. Sternberg (1986, p. 377) notes that many teachers who have attempted to apply Piagetian theory to classroom teaching have been "sorely disappointed because the students did not behave in ways the theory indicated they should have." The problem is due in large part to the fact that Piaget's theory deals with cognitive competence (tacit knowledge) rather than performance and instruction. The competence-performance distinction is pervasive in theories of language acquisition and learning. Many linguistic theories are competency-based theories that attempt to specify tacit linguistic knowledge. These theories, however, do not always correspond to how language actually is used with different listeners in different situational contexts. A theory of language performance that addresses various aspects of language use is one step closer to instruction than a competency-based theory. However, a theory of instruction still is needed to specify how various forms and structures are to be taught. An adequate theory of instruction also must deal with individual differences, as well as with group commonalities. For example, a theory that does not take into account individual differences may predict learning based on a hypothetical individual who does not actually exist (Sternberg, 1986).

The solution according to Sternberg is to require a theory of cognition and a theory of instruction to bridge the gap between cognition and instruction. The two theories would apply both at the level of the classroom and at the level of the individual. As Sternberg (p. 378) notes, however, "the single greatest source of disappointment in the application of cognitive principles to educational practice is the absence of an instructional theory to mediate the link between cognitive theory, on the one hand, and educational practice, on the other." Sternberg proposes four criteria that an instructional theory needs to meet:

1. Specification: The theory should provide a clear and complete specification of what the teacher should do to apply it.
2. Content relevance: The theory should be appropriate for the particular content to which it is being applied.
3. Age relevance: The theory should be appropriate for the ages being taught.
4. Fit with psychological theory: The instructional theory should fit with a psychological (cognitive) theory.

The success of the marriage of cognition and instruction depends not only on an adequate theory of instruction, but also on the abilities and motivation of students and teachers. The most important abilities for students are learning abilities, whereas for teachers the most relevant abilities are teaching abilities. For example, adapting teaching strategies to student learning strengths is a critical component in successful instruction. With respect to motivation, it is a common observation that no instructional program will succeed in the absence of student motivation. If students do not care to learn, they will not learn (Sternberg, 1986, p. 380). Teachers also must be motivated to teach. In our profession, we all have seen the beneficial effects that an enthusiastic, motivated clinician can have on children.

Ability and motivation are not the only factors that influence the success of instruction. In a recent article, Olswang and Bain (1991) discuss a number of other influential factors. They point out, for example, that the success of intervention depends in part on whether or not a child demonstrates immediate potential to learn a deficient behavior. They describe a process called "dynamic assessment" that determines the potential for change in particular language behaviors.

Should Treatment Be Consistent With Theory?

My commitment to theoretical coherence in treatment began to weaken a few years ago following a dinner conversation with a colleague. At this dinner, I found myself promising that I would instruct a clinician to use auditory bombardment with a child who had speech delay who had made little progress in treatment the previous few months. Although I found little theoretical coherence (or supportive empirical evidence) in the use of auditory bombardment to improve speech disorders, I felt that my first responsibility as a clinician was to provide effective treatment, not to generate a "workable" theory. I was willing to try just about anything (within reason, of course) to get the client to say some sounds that she had never produced. As an academician, I would deal with the lack of theoretical incoherence and supportive data later.

This incident made me begin to question the importance of theoretical coherence for treatment. When I mentioned these thoughts to another colleague, she gave me a couple of articles written about 20 years ago by Joseph Schwab (1969, 1971), a professor of education. Schwab began his 1971 article by stating that "teaching which is coherent with theory often misses its practical mark" (p. 493). This failure, Schwab argued, is due to the marked disparity between theory and practice and to the peculiarities of behavioral science theories. Whereas theories of instruction (as noted earlier) need to address questions of what and how to teach, as well as particulars of time, place, person, and circumstance, behavioral science theories achieve their validity, parsimony, and generality by abstracting from such particulars and omitting most of them from the actual theory.

Behavioral science theories also treat only a relatively narrow area, whereas educational and learning problems arise from a multitude of areas. In addition, any one area has a number of competing theories, thus leading to pluralities of theories. No one member of the plurality is complete, but each member throws some light on the subject treated. Consider, for example, the plurality of theories that address language acquisition or learning. Bohannon and Warren-Leubecker (1989) describe three general approaches to theories of language acquisition: behaviorist, linguistic, and interactionist. The interactionist approaches are further divided into Piaget's cognitive approach, an information processing approach, and a social interactionist approach. These five approaches focus on different aspects of language (syntax, semantics, pragmatics, etc.) and emphasize to varying degrees the biological, cognitive, and social forces that have an impact on language learning. The claim is that the plurality of theories reflected in these five approaches is necessary to explain the broad scope and complexity of behaviors encompassed by what we call "language."

In the remainder of Schwab's article, he outlines a method of instruction that attempts to teach students to understand, judge, and exploit a particular plurality of theories to enhance instruction. He wishes to teach students to discern the ways in which various behavioral theories provide different answers to different questions about a subject. The problem with theories is that they are often either too narrow or too broad. On the narrow side, the vice is tunnel vision. Someone who adheres to only one theory sees its subject matter (e.g., language) in only one light and views only the alternatives suggested by the one view. For example, most linguistic approaches to language acquisition focus on syntax and semantics and have little to say about pragmatic or communicative aspects of language. At the other end, the vice is an unmanageable eclecticism: a theory that is too eclectic may be too complex and difficult to translate into instructional practice. For example, Aram and Nation's (1982) multi-dimensional model of language disorders and Carrow-Woolfolk's (1988) integrative approach to language disorders are broad-based models that require considerable time to master before they can be translated into clinical practice.

Schwab's instructional procedure involves presenting an interaction between teacher and student and having teacher trainees use at least three competing theories to describe and explain the interactions. The instructor draws attention to the specific behaviors that are addressed by each theory. In this way, the trainees become able to view the same event in different ways and to develop an understanding of all behaviors that might characterize a particular interaction. The objective is not to determine the best theory, but to appreciate how different theories focus attention on different aspects of behavior.

In the area of language, for example, we might look at a child playing with his or her mother and consider language abilities (syntax, semantics, pragmatics, phonology, morphology), cognitive abilities, social abilities, play be-

havior, cognitive style, sociability, mother's responsiveness, physical attributes, and so forth. No one theory can direct attention to all of these behaviors or attributes; a plurality of theories that focuses on each of these behaviors or particular combinations of behaviors is needed. One would expect that such a plurality would take the best aspects of each individual theory. Although the plurality of theories may lack theoretical coherence, it should do what theories are supposed to do, namely, raise new questions and generate activities that are responsive to the client and the moment.

It also should be apparent that the plurality of theories on language acquisition do not address all of the areas that directly affect clinical service. Clinicians must acquire knowledge in a multitude of areas, such as classroom management techniques, curricula, IEPs, behavioral management techniques, service delivery models, special education and other remedial services, psychological testing, peer relations, family systems, multicultural differences, and so forth. No theory of language learning could possibly encompass all of the areas that impact on the provision of effective clinical services. For this reason, providing clinical services that are theoretically coherent is not only impractical, but also unrealistic.

Coda

When I got home after writing the previous section, a copy of the *Clinical Connection* (1991) that included an interview with Nickola Nelson was waiting for me. In the interview, Nelson talks about a book she has just completed in which she tries to show how six different theories of language acquisition work and do not work to explain various aspects of language disorders. She argues that in contrast to "basic researchers" who work toward proving individual theories, clinicians need to draw on more than one theory. Nelson's views are obviously consistent with the ones espoused in this article. To summarize: clinicians need to understand, judge, and exploit the plurality of theories and areas of knowledge that have a direct impact on clinical service. In doing so, clinicians will ensure that there is some logic to the clinical decisions they make in serving children with speech-language disorders.

REFERENCES

- ARAM, D., & NATION, J. (1982). *Child language disorders*. St. Louis, MO: Mosby.
- BOHANNON, N., & WARREN-LEUBECKER, A. (1989). Theoretical approaches to language acquisition. In J. Berko Gleason (Ed.), *The development of language* (2nd ed.) (pp. 167-223). Columbus, OH: Merrill.
- CARROW-WOOLFOLK, E. (1988). *Theory assessment and intervention: An interpretive approach*. Philadelphia: Grune & Stratton.
- JOHNSTON, J. (1983). What is language intervention? The role of theory. In J. Miller, D. Yoder, & R. Schiefelbusch (Eds.), *Contemporary issues in language intervention* (ASHA Reports 12) (pp. 52-57). Rockville, MD: American Speech-Language-

Hearing Association.
 KAMHI, A. (1984). Problem solving in child language disorders. *Language, Speech, and Hearing Services in Schools*, 15, 226-234.
 NELSON, N. (1991). Language assessment and intervention: An interview with Nickola Nelson. *The Clinical Connection*, 5, 1-6.
 OLSWANG, L., & BAIN, B. (1991). When to recommend intervention. *Language, Speech, and Hearing Services in Schools*, 22, 255-264.
 PERKINS, W. (1985). From clinical dispenser to clinical scientist. *Seminars in Speech and Language*, 6, 13-21.
 PERKINS, W. (1986, February). Functions and malfunctions of theories in therapies. *Asha*, 28, 31-33.

SCHWAB, J. (1969). The practical: A language for curriculum. *School Review*, 77, 1-23.
 SCHWAB, J. (1971). The practical: Arts of eclectic. *School Review*, 79, 493-542.
 SIEGEL, G. (1987). The limits of science in communication disorders. *Journal of Speech and Hearing Disorders*, 52, 306-313.
 SIEGEL, G., & INGHAM, R. (1987). Theory and science in communication disorders. *Journal of Speech and Hearing Disorders*, 52, 99-105.
 STERNBERG, R. (1986). Cognition and instruction: Why the marriage sometimes ends in divorce. In R. Dillon & R. Sternberg (Eds.), *Cognition and instruction* (pp. 375-382). New York: Academic Press.



Statement of Ownership, Management and Circulation
 (Required by 39 U.S.C. 3685)

1A Title of Publication Language, Speech and Hearing Services in Schools (LSHSS)		1B PUBLICATION NO		2 Date of Filing	
		0	1	6	1
		1	4	6	1
3 Frequency of Issue Quarterly (January, April, July, October)		3A No of Issues Published Annually Four issues		3B Annual Subscription Price \$36 (U.S.) \$48 (Foreign)	
4 Complete Mailing Address of Known Office of Publication (Street, City, County, State and ZIP + 4 Code) (Not printers) American Speech-Language-Hearing Association, 10801 Rockville Pike, Rockville, MD 20852-3279					
5 Complete Mailing Address of the Headquarters of General Business Offices of the Publisher (Not printer) Same as #4 above.					
6 Full Names and Complete Mailing Address of Publisher, Editor, and Managing Editor (This item MUST NOT be blank) Publisher (Name and Complete Mailing Address) American Speech-Language-Hearing Association, 10801 Rockville Pike, Rockville, MD 20852-3279					
Editor (Name and Complete Mailing Address) Wayne A. Secord, Ph.D., Ohio State University, Columbus, OH					
Managing Editor (Name and Complete Mailing Address)					
7 Owner (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual must be given. If the publication is published by a nonprofit organization, its name and address must be stated.) (Item must be completed.)					
Full Name			Complete Mailing Address		
American Speech-Language-Hearing Association (a corporation organized not for profit)			10801 Rockville Pike Rockville, MD 20852-3279		
8 Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages or Other Securities (If there are none, so state)					
Full Name			Complete Mailing Address		
Crestar Bank N.A.			1445 New York Ave. NW Washington, DC 20005		
American National Insurance Co. Mortgage & Real Estate Investments			1 Moody Plaza Galveston, TX 77550		
9 For Completion by Nonprofit Organizations Authorized to Mail at Special Rates (DMM Section 424.12 only) The purpose, function, and nonprofit status of this organization and the exempt status for Federal income tax purposes (Check one)					
(1) Has Not Changed During Preceding 12 Months <input checked="" type="checkbox"/>		(2) Has Changed During Preceding 12 Months <input type="checkbox"/>		(If changed, publisher must submit explanation of change with this statement.)	
10 Extent and Nature of Circulation (See instructions on reverse side)		Average No. Copies Each Issue During Preceding 12 Months		Actual No. Copies of Single Issue Published Nearest to Filing Date	
A Total No. Copies (Net Press Run)		67,416		43,255	
B Paid and/or Requested Circulation		---		---	
1 Sales through dealers and carriers, street vendors and counter sales					
2 Mail Subscription (Paid and/or requested)		64,551		39,779	
C Total Paid and/or Requested Circulation (Sum of 10B1 and 10B2)		64,551		39,779	
D Free Distribution by Mail, Carrier or Other Means (Samples, Complimentary, and Other Free Copies)		59		113	
E Total Distribution (Sum of C and D)		64,609		39,892	
F Copies Not Distributed		2,807		3,363	
1 Office use, left over, unaccounted, spoiled after printing					
2 Return from News Agents		---		---	
G TOTAL (Sum of E, F1 and 2—should equal net press run shown in A)		67,416		43,255	
11 I certify that the statements made by me above are correct and complete		Signature and Title of Editor, Publisher, Business Manager, or Owner Frederick T. Spahr, Ph.D., Executive Director <i>Frederick T. Spahr</i>			