Issues and Directions for the Future: Assessment and Treatment

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My job is to peer into the future of our most central clinical responsibilities for people with aphasia. I do so, being fully aware that the other soothsayers on this panel are dealing with matters that should determine this future. Therefore, if I am to offer any explanation for what I might see forming out in the mist, I must tread on their ground to some extent. While there will be clinical implications from future developments in research, training, medicine, and outside influences, my predictions will be based comfortably on current trends in these other areas. The other panelists may direct us to clinical developments that are beyond the reach of my mystical powers.

Also, I imagine that each of us on this panel is concerned about whether we should be predicting what actually will happen in the real world or, on the other hand, be fantasizing about what we think should happen in an ideal world. I shall probably be making some predictions that are shaped by hope, and I'll leave it for conversation during intermissions for you to figure out which is which.

WINDS OF CHANGE

Because some of our colleagues are stubbornly resistant to changing the assessment and treatment strategies to which they have become accustomed, it is not trivial for me to warn them that looking into the future involves coming face-to-face with change. Change is an essential outcome of any clinical discipline that links its activities to basic sciences. Change is inevitable as we are pushed by the currents of legislation and sources of reimbursement for services. We are working in the midst of change. Therefore, I would like to indulge in a few moments of discussion of the winds of change that sweep through us in the forms of basic research and these outside influences I just mentioned.

Because clinical procedures often follow from basic research, one clue to our future is what is currently going on in this research. As we learn more about the primary deficits common to all aphasic persons and about the primary deficits that produce differences among these patients, we learn more about what to look for in our assessment procedures and more about how to direct our treatment goals with greater precision. As we examine the basic research of the past 10 years, we see that the passage of time keeps us on our toes. Anyone doing longitudinal research over several years must worry about the phenomenon of "laboratory drift." For example, a life-span study of changes in intelligence may start with one theory and method for measuring intelligence, but by the time the study ends, that theory and method may have been totally discredited. Researchers learn more and discard old theories, not because the pioneers lacked insight but because microscopes and telescopes became more powerful. We are benefiting from safer and more accurate brain imaging and from finer tools for studying the cognitive processes of language function, such as response timers and computers, none of which were available in Schuell's time. Change in basic knowledge and technology is inevitable.

Another wind of change comes from the conditions of service delivery. The populations of technologically advanced societies are getting older, thereby increasing the demand for services for an elderly population. This demand is rubbing uncomfortably against the increasingly high costs of health care, resulting in governmental regulations designed to contain the costs of hospitalization. These winds have become strong enough to bend and topple traditional settings of language assessment and treatment, forcing more habitable settings to be built, such as rehabilitation centers, nursing homes, home health agencies and private practice. Models of clinical practice developed in traditional VA Medical Centers may not be appropriate for these expanding settings.

ASSESSMENT

Will our formal tests and general assessment strategies be different 10 years from now? Should they be different? If we harness the winds of laboratory drift, one of us is likely to be, at least, in the process of developing a new language assessment battery in 1995. Furthermore, current changes in setting are forcing many of us to modify our general assessment strategies now. Let us consider the many influences on the future of language assessment for adults with communication disorders.

Laboratory Drift

The validity of our tests is based on our understanding of language behavior and aphasia, and as our knowledge changes, changes in our tests should follow. Trends in basic theory and research have been exposing the possibilities that some patients may have central syntactic impairments (Zurif, 1984) and that others may have central semantic organization problems (reviewed in Davis, 1983). Our tests may be adjusted one day in order to enable clinicians to make such inferences about their clients more directly than with the current indirect method of identifying syndromes. A second movement in basic science consists of the study of interactions between the language processor and its contexts (Davis and Wilcox, 1985). Linguistic descriptions of discourse and laboratory investigations of nonliteral interpretation are two examples of devices that are likely to be incorporated into formal assessments of the future. However, Bruce Porch and Audrey Holland realize that developing a test is a time-consuming process. The most immediate application of advancing knowledge may occur in our interpretation guidelines for current tests. In addition, methods that are used in the modern psycholinguistics laboratory can be applied as diagnostic treatment. Revised manuals, advice in the journals, and diagnostic fiddling can keep us going until we become more confident in our new theories and a new test is subsequently developed.

Our expanding awareness of the variety of language impairments appears to be widening our involvement with respect to the composition of our caseloads. We are currently riding a trend of increasing interest in persons with closed head injury, subcortical lesions, dementia, and right hemisphere brain damage (e.g., Holland, 1984). While these patients may or may not have aphasia, they do suffer deviations of language behavior, in particular, and impairments of communication, in general. Our immediate future consists of increased participation on assessment teams for the purpose of recommending the best available rehabilitation strategies. Our current enlightenment as to the pragmatics of language behavior makes us well-equipped to develop improved assessment strategies--especially for persons with head injury, dementia, and focal lesions of the right hemisphere.

Service Delivery

The trends in service delivery systems do not permit the time that has been traditionally allotted for formal assessment procedures. In these settings, we no longer have two to four hours for a comprehensive aphasia battery and then another 30 to 60 minutes for supplemental tests. Trimming our tests should originate from our asking ourselves "What is the most relevant information that we need in order to formulate a treatment plan and to obtain a baseline for making predictions and measuring progress?" Relevance is tied to validity, which is based on the central characteristics of aphasia. We can begin to trim by restricting our initial assessment to the central problem of aphasia, namely, language behavior. We can trim some more by restricting our assessment to language behavior that is most indicative of language behavior in natural circumstances.

As an illustration of these suggestions, let us consider how we might trim the PICA (Porch, 1981). Researchers have shown that a shortened PICA is possible to achieve without losing the valuable types of information that it has traditionally given us (e.g., DiSimoni, Keith, and Darley, 1980). First, I would eliminate the nonverbal subtests, such as II, III, VIII, XI, and F. The valuable information about perceptual and motor interferences that we obtain from these tests could be gathered supplementally as "diagnostic treatment." Second, I would eliminate subtests that tell us about special conditions of stimulation but are not conditions that occur in natural communicative contexts. These subtests would be IX (sentence completion) and D (writing to a spelled word). Because the most time-consuming segment of comprehensive testing is writing, I would also eliminate C (writing words to dictation). This leaves us with 10 subtests instead of 18, including seven in language comprehension and oral expression and three in graphics. This streamlined version still provides us with some perceptual/motor information in the repeating (XIII) and word copying (E) subtests. For measuring functional progress in language, I am usually most interested in the subtests that reflect language use and that, therefore, show the greatest initial impairment anyway. Also, for measuring progress, clinicians might be more willing to provide repeated administrations of a PICA that would take only about 30 minutes.

Reassessment for the purpose of measuring progress is another issues, brought out by Jeffrey Metter's letter this year in Asha magazine. Metter's letter suggests that we should measure progress better. Better measurement means that we need to be more valid with respect to the client's use of language outside of the clinic. Those who pay for our services in time, patience, and money are asking us to come up with measurements of progress that are meaningful with respect to functional communication. We need to stretch our techniques to measure generalization of improvements seen in the tasks of treatment. This means, at least, measuring "something else" (or something other than what we are doing as treatment). The current study of language-context interactions and of language behavior in natural interactions will provide us with clues to the "something-else" that can be measured. I believe that pragmatics will help us to respond to Metter within the next five to ten years with measurements of genuine progress.

TREATMENT

The same winds that will propel assessment forward will also be pushing upon methods of treatment. Furthermore, I believe that theoretical enhancements in the areas of primary deficits and pragmatics will contribute to

greater efficiency and usefulness of treatment methodology, which, in turn, should satisfy some of the needs of clinicians working in the high-pressure world of cost containment.

Pragmatics

We have not only been concerned about the measurement of functional progress, but we have also been perhaps more concerned about whether generalization occurs at all. The increasingly frequent recommendation is that we decrease the gap between the circumstances of language practice in the clinic and the circumstances of language use outside of the clinic. In his letter, Metter suggested that we move out of a "sterile" clinical environment and into shopping malls to do our therapy. While encouraging our clients' communicative efforts at the zoo might be an important final stage of treatment, we shall be doing more in the next few years to provide more fertile stimulation of language within the clinical setting (Davis and Wilcox, 1985).

More pragmatic treatment will develop according to the following steps between naming drills and field trips: (a) formal tasks that incorporate external and internal contextual variables as components of stimulation; (b) practice in the use of language in interactions that model conversational interaction, such as PACE therapy and communication-oriented group therapies; (c) greater use of carefully managed conversation that does not turn into a question-answer session; and (d) greater use of simulated life situations and role-playing that will increase a client's confidence in communicative abilities that, then, can be tried outside the clinic. At any point in a patient's progress, developed communicative skills will be practiced in situations of gradually increasing anxiety and demands on independence. Clinicians will work harder at removing themselves from a client's linguistic life.

In the spirit of adjusting the contexts of our aphasic clients, I am hoping that our future contains an expanding willingness to be directly involved in providing services for the families of our clients. There has been a movement afoot in some quarters that encourages us to look beyond the mechanics of stimulus administration in order to become more sensitive to the adjustment needs of communicatively impaired families (Webster and Newhoff, 1981).

High Technology

We shall be making greater use of microcomputers and other technology for the purposes of providing (a) direct language stimulation, (b) alternative modes of communication, (c) biofeedback for treatment of speech disorders, and (d) clinical data storage and the tracking of progress (Beukelman, Yorkston, and Dowden, 1985; Schwartz, 1984). Computers are valuable for doing jobs that we might consider to be too difficult or too distasteful. Difficult jobs include some repetitive drill activities and report writing. Microcomputers will be used to generate standardized progress reports quickly. In particular, we shall be using data-base management systems or similar programs in order to generate reports that relate current data to previously stored data on a client, perhaps also automatically comparing these data to other clients.

Single Case Research Designs

Clinicians will be making more frequent use of single case research designs and related principles of data analysis (Barlow and Hersen, 1984; McReynolds and Kearns, 1983). Treatment plans will be adjusted slightly in order to enable us to do a better job of teasing out the effects of treatment on a patient's progress. As an example, we might tend to measure untreated

behaviors from the start. We might do more alternating of stimulus variables or treatment strategies. In effect, single case research designs will be applied to the structuring of our long- and short-term treatment plans.

SUMMARY AND CONCLUSION

And so these prophecies shall come to pass. They will come to pass especially as we recognize that the two major winds of change are not blowing in opposite directions but actually are easily harnessed to serve each other. Furthermore, we are the ones to harness them and be masters of our fate (Chwat and Gurland, 1984). Advances of knowledge about primary deficits and language-context interactions will serve to make treatment more efficient and more relevant. Service delivery systems are demanding efficiency and relevance. These demands should, in turn, forge directions of a future basic and applied research. Any discouragement we might feel about our previous efforts should be replaced with a sense of excitement about the fact that we have not tried everything yet -- we are still learning about language functions and disorders. I am excited about our future, because there is so much more for us to do.

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DISCUSSION

Q: I'm going to hope that your prophecies don't come to pass, except in the proctological sense. I wonder why we should be practicing defensive aphasiology. Why should we change if we are just beginning to get something good going? If we are beginning to demonstrate that treatment offered in traditional settings is starting to work, why should we start modifying it to something that we do not know will be efficacious? Why don't we start dictating instead of reacting? You mentioned that the trends in appraisal don't fit the time allotted. Why should we shorten appraisal time, if we know that we need "x" amount of time for adequate appraisal to focus adequate therapy? Why don't we insist on some changes rather than reacting to change?

A: In a sense, I applaud your point in that we need to be more active in dictating to these outside sources of influence, for example, as to what their policies for us should be. This is what I expressed, somewhat vaguely, when I said that we are masters of our fate. In large measure, what I suggested as changes were suggested in a somewhat comfortable sense, in that I am riding transitions that are going on right now. Some of these -- the pragmatics area, for example -- don't involve a substantial change in the kind of thing we have been doing in the past -- just doing it more pragmatically, as Spradlin and Siegel talked about in JSHD two or three years ago. Pragmatics does not necessarily involve a major revolution of technique. I think that we have begun to demonstrate the effectiveness of what we have been doing. I think that we can still improve upon what we have been doing, and we don't know what kind of effects we will get from that. We have been demonstrating our effectiveness with respect to certain aspects of behavior, but we have not demonstrated effectiveness with respect to other kinds of behavior. For example, we have demonstrated effectiveness with respect to certain language measures. We have yet to demonstrate effectiveness, with similar kinds of data, with respect to language behavior in other settings for other purposes. What I am saying represents more of an extending of what we are presently doing. Do you have a reaction?

Q: Yes, I certainly do. Most disciplines don't say, "Gee, you only have enough money for half the dosage. So, we'll give you half the dosage, when we know that the full dosage works. We'll change because the insurance won't pay for it. We'll only take out half the organ, because of the time we have. We'll start practicing surgery in the supermarket because you can't get to us." I'm just suggesting that we are not all that good at what we do, and we're just beginning to find out what works and what doesn't. I think we should stick with it and do some dictating instead of being dictated to.

A: I think we can do both. I think your examples were pretty dramatic. I'm not sure that they reflect the same kind of situation. I do think that we can function quite well with somewhat less testing than we have done, especially for the purpose of developing an initial treatment plan. We never seem to think that what we get from our tests is enough. We are always continuing to examine our clients. So, I do think we need to do a little less of circling the wagons and being defensive about what we have already done. I think there are some improvements that can be made.

Q: I have a question and a comment. In your statement about assessment, you said you wanted to restrict assessment to language behavior alone. Was that really what you meant?

A: Yes, to hit you over the head, that's what I meant.

Q: I think that's exactly the problem, that you are focusing too much on the individual's language behavior rather than focusing on the ability to communicate. A lot of aphasic patients don't use language when they communicate. They use other things: eye movement, head turning, hand movements, and gesture. Even with what appears to be an inappropriate grunt, they may infer very subtle things. For example, I recently drove a globally aphasic patient from the San Fernando Valley over to UCLA. As we were going along the freeway, a car next to me suddenly went from his lane and cut off somebody in the far right lane. This globally aphasic patient turned and went, "rrrrr." I said to him, "Oh, you didn't like the way that guy cut him off?" He said, "Uh-hum." There was no language involved, and the communication was very clear as to what he was upset about. I think that is part of the difficulty. If you focus on language behavior, then you miss much of what the patient is able to utilize in getting his points across.

A: I think this is valuable, but I'm not sure it is valuable for initial assessment in order to make a treatment plan and formulate a prognosis. You described a kind of situation that is not a formal testing situation, and I meant to restrict myself to formal testing situations. My intention was to restrict my discussion to some basic tasks that we have found valuable for measurement purposes, tasks that are reliable in measurement and administration and that do reflect language processes used in natural situations. I do think that it is important for us to pay attention to how a client communicates, when we are talking to them before and after giving a test and when we are seeing them on the ward. We are interacting with these people in other ways besides giving the formal test. I agree that we should pay attention to what a client does for communication and that we should encourage use of these things when treatment starts. However, I do not think that the formal test is the best circumstance for looking at nonverbal communication, as you so well indicated by getting out in a car on a freeway to give me an example of what you are talking about.

Q: I have contemplated a lot of ways of changing the PICA myself. The problem, as I pointed out 15 years ago, was that we didn't have a data base. We had no way of talking about what we were doing or justifying what we were doing or describing what we were doing at all. I suggested at that time that we needed to establish a strong data base based on a good psychometric tool and measure what we were doing so that we could describe that to other people. If we were to start modifying or cutting our testing, instead of expanding it and being more precise, then we are going to be in worse shape as time goes on and less capable of justifying what we are doing. The problem is not in cutting down on our assessments, it's in increasing and making more definitive what we are doing and making it more meaningful. I think we should be ready to throw out things that aren't useful, but at the same time powerful psychometrics have gotten us a tremendous way in the last ten years. Without them I am afraid that people will continue to erode away what we are doing, and we'll be left in a very tenuous position in terms of justifying what we are doing.

Just as an aside regarding the PICA or any test, it seems that cutting down on a few things or adding a few things is a simple matter, but in fact you destroy the validity of the test and you have to start from zero, starting with a completely different data base. We have a tremendous amount of information about patients from the PICA or the other tests that we have. If we start changing them now and cutting into them, we are going to be in trouble. My publisher at one point said, "Why do we have to use a fountain pen?" "Why don't we just use a ball point pen?" It seemed like a small request, and I started describing what that would entail besides changing the pictures. It would involve restandardizing the whole test, because I don't know what people say when they look at a ball point pen. I don't know if they say "ball point pen," or "fountain pen," or what they'd say. So, you'd have to run it all over again and change the whole test. The point is that you get what you pay for, and if you start cutting into a battery, you lose something every time you take something out of it. The tests that you suggest taking out of it were exactly those that discriminant analysis showed were important for discriminating between certain kinds of patients, and also for localization, especially in the high parietal areas and for bilaterally damaged patients. You'd lose all that and the right hemisphere distinctions, too.

It's easier said than done. We're in a different position in clinical aphasiology, than in neurological aphasiology, where if you can calssify a patient based on one true-false question, you do it. In clinical aphasiology, that is not our goal. We are trying to piece out and determine the status of the whole mechanism, that is, essentially track every circuit of the brain. We'd like to do that as clearly as we can and modify the brain somehow with our treatment. Cutting down on a battery is not going to do it. It suggests that the brain is simple enough to test in a half-hour battery, and it's not.

A: First of all, I didn't suggest that we have a shortened Boston Exam or a shortened Schuell test. I could have given those as examples, too, making the same point. I was just asking for a shorter PICA. In fact, I think we ought to have two or three versions of the PICA: a short one, the one we've got, and a longer one. I think that the market to an extent is demanding it. You will find that your publisher is not selling as many PICAs, because people are going to want something else. They are going to be using it differently. More work ought to go into developing that kind of thing. What we have now is fine in some settings, but there are other settings where the people are not going to use it, because they just want to do things faster. It would be important for them to do those things faster under firm psychometric principles.