RESEARCH INTO PRACTICE
Assessing Complex Behaviors: Problems With Reification, Quantification, and Ranking

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In my learning disabilities class each year, a student does a presentation on remediating reading comprehension problems. To prepare for the presentation, students read the most recent textbooks and articles that describe strategies to improve reading comprehension. At some point during the presentation, the student will say something like, “The ability to identify the main idea is crucial for reading comprehension.” I casually ask the student to explain why identifying the main idea is so important for reading comprehension. The question is a trap; but, before I let the student fall into it, I ask the class to think about how reading comprehension is measured. The answer, of course, is that one way in which reading comprehension is measured is by asking readers to identify the main idea of the story.

This short anecdote is meant to demonstrate that a central component of remediating reading comprehension problems is based on how reading comprehension is assessed. Unfortunately, the way in which reading comprehension is assessed by standardized measures of reading is based on an overly simplistic view of what it means to understand a text. The broader issue here concerns the way in which abstract and complex behaviors/constructs become reified, quantified, and ranked in order to be assessed and taught. Before discussing why measures of reading comprehension and other complex constructs are problematic, let me define some terms.

Reification, Quantification, and Ranking

The first time I came across the term reification was about 10 years ago in a book by Stephen Jay Gould called *The Mismeasure of Man* (1981). The book is a critique of biological determinism and its principal claim that “worth can be assigned to individuals and groups by measuring intelligence as a single quantity” (p. 20). This claim, Gould argues, is based on two fallacies: reification and ranking. Reification is the process by which something abstract is turned into a material or concrete entity. Here is Gould’s summary of how the abstract construct of intelligence became reified:

We recognize the importance of mentality in our lives and wish to characterize it, in part so that we can make the divisions and distinctions among people that our cultural and political systems dictate. We therefore give the word “intelligence” to this wondrously complex and multifaceted set of human capabilities. This shorthand symbol is then reified and intelligence achieves its dubious status as a unitary thing. Once intelligence becomes an entity, standard procedures of science virtually dictate that a location and physical substrate be sought for it. Since the brain is the seat of mentality, intelligence must reside there. (p. 24)

The second fallacy is ranking, which Gould defines as “our propensity for ordering complex variation as a gradual ascending scale.” Ranking, however, requires a criterion for assigning all individuals to their proper status for the construct being evaluated. The usual criterion is an objective number, thus the measurement of intelligence as a single number for each person.

Fifteen years ago, in his book *Language Handbook: Concepts, Assessment, and Intervention*, John Muma (1978) wrote about how similar fallacies affected the assessment (measurement) of language. Muma begins his chapter on assessment by noting that, because behavior (e.g., language/communication) is relative, conditional, complex, and dynamic, clinical assessment must be relative, contextual, process-oriented, and dynamic. Language assessment should not be categorical, quantitative, or normative; instead, “clinical assessment should be about an individual as he [sic] functions in natural contexts or deals with systems and processes directly relevant to natural behavior” (p. 211). Muma goes on to discuss a number of fallacies and problematic notions that underlie many speech-language assessment procedures. His “quantification notion” is closely linked to reification. Quantification, he notes, “runs the risk of perpetuating arbitrary categories that have no real value. Even though numbers may abound, they do not mean that the
Assessing reading comprehension, like the measurement of other complex behaviors, is very difficult. Based on the definition of comprehension above, an adequate assessment protocol needs to include measures of how well individuals construct interpretations in different contexts, as well as measures of the proficiency of specific processes and knowledge domains involved in comprehension. Specific measures may be obtained from tasks designed to evaluate how well listeners interpret words, phrases, sentences, conversations, narratives, specific syntactic structures, conversational rules, and so forth. Assessing language comprehension is thus not an easy task. For example, consider how a child’s ability to understand conversational discourse might be evaluated. Certainly, there is no standardized instrument that tracks comprehension across discourse turns. What is important, however, is recognizing how difficult it is to assess a complex construct like language comprehension. This recognition makes us more likely to question what aspect of comprehension our assessment instruments measure. We are also more likely to try to think of ways to evaluate aspects of comprehension that are not assessed by standardized instruments. Finally, and perhaps most importantly, by having an appreciation of the complexity of comprehension, we are more likely to question the use and validity of a single number or value that purportedly reflects an individual’s comprehension ability.

Assessing Reading Comprehension

For most elementary and secondary students and teachers throughout the country, the assessment of reading comprehension consists of a series of wh-questions about the setting, characters, sequence of events (plot summary), and main idea of a story—questions such as, “Where did the story take place?” “Who were the main characters?” “What happened in the story?” “What was the main idea?” “What is the best title for the story?” These questions, which all focus on the content and structure of a story, have only one correct answer. The view of reading fostered by this way of assessing reading comprehension reflects what has been called “the myth of the meaningful text” (Grumet, 1988, cited in Golden, 1992). This myth is based on the structuralist view of reading that meaning resides in the text. If meaning is in the text, then the task for readers is to figure out what the meaning is. Each text is viewed as having one correct or best interpretation. Students quickly learn that the teacher (or the workbook) usually will tell them the correct meaning or interpretation. They also learn that to perform well in class and on tests, they simply need to reconstruct or restate the meaning of the text as presented by the teacher or the workbook. The wh-questions listed earlier are designed to assess how well students can reconstruct the “correct” interpretation of the text. Students who perform well on these assessments are thought to be good readers whereas students who perform poorly on these assessments are thought to be poor readers. It may come as a surprise to some that the structuralist view of reading that underlies current assessment and ranking of reading...
competencies was rejected over 40 years ago by literary theorists.

During the last 40 years, literary theorists (e.g., reader-
response critics, new historicists, etc.) have been inter-
ested in how meaning is constructed from text during the
process of reader-text interaction (see, for example, Brod-
key, 1992; McLaren, 1992). Meaning is thus not in the
text, but in the transaction between reader and text. Some
reader-response theorists (most notably, Stanley Fish, e.g.,
1980) go so far as to deny the existence of an
independent text by arguing that every aspect of a text is
a product of an interpretive strategy. Reader-response
theorists are interested in reader-text interaction and how
specific texts affect the reader. For example, Iser (1978) is
interested in how mental representations of a text change
during reading. Iser and other reader-response theorists
believe that the text is never grasped as a whole, but as a
series of changing viewpoints or interpretations. The
interpretation (meaning of the text) a reader constructs is
influenced by a number of factors, including social and
cultural attitudes, personality, and linguistic and concep-
tual skills. Some literary theorists also emphasize how
meaning is influenced by the social-historical context of
the author and the reader.

An interest in reader-response and the active construc-
tion of interpretation is not consistent with the way
reading comprehension is assessed and taught in most
elementary and secondary schools (Farr, 1992; Healy,
1990). Healy (1990) attributes much of the problem with
the educational system to the way in which reading is
taught in the schools. In her book, entitled Endangered
Minds: Why Children Don't Think and What We Can Do
About It, Healy notes that the types of questions a teacher
asks set the intellectual tone of the classroom. By asking
the students to respond only to factual questions about a
text, teachers encourage students to be passive learners
who sit quietly and wait for the teacher to provide the
answers. Yet, as Healy notes, "students understand best,
remember ideas most effectively, and think most inci-
dively when they feel personally responsible for getting
meaning out of what they are learning" (p. 296). In
differentiating between good and poor readers, Healy
captures the basic difference between the structuralist
and reader-response view of reading. Good readers, she
notes, actively pursue meaning by carrying on an active
mental dialogue with the author; poor readers, on the
other hand, read as if they are waiting for the text to give
them the meaning (p. 298).

A major obstacle in adopting a reader-response view of
reading in the schools is that teachers would no longer be
able to evaluate reading skill using current reading tests.
Healy (p. 280) notes that in countries in which thought
and intellectual depth are esteemed, examinations con-
sist mainly of having the students generate, integrate, and
express ideas, usually in written form. In the United
States, however, the content of everything, from English
to algebra, is often trivialized by machine-scored, mul-
tiple-choice tests. Why be surprised, Healy rhetorically
asks, that students cannot think and reason effectively,
given the way they are taught and tested?

The Challenge for Speech-Language Pathologists

Fortunately, as speech-language pathologists, we do not
have to solve all of the problems of the American
educational system. For example, one of the recurring
prescriptions for improving education in the United
States is to stock classrooms with teachers who can read,
write, and reason. Such teachers would be able to imple-
ment assessment procedures that accurately reflect cur-
rent reading theory (see, Farr, 1992, and Paris, 1991, for
some specific assessment suggestions). As Healy notes (p.
283), however, "teachers cannot expand minds if their
own perspectives are foreshortened by pedagogical non-
sense in place of substantive coursework." In other
words, a deficient knowledge base about reading pro-
cesses and development makes it difficult for many teach-
ers to use and develop assessment procedures that ade-
quately reflect children's ability to construct meaning
from print.

Unlike classroom teachers, certified speech-language
pathologists take substantive coursework in communica-
tion sciences and disorders, which provides a strong
knowledge base in the structures and processes associ-
ated with speech, language, reading, and communication.
By working closely with experienced clinicians, student
clinicians gradually develop clinical reasoning and prob-
solving skills to serve a diverse population of indi-
viduals with speech-language impairments. With this
education comes our challenge: It is not sufficient merely
to recognize when we reify and rank children's behav-
iors; we need to use and (in some cases) develop assess-
ment procedures that better reflect the behaviors we are
attempting to change in treatment.

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