General Growth Outcomes: Wait! There's More!

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REPLY

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Most early education assessment systems rely on child mastery of various (and sometimes unrelated) subskills within a developmental domain. Unlike that approach, the goal of our Early Childhood Research Institute on Measuring Growth and Development has been to develop and evaluate a small number of measures or "indicators" that inform families and educators about a child's progress or "growth" toward a general outcome. Thus, we developed and evaluated the parsimonious set of general growth outcomes applicable to children across various age ranges as a *first step* in a larger program of research (Priest et al., 2002).

The traditional road early childhood researchers and educators have traveled to measure children's progress has been typified by an approach known as *critical skills mastery measurement* (Fuchs & Deno, 1991). In this approach, educators assess children's attainment of subskills that are assumed to be developmentally linked and ordered in a sequence or hierarchy. This system of measurement provides educators with valuable information about young children's developmental status at a certain point in time and may provide a direct link between assessment and intervention. However, this approach is not designed to evaluate a child's continuous progress or growth over time toward long-term outcomes nor to evaluate the effectiveness of an intervention.

In contrast, *general outcome measurement* is an approach that has been developed and used extensively in elementary education to monitor the academic growth of students toward broad, important achievement-related outcomes, such as early literacy, reading, math, spelling, and written expression (Deno, 1985; Fuchs & Deno, 1991; Kaminski & Good, 1996, 1998). Instead of measuring a child's status on a series of discrete skills that build toward a desired outcome, the general outcome measurement approach is characterized by direct and repeated assessment of an empirically derived, valid, and reliable *indicator* that serves as a concurrent and predictive correlate of a larger set of skills. This allows us to measure a child's status and growth over time toward the general outcome.

An example of a well-known *indicator* in everyday life is a thermometer. A thermometer is an effective, efficient, and quick way to gauge general health status that can be used repeatedly. A high reading on a thermometer might indicate a problem requiring attention. Additional assessment may be required to understand the source of the fever and to generate ideas for reducing it. An antibiotic might be prescribed. Then the thermometer could be used to measure the antibiotic's effectiveness.

Similarly, using a general outcome measurement approach, an *indicator* provides a relatively quick but effective reading of a

child's status and growth within a developmental area. Repeated assessment using the indicator (e.g., weekly, monthly, or quarterly) may show that a child is making sufficient progress toward a general outcome. However, if the indicator shows the child's progress toward the outcome is inadequate as judged by families or educators, an intervention (i.e., change in instruction or curriculum) may be warranted. These indicators, or general outcome measures, can be used within an iterative, problem-solving approach, to address the needs of any child failing to make sufficient progress toward a meaningful, long-term outcome, including children with disabilities and children considered at risk (Deno, 1989).

Obviously, an important feature of this approach is empirical evidence that demonstrates the validity and reliability of using indicators as a direct assessment of progress toward the general outcome. While the concept of general outcome measurement might be new to the field of early childhood education (McConnell, 2000), we have been working steadily over the past 4 years to develop and test a range of prospective "individual growth and development indicators" (IGDIs). We have conducted initial studies to evaluate the reliability (test-retest, alternate forms, interobserver agreement, and internal consistency), validity (content, criterion, predictive, and construct), and sensitivity (to growth and to the effects of intervention) of scores using these measures. Although IGDI measures are still being developed and evaluated, initial results have been promising (e.g., Luze et al., 2001). Much of our research to date is available on our web site, http://ici2.umn.edu/ecri/.

We will continue the journey set in motion with the initial development and validation of the general growth outcomes. We hope others will join us in our efforts to develop an empirically validated general outcome measurement approach for use with children across the early childhood-early elementary continuum. We believe this approach will help educators and families determine when a change in procedure might be warranted as well as assess the effectiveness of the change. In the end, the heuristic guidance provided by naming the general growth outcomes will ultimately be judged by the empirical findings from studies of the utility and applicability of the general outcome *measures* for a diverse range of our nation's young children.

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