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## Measurement Science Can Do More for Education!

By Invited Contributor Listed Below on March 31, 2014 12:56 PM | [No comments](#)

Today's guest contributor is **Edmund W. Gordon**, John M. Musser Professor of Psychology, Emeritus at Yale University; Richard March Hoe Professor, Emeritus of Psychology and Education at Teachers College, Columbia University; Chairman, The Gordon Commission.

Some of us observed with skeptical satisfaction the coalescing of conservative and liberal political forces around the provision in the No Child Left Behind education legislation around greater use of standardized testing for increased emphasis on accountability in education. I was especially attracted to the notion that all students should be tested and that the data from these tests would be disaggregated to reveal disparities in academic achievement between the scores of children from different social divisions. I welcomed this collaboration in the interest of social justice. What I paid insufficient attention to was the possibility that while the liberal forces may have been interested in the improvement and reform of education, the conservative forces may have been interested in demonstrating the limitations of the public school in the interest of privatizing the large, expensive and potentially lucrative education enterprise in this country.

Documenting the failures of the public school, using "objective" standardized tests could provide the scientific evidence needed to reduce support for public education, even while it reveals the specific populations that are most harmed by a less than adequate education enterprise.

If there is no basis in reality for my speculation, how very strange it is that the misuse of standardized tests in a punitive approach to educational accountability should be so aggressively pursued as national education policy.

Do wise policy makers not see the down side of this strategy? Could this policy be wrong? Is this national embrace of educational testing to measure, reward and penalize missing a genuine opportunity to use one of the strongest of the behavioral sciences, measurement science, in a more powerful way?

That is to say, we seem more interested in employing measurement science for the **assessment OF education**, when we should be using it also to **assess FOR education**. The cutting edges of today's science increasingly demonstrate that appraisal, assessment and measurement can be used to inform and improve the processes and the outcomes of education. How much more enlightened would be **ASSESSMENT IN THE SERVICE OF EDUCATION** as the education policy of a democratic nation committed to the achievement of intellectual competence in its people?

I contend that we in measurement science, may be much too passive in our use of our profession and discipline in the service of education. In medicine, we have used assessment data primarily for diagnosis and to monitor progress. In that field, increasingly, these data are used to inform medical interventions and to enable individuals' participation in health maintenance and treatment. In education, we use test data to select, place and hold entities accountable.

**Modern measurement science is capable of far more.** We have models that can be used to measure the status of developed ability in support of accountability, AND to enable teachers and learners to assume responsibility for the development of students' intellectual capacity. Among these are:

- The qualitative analysis of standardized test data;
- Data mining of crowd source and continuous data;
- Qualitative analysis of teaching and learning transactions;
- Adaptive testing;
- Portfolio development and analysis; and
- Assessment as instruction

In addition, we have a long tradition of **formative approaches to assessment**, highlighted in the reports of [The Gordon Commission on the Future of Assessment](#): "Assessment is best structured as a coordinated system focused on the collection of evidence... that can be used to inform and improve the processes and outcomes of teaching and learning" (Gordon, 2013). The Commission's focus on processes as well as

products or learning is new.

In an informative paper on formative assessment prepared for the Commission, Robert Calfee (2013) quotes Haertel's (2013) contribution to the Gordon Commission as presenting a more detailed picture of the possibilities of formative assessment to foster learning. In Haertel's vision of the future of schooling:

...classroom assessment will be truly integrated with instruction, based on student pursuits that are educationally useful and intrinsically meaningful in the classroom context. Assessment inferences will be informed by observations of the processes as well as the products of student learning activities. Records of students' actions will be captured and analyzed to support high-level inferences about their reasoning and expertise...

Calfee also quotes McManus: "Formative assessment is a process used by teachers and students during instruction that provides feedback to adjust ongoing teaching and learning to improve student achievement of intended outcomes" (McManus, 2008, p. 5). He expands the definition with several helpful comments:

1. "Formative assessment is a process rather than a particular kind of assessment.... There is no such thing as a 'formative test.'"
2. "The formative assessment process involves both teachers and students..., both of whom must be actively involved in the process of improving learning."
3. "[L]earning progressions provide teachers with the big picture of what students need to learn, along with sufficient detail for planning instruction to meet short-term goals."
4. "[T]eachers must provide [students] the criteria by which learning will be assessed... using readily understood language, and realistic examples of what meets and does not meet the criteria"

These considerations, according to McManus as reported by Calfee, significantly advance and reshape previous conceptions of the appropriate use of assessment.

Clearly, measurement science is capable of serving teaching and learning better than we have in the past. We have watched as the nation has focused on less than the most productive purposes of assessment in education. I think the privileging of a punishment and reward approach to accountability in schools is proving to be disastrous as national education policy. My very casual review indicates that measurement science, using existing tools, can mount an active program of Assessment FOR Education. (See [www.GordonCommission.org](http://www.GordonCommission.org)) Measurement science can do better!

**Edmund W. Gordon**

**The Gordon Commission**

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