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Re-engineering Public Education: Developing New Technologies in Teaching and Assessment

Paul T. Hackett

In the nineteen-nineties, I was principal of a middle school when the accountability issue burst into prominence in the state of Alabama in the form of norm-referenced testing as the main tool to evaluate school performance. Designed by well-meaning educators to meet the requirements of Alabama legislation, the accountability program in Alabama was developed to put some teeth into the curriculum. Schools and systems that performed poorly faced state takeover.

The Alabama accountability issue was one face of a national movement predicated on the idea that the public schools in the United States have failed egregiously and that more stringent accountability standards will set expectations forcing teachers to do a better job teaching and students to do a better job learning (Houston, 2003). Schools and school systems across the United States were facing the same types of accountability standards and were being evaluated through student performance on standardized tests, criterion referenced tests, or a combination of the two. In Alabama, norm-referenced tests were used to evaluate the instructional program until tenth grade when students were required to demonstrate proficiency on a criterion-referenced graduation exam. That the criterion-referenced exam was not aligned in any significant way with the norm-referenced tests, and

that the curriculum only had moderate alignment with either, did not seem to be an issue in the legislature or the state department of education, leaving such mundane issues as curriculum alignment to local school systems. The strategy of principals throughout the state was to implement a focus on the objectives covered by the Stanford Achievement Test. Though Alabama administrators were often philosophically opposed to making the norm-referenced test the focus of teaching at our schools, they were, at the same, time painfully aware that the scores from their schools would be posted every year alongside the scores of other Alabama schools in newspapers with statewide readership. And so began a full-scale alignment of the curriculum with the objectives covered by the test. Strategies for attaining high scores on the test were systematically developed, scrupulously implemented and monitored, and jealously guarded.

New federal legislation in the form of the "No Child Left Behind Act" is serving to bring even more accountability in the form of student performance on standardized tests. Again, the idea is that somehow education has failed to accomplish its mission and that legislators have the answer in terms of more stringent accountability legislation, negative outcomes for schools and school systems that do not show results in

terms of student performance on tests, and, ultimately, a system by which students can be compared across the board with their peers from other schools, systems, and states.

At the same time that educators are scrambling to develop the means to comply with the terms of the "No Child Left Behind Act," a commission has been formed that recommends linking teacher pay to test scores. The commission includes Former IBM Chairman Louis Gerstner, Jr., former Education Secretary Richard Riley, and former first lady Barbara Bush (USA Today, 2004, January 14). Marrying student achievement in terms of test scores and teacher pay has raised the stakes to an even higher level. Again, the idea is that education, and educators, have failed. State reform efforts and accountability measures have failed. And forty years of federal Title programs have failed. All have failed to bring student achievement to acceptable levels in terms of global competitiveness. Given that public education is failing, an attractive answer appears to be to leverage the issue by applying financial pressure to educators who, presumably, are not doing everything they can to improve student performance. In other words, if test-driven accountability has not worked in the past, it is time to implement more test-driven accountability measures, and implement them more aggressively (Sanders, 2003).

It is true that test scores generally increase when emphasis is placed on performing on a particular standardized test. Alabama's overall performance exceeds the fiftieth percentile (Alabama State Department of Education, 2001). However, there are several factors to consider when

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evaluating such results. First, after initial gains, scores tend to stabilize at a certain level, fluctuating up and down slightly, but not significantly. Second, when an accountability measure is updated to a more recent version of the test, scores drop precipitously until students, and teachers, get a handle on the new test. Third, there appears to be something inherently wrong with the idea that the majority of students are performing at a level above the fiftieth percentile on a norm-referenced test that, if the norming group is representational, is designed to reflect student performance across a range corresponding to a normal curve. Finally, and disturbingly, significant portions of the student population have not tended to perform well, a fact ascertained in Alabama the first time test scores were disaggregated statewide (Alabama Department of Education, 2002).

Given this history, it should be of great concern that the emphasis on testing in the public schools has not typically resulted in improvement in instructional methodology, but rather improvement in practicing for the test. Rather than implementing innovative teaching technologies and methodologies, schools are focusing on skill and drill (Haycock, Jerald, and Huang, 2001), partic-

ularly in the months leading up to the achievement testing window. Rather than trying new approaches to teaching, there has been a cautious regression to conservative teaching methods (verbal drill, work sheets in multiple choice format, homework) to the exclusion of other approaches. When "the test is the thing" teaching comes to resemble the test and student outcomes are focused on performing well on the test. The fact that the test encourages proficiency at the lowest cognitive level (Bloom, 1956) should give educators and policymakers cause for reflection.

Veteran classroom teachers know that the most effective instruction requires a great deal of active participation on the part of students. There are sound research-based reasons for this fact. Certainly the work of Gardner in the area of multiple intelligences (1993), Fischer (1995) in cognitive development, and venerable work by Bloom (1956) all point the way toward a classroom model rich in flexibility and variety in student experience. Yet the public school classroom is often a place where very few new ideas are tested, where the organization of the classroom follows a model that has varied little in many years, and where little if any experimental research and testing of new practices takes place. The current emphasis on testing has created a self-defeating pattern by promulgating the very practices that ensure stabilization of mediocrity.

For education to survive and thrive, a significant re-engineering effort must take place. First, educators must have a role in defining outcomes and measurements for students. Such outcomes and measurements must not be narrowly defined to a set of indicators on a norm-referenced test

(Gardner, 1993). Second, educators must commit to developing new teaching practices based on current research, testing the effectiveness of those practices through sound research at the school level, and implementing the most successful of those practices (Gardner, 1993). However, rather than looking to research for new practices and testing instructional approaches in the field, educators are more likely to implement the "best practices" approach to school improvement, an improvement model where schools and classrooms with demonstrably high performance (usually on standardized tests) are studied. Practices at those schools are then transferred to "failing" schools, the idea being that implementation of practices that have worked elsewhere will produce the same results for the unsuccessful school. However, this approach has had mixed results. Often, once the practices are transferred, the performance of the school implementing the model follows a predictable cycle, early success followed by a period of stabilization or, worse, decline. It is time to emphasize development, implementation and assessment of practices found to be consistent with current research regarding how children and adolescents learn (Wagner, 2003).

At the same time, educators must be brave in defining measurable outcomes that are more far-ranging than those currently in vogue (Haycock, Jerald, and Huang, 2001). It is time for educators to ask some difficult questions. What is it that the public school graduate should be able to do? Is a standardized test the best (only) measure of the performance of the student and thus the school and school system? More to the point, educators should ask the following:

if years of state and federal accountability programs have "left children behind," and if, in fact, public education is not getting the job done, then what does the education community propose to do differently this time around (Wagner, 2003)?

Once the indicators of the successful public school student are identified, educators must define measurable outcomes for students and develop the tools to measure those outcomes. This goal requires the development of teaching and assessment technologies not currently available. While ambitious in scope, the idea of setting goals prior to the availability of the technology necessary to attaining them has strong precedent in our culture. In the early 1960s, John F. Kennedy established a goal for the scientific community when he challenged scientists to explore the moon by the end of the decade. That goal was accomplished within the decade. The development of new technologies for educating students is as critical an issue for this nation as successful space travel was to the scientific community forty years ago.

Finally, no re-tooling or re-engineering effort can be successful without an emphasis on teacher training (Wagner, 2003). More to the point, this training should be imbedded in the practice of teaching. In the educational environment, the disciplines of research, training, and practice operate in isolation—a situation that would be viewed as unacceptable in the profession of medicine. In the medical profession, best practices are regularly redefined by research and tested in the clinical environment. Outcomes are measured by many quality-of-care indicators. The clinical environment is viewed as a place where members of the profession practice medicine and

where practitioners are learners who grow as professionals throughout their careers. Teaching, training, and learning are all imbedded in the practice of medicine, a field where innovations regularly revolutionize the profession. Certainly, medicine is a profession where the practice of the professional correlates to quality of life for the patient. Practice of the public school professional correlates no less to quality of life for the public school graduate.

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