

“I finally figured out a way to test whether you have taught an idea or you have only taught a definition. You say, ‘Without using the new word which you have just learned, try to rephrase what you have just learned in your own language. [For example,] without using the word ‘energy,’ tell me what you know now about a dog’s motion.’ You cannot. So you learned nothing except the definition. You learned nothing about science.”

Richard Feynman, addressing the National Science Teachers Association, April 1966

STANDARDS

The performance of America’s schools has steadily improved in recent decades.¹ Even so, when compared to achievement levels of many other nations, the U.S. continues to fall short, particularly at the end of secondary school.²

Educators now find themselves struggling with difficult questions. How do we teach more content, more effectively? How do we better prepare students for higher education and the workplace? And, as in Feynman’s dilemma, how do we know that students have learned what we have taught?

The Emergence of Standards

Goals introduced at the 1989 National Education Summit were intended to make U.S. schools more internationally competitive.³ The goals challenged states to set high and rigorous standards for all children. In response, all 50 states now have standards in place.⁴ In addition, 47 states say they have statewide assessments that are aligned with their standards, and 27 states have aligned exit exams that students must pass to graduate high school. However, standards and benchmarks still vary widely across the nation.

Even the definition of *standards* is open for interpretation. Some believe requiring higher test scores is the answer. Others want to hold schools or entire districts accountable for the number of students who pass tests. Still others believe standards should be goals or guidelines that encourage higher productivity rather than require levels of achievement.

Should standards be set to compete with students of other countries? Should standards apply only in the core subject areas of math, science, history (or social studies), and geography? Should those who are unable to achieve the standards be penalized? How do we use standards to improve the education of all students, rather than just a handful?

The Value of Standards

- In poll after poll, the public strongly supports standards. However, polls tell us little about what the content of standards should be. “Basics first” is a common refrain and one the public often equates with a call for standards. However, “basics first” does not fit well with current research about teaching and learning.⁵
- Opinion polls also reveal that the public has extremely high expectations of their schools. For those expectations to be met, educators estimate that students need an additional 10 years of schooling beyond the typical K-12 pattern of school attendance.⁶
- Several years ago, a comparison was made of states’ results on the National Assessment of Educational Progress (NAEP) and on their own assessments.

A negative correlation was found: Most states with low NAEP scores had high proportions of students passing their own state test; most states with high NAEP scores had lower proportions of students passing their state test.⁷

What Do We Know About Ohio's Standards?

- Ohio has no mandated or approved statewide standards in place for curriculum or instruction for regular education students.⁸ In 1997, standards were approved in principle by the Ohio State Board of Education and submitted to the Ohio Legislature for approval, but the legislature did not act on the proposal. Senate Bill 55, which was passed, incorporates some key elements of the proposed standards, including accountability and school improvement mandates.
- The Ohio Department of Education has prepared model curriculum documents in language arts, math, science, and social studies for school districts to use as guides in designing local curricula. These documents have been well received by various groups that evaluate state standards, including Achieve, Inc., the American Federation of Teachers, the Council for Basic Education, the Council of Chief State School Officers, *Education Week*, and the Fordham Foundation.⁹
- The “Learning Outcomes” that accompany the Ohio Proficiency Tests specify the objectives of the tests.¹⁰ These learning outcomes are widely used by Ohio’s elementary and middle schools to guide instruction.¹¹
- The 27 performance standards of Ohio’s school and district accountability system are now coming into full force, via Local Report Cards. Their impact on district and school decision making about curriculum content and instructional practice are not yet clear.
- The Ohio Board of Regents and Ohio Department of Education together prepared a set of “Common Expectations for Ohio’s High School Graduates,” which was released in October 1999. The document specifies general subject-area expectations and sets benchmarks for these expectations at Grades 4, 8, and 12. It covers math, science, English/language arts, social studies, the arts, foreign language, and lifelong learning.
- Ohio’s accountability system establishes benchmarks and performance requirements based on pass/fail cut-off points on individual student test results. In this system, students who score high enough meet the standard. If enough of them do so, schools and districts reach their goals and are implicitly encouraged to continue teaching the same way. This system may support teachers who teach the memorization of facts, definitions, formulas, and other elements students will be asked to provide in order to pass the test. This type of teaching may improve test scores, but will it improve schools? Does it serve the purposes of education? The answer, according to the National Research Council, is probably not.¹²

Setting standards is easy. The real challenge is making them effective. The most important question then is How do we set standards that stimulate not just the achievement of the standards themselves, but deepen learning and understanding of math and science concepts as they apply to student’s lives?¹³

Endnotes

1. Cf. the data presented in the "Learner Outcomes" section of J. Wirt, S. Choy, Y. Bae, et al., *The Condition of Education 1999*, National Center for Education Statistics, U.S. Department of Education, Washington, DC, 1999.
2. Ibid, pp. 32-33. For earlier but complementary data, see W. Elley, *How in the World Do Students Read? IEA Study of Reading Literacy*, The International Association for the Evaluation of Educational Achievement, Hamburg, Germany, 1992.
3. A. Beatty (Ed.), *Taking Stock: What Have We Learned About Making Education Standards Internationally Competitive?* National Academy Press, Washington, DC, 1997.
4. The data in this paragraph were collected as part of the American Federation of Teachers' continual survey of state standards. The phrasing of the AFT questions emphasizes a state's commitment. Hence, states that say they will have standards or assessments are counted alongside those that have them. The data may be reviewed at www.aft.org/edissues/standards99/toc.htm. A summary is available as American Federation of Teachers, "Making Standards Matter, 1999: An Update on State Activity," *Educational Issues Policy Brief, 11*, November 1999.
5. P. LeMahieu and W. Bickel, "The Public's and Policy Makers' Perspectives on Internationally Competitive Standards," paper prepared for a symposium sponsored by the Board on International Comparative Studies in Education, National Research Council, November 1996.
6. R. Marzano, J. Kendall, and L. Cicchinelli, *What Americans Believe Students Should Know: A Survey of U.S. Adults*, Mid-continent Regional Educational Laboratory, Aurora, CO, 1998.
7. M. Musick, *Setting Education Standards High Enough*, Southern Regional Education Board, Atlanta, GA, 1996.
8. Minimum high school graduation requirements, expressed in terms of subject credits, are, of course, mandated. These will become more challenging for the graduating class of 2002.
9. American Federation of Teachers, "Making Standards Matter 1999: An Update on State Activity," *AFT Educational Issues Policy Brief, 11*, November 1999; R. Blank, D. Langesen, M. Bush, et al., *Mathematics and Science Content Standards and Curriculum Frameworks: States Progress on Development and Implementation*, Council of Chief State School Officers, Washington, DC, 1997; R. Blank and E. Pechman, *State Curriculum Frameworks in Mathematics and Science: How Are They Changing across the States?* Council of Chief State School Officers, Washington, DC, 1995; C. Finn, M. Petrilli, and G. Vanourek, *The State of State Standard*, Thomas B. Fordham Foundation, Washington, DC, 1998; D. Hoff, "Standards at Crossroads after Decade," *Education Week*, September 22, 1999; L. Lerner, *State Science Standards: An Appraisal of Standards in 36 States*, Thomas B. Fordham Foundation, Washington, DC, 1998; S. Joftus and I. Berman, *Great Expectations? Defining and Assessing Rigor in State Standards for Mathematics and English Language Arts*, Council for Basic Education, Washington, DC, 1998; R. Raimi and L. Braden, *State Mathematics Standards: An Appraisal of Standards in 46 States, the District of Columbia, and Japan*, Thomas B. Fordham Foundation, Washington, DC, 1998; Regional Educational Laboratory Network Program, *A Summary of Analyzed State Curriculum Frameworks*, Mid-continent Regional Educational Laboratory, Aurora, CO, 1993; and W. Schmidt, "Preliminary Results of the Analysis of State Standards and Assessments," unpublished report for Achieve, Inc., January 1999.
10. The text of the Learning Outcomes is available on the Ohio Department of Education's Web site at www.state.oh.us/proficiency/ and from there selecting the grade-level test of interest.
11. NCREL analysis of OMSC-sponsored survey of Ohio schools.
12. J. Herbert and R. Hauser (Eds.), *High Stakes: Testing for Tracking, Promotion, and Graduation*, National Academy Press, Washington, DC, 1999.
13. The number of resources to assist standards building is growing. Two examples include: R. Marzano and J. Kendall, *A Comprehensive Guide to Designing Standards-Based Districts, Schools, and Classrooms*, Association for Supervision and Curriculum Development, Alexandria, VA, 1996; and M. Tucker and J. Coddling, *Standards for Our Schools: How to Set Them, Measure Them, and Reach Them*, Jossey-Bass, San Francisco, CA, 1998.