

Individual Growth and School Success

Northwest Evaluation Association

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If School A and School B had identical state test score averages, would you think that they were having similar success with their students?

Before you answer, consider that School A started the year with low performing students, and caused every one of them to grow twice as much as the students in School B. What do you think of the two schools now?

Current federal regulations use only the information in the first paragraph (status) to judge school success. This study looks at information from a very large sample of schools and asks whether we would do a better job by using both status and growth to measure school success.

The No Child Left Behind act (NCLB) has had a dramatic impact on education throughout the United States. Among its many provisions is a requirement that schools be judged based on the percentage of students who meet a standard of proficiency established by the state. From earlier research (Kingsbury et. al., 2003; Linn, 2003) we know that state standards of proficiency differ substantially from state to state, from grade to grade, and from subject to subject. These differences suggest that schools and the students they serve may be at risk, not from their instructional practice, but from the arbitrary standards against which they are judged.

This study uses a broad-range sample of schools to investigate whether the use of student status, judged by a state-set standard, does a reasonable job of representing the performance of schools. The study asks three primary research questions:


- Do student scores on state tests adequately depict the success of a school?

- Do schools differ in individual student growth?
- Would Adequate Yearly Progress measures benefit from the inclusion of student growth along a cross-grade scale?

Methodology

This study used information from the NWEA Growth Research Database, one of the largest repositories of longitudinal student achievement data in the world. The study includes 840 schools from 22 states. Each school administered NWEA assessments to its students in spring of 2002 and spring of 2003. This allows the identification of student status, the score at a single point in time, and growth, an index of the increase in scores earned over a span of time. More than 270,000 students were involved in the study.

The status and growth measures were used to calculate the **growth index** for each student.



The growth index shows the amount of unexpected growth of the student from one year to the next. A positive value for the growth index indicates that the student has grown more than typically seen, while a negative value indicates less growth than typically seen (typical growth values come from a nationwide study including more than one million students). While many approaches can be taken to estimate student growth, the growth index is very useful because it relates directly to the original measurement scale. As a result, the index can be directly interpreted with respect to content the student has learned in the time that has passed.

Outcome

Results show that the status of students in a school does not tell the whole story concerning the effectiveness of the school. The addition of a growth indicator with a meaningful scale adds essential information about school effectiveness. Some of the primary findings include the following:

- Schools with similar status levels differ substantially in the amount of growth they cause in students
- More than 20 percent of the schools with high status levels fall into the bottom quarter of schools in terms of the amount of growth they cause in their students
- Several schools with low results at a single point in time cause as much growth in their students as the best high-status schools

Impact

The results from this study demonstrate clearly that schools differ in the amount of growth students achieve. Inclusion of information concerning growth is essential for drawing a complete picture of school success. The current regulations need to be modified to include this information to reduce the potential for harm in three areas:

Fiscal Impact — Schools that cause substantial growth in low performing students may be subject to sanctions if they don't bring students all the way to the proficiency level. This may result in loss of students and staff from schools that are positioning low performing students for future success.

An example of this is seen when two Indiana elementary schools are compared (the names have been changed). At both Smith Elementary and Jones Elementary 44 percent of students meet state standards. They would be regarded as equivalent schools by the NCLB model. Typical students ended 4th grade with similar math scores at each school - 207 for Smith, 206 for Jones. However, the Smith student at this level would achieve a growth of 6 scale score points, whereas the same student at Jones would gain 13 points. Students at Jones are clearly making more headway than those at Smith, but Smith students cannot transfer to Jones because neither school meets its AYP target.

Impact on High Performers — High performing students who are far beyond the proficiency levels don't have to grow further under current regulations. Under the current method for identifying schools at risk, two schools with mostly proficient students will be judged as equally successful. This is the case even though at one school students are treading water, while at the other school students are moving to superior performance.

Sylvester Elementary and Tweety Elementary are both high performing schools. Eighty one percent of the students at both schools meet 5th grade math standards. The average 5th grade math scores are well above the state average. However, most of the students at Sylvester did not grow as much as their peers academically. These students ended 4th grade with high scores, but made little progress during 5th grade. In contrast, students at

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Tweety grew an average of 14 scale score points, double Sylvester's average growth. For high performing students, this difference is approximately equal to two-thirds of a year of growth. Both schools are eligible to receive students from schools in program improvement. Are students better off at Sylvester? Would they be better served to remain in a school like Jones (from the example above), which accelerates growth?

Impact on School Choice — NCLB allows school choice to students who attend schools that fail to make adequate yearly progress over time. This would be a wise procedure if the student who chose to move to a different school were assured of a better chance for success. Unfortunately, if only status is used to identify schools that are making adequate yearly progress, students who choose to move because they need to grow rapidly to meet proficiency are not assured of this better chance.

Many high-status schools cause less growth in their students than low-status schools. This may come from a variety of factors, but it is clear that a low performing student moving from a low-status, high-growth school to a high-status, low-growth school is moving into an environment that is not likely to accelerate learning. In order for parents to become informed consumers of education, we need to provide them with the information needed, including both status and growth.

Discussion

Results from one point in time do not form a complete picture of school performance. Without an indicator of individual student growth, we don't know whether a high-status school is maximizing student potential, or merely maintaining the status quo. While it is clear that our educational system should leave no child behind, it is also clear that the mission of our educational system needs to go beyond this goal. We need to assure that each student grows as much as possible. This means that each student's growth needs to be included in our measure of school success. If a school has students who aren't growing as much as they might, the school has room for improvement. The regulations concerning school success need to change to not only allow, but require the use of strong growth measures. Only with knowledge of both status and growth do we begin to get a clear picture of the quality of education in a school. If we are to serve students and parents well, we need to have the most complete picture of school success available.

The full report is available at <http://www.nwea.org/research/growthstudy.html> beginning April 13, 2004.



The Northwest Evaluation Association is a nonprofit assessment organization providing research and consultation work to improve learning in K-12 education. In addition to district and state-level research projects, NWEA has developed a national, longitudinal growth research database that enables its researchers to study a host of questions across education settings. These include the effects of varying district characteristics and instructional programs on academic growth, and standards-related work. In addition to its research work, NWEA provides testing tools for its more than 1,200 member districts across the United States. NWEA was formally organized in 1977.