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Testimony  
Before the House Committee on  
Education and the Workforce

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**NO CHILD LEFT BEHIND  
ACT**

**States Face Challenges  
Measuring Academic  
Growth**

Statement of Marnie S. Shaul, Director,  
Education, Workforce, and Income Security Issues





Highlights of [GAO-06-948T](#), a testimony before the House Committee on Education and the Workforce

## Why GAO Did This Study

The No Child Left Behind Act (NCLBA) requires that states improve academic performance so that all students reach proficiency in reading and mathematics by 2014 and that achievement gaps close among student groups. States set annual proficiency targets using an approach known as a status model, which calculates test scores 1 year at a time. Some states have interest in using growth models that measure changes in test scores over time to determine if schools are meeting proficiency targets.

The Chairman of the Committee on Education and the Workforce asked GAO to testify on its recent report on measuring academic growth. Specifically, this testimony discusses (1) how many states are using growth models and for what purposes, (2) how growth models can measure progress toward achieving key NCLBA goals, and (3) what challenges states face in using growth models especially to meet the law's key goals.

While growth models may be defined as tracking the same students over time, GAO used a definition that also included tracking the performance of schools and groups of students. In comments on the report, Education said that this definition could be confusing. GAO used this definition of growth to reflect the variety of approaches states were taking.

[www.gao.gov/cgi-bin/getrpt?GAO-06-948T](http://www.gao.gov/cgi-bin/getrpt?GAO-06-948T).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Marnie S. Shaul (202) 512-7215 or [shaulm@gao.gov](mailto:shaulm@gao.gov).

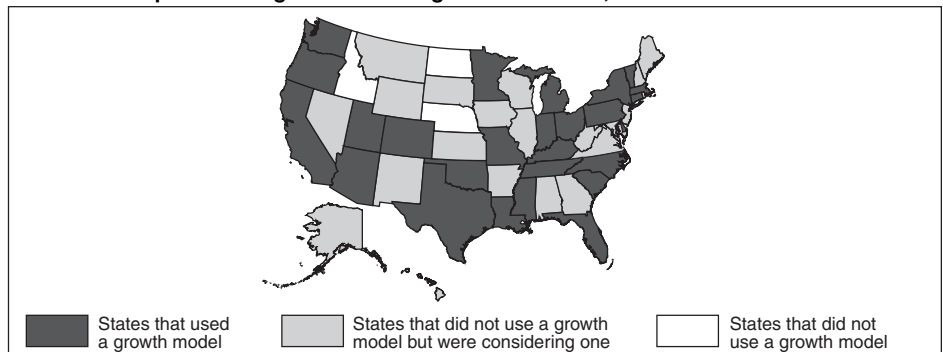
# NO CHILD LEFT BEHIND ACT

## States Face Challenges Measuring Academic Growth

### What GAO Found

Nearly all states were using or considering growth models for a variety of purposes in addition to their status models as of March 2006. Twenty-six states were using growth models, and another 22 were either considering or in the process of implementing them. Most states using growth models measured progress for schools and for student groups, and 7 also measured growth for individual students. States used growth models to target resources for students that need extra help or award teachers bonuses based on their school's performance.

States That Reported Using or Considering Growth Models, as of March 2006



Source: GAO analysis.

Certain growth models are capable of tracking progress toward the goals of universal proficiency by 2014 and closing achievement gaps. For example, Massachusetts uses its model to set targets based on the growth that it expects from schools and their student groups. Schools can make adequate yearly progress (AYP) if they reach these targets, even if they fall short of reaching the statewide proficiency targets set with the state's status model. Tennessee designed a model that projects students' test scores and whether they will be proficient in the future. In this model, if 79 percent of a school's students are predicted to be proficient in 3 years, the school would reach the state's 79 percent proficiency target for the current school year (2005-2006).

States face challenges measuring academic growth, such as creating data and assessment systems to support growth models and having personnel to analyze and communicate results. The use of growth models to determine AYP may also challenge states to make sure that students in low-performing schools receive needed assistance. U.S. Department of Education (Education) initiatives may help states address these challenges. Education started a pilot project for states to use growth models that meet the department's specific criteria, including models that track progress of individual students, to determine AYP. Education also provided grants to states to track individual test scores over time.

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Mr. Chairman and Members of the Committee:

I am pleased to be here today to discuss our report, which describes how states use growth models to measure academic performance and how these models can measure progress toward achieving key goals of the No Child Left Behind Act of 2001 (NCLBA). With annual expenditures approaching \$13 billion dollars for Title I alone, NCLBA represents the federal government's single largest investment in the education of the 48 million students who attend public schools. The NCLBA—the most recent reauthorization of the Elementary and Secondary Education Act of 1965—requires states to improve academic performance so that all students are proficient by 2014 and achievement gaps among groups such as economically disadvantaged students close. The upcoming reauthorization of the law presents an opportunity to discuss some key issues associated with the act.

To measure whether schools are making adequate yearly progress (AYP) toward having all students proficient by 2014, states set annual proficiency targets using an approach known as a status model, which calculates test scores 1 year at a time. With status models, states or districts determine whether schools make AYP based on performance for the year while generally not taking into account how much better or worse the school did than during the previous year. Thus, a school that is showing significant improvement in student achievement but has too few students at the proficient level would not likely make AYP.

In addition to determining whether schools meet proficiency targets, some states have interest in also recognizing schools that make progress toward NCLBA goals. Growth models can measure progress in achievement or proficiency over time and vary in complexity, such as calculating annual progress in a school's average test scores from year to year; estimating test score progress while taking into account how factors such as student background may affect such progress; or projecting future scores based on current and prior years' results. While growth models are sometimes defined as tracking the same students over time, because of the committee's interest in the range of models states are using to measure academic improvement, we define a growth model as a model that measures changes in proficiency levels or test scores of a student, group, grade, school, or district for 2 or more years. We included models that track schools and student groups in order to provide a broad assessment of options that may be available to states.

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My testimony today will focus on how growth models may provide useful information on academic performance. Specifically, I will discuss (1) how many states are using growth models and for what purposes, (2) how growth models can measure progress toward achieving key NCLBA goals, and (3) what challenges states face in using growth models especially to meet the law's key goals.

My written statement is drawn from our recent report on growth models, which we completed for the committee.<sup>1</sup> For this report, we conducted a survey of all states to determine whether they were using growth models. We conducted telephone interviews with state and local education agency officials in eight states that collectively use a variety of growth models, and conducted site visits to California, Massachusetts, North Carolina and Tennessee. For Massachusetts and Tennessee we analyzed student-level data from selected schools to illustrate how their models measure progress toward key NCLBA goals. We conducted this work in accordance with generally accepted government auditing standards.

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## Summary

In summary, nearly all states were using or considering growth models for a variety of purposes in addition to their status models as of March 2006. Twenty-six states were using growth models, and another 22 were either considering or in the process of implementing them. Most states that used growth models did so for schools as a whole and for particular groups of students, and 7 also measured growth for individual students. For example, Massachusetts measured growth for schools and groups of students but does not track individual students' scores, while Tennessee set different expectations for growth for each student based on the student's previous test scores. Seventeen of the states that used growth models had been doing so prior to passage of the NCLBA, while 9 began after the law's passage. States used their growth models for a variety of purposes, such as targeting resources for students that need extra help or awarding teachers bonus money based on their school's relative performance.

Certain growth models are capable of tracking progress toward the goals of universal proficiency by 2014 and closing achievement gaps. For

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<sup>1</sup> GAO, *No Child Left Behind Act: States Face Challenges Measuring Academic Growth That Education's Initiatives May Help Address*, [GAO-06-661](#) (Washington, D.C.: July 17, 2006).

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example, Massachusetts uses its model to set targets based on the growth that it expects from schools and their student groups. Schools can make AYP if they reach these targets, even if they fall short of reaching the statewide proficiency targets set with the state's status model. Tennessee designed a model, different from the one used for state purposes described above, that projects students' test scores and whether they will be proficient in the future. In this model, if 79 percent of a school's students are predicted to be proficient in 3 years, the school would reach the state's 79 percent proficiency target for the current school year (2005-2006).

States face challenges in developing and implementing growth models that would allow them to meet NCLBA goals. Technical challenges include creating data and assessment systems to meet the substantial data requirements of growth models and having personnel that can analyze and communicate growth model results. For example, states need to have tests that are comparable from one year to the next to accurately measure progress. Further, some models require sophisticated data systems that have the capacity to track individual student performance across grades and schools. Using growth models can present risks for states if schools are designated as making AYP while still needing assistance to progress. For example, one school in Tennessee that did not make AYP under the status model would make AYP under the state's proposed growth model. This school is located in a high-poverty, inner-city neighborhood and has been receiving federal assistance targeted to improving student performance. If the school continues to make AYP under the growth model, its students would no longer receive federally required services, such as tutoring or the option of transferring to a higher performing school. On the other hand, the school's progress may result in its making AYP in the future under the state's status model. U.S. Department of Education (Education) initiatives may help states address these challenges. For example, Education started a pilot project for states to use growth models that meet the department's specific criteria to determine AYP. Education also provided grants to states to support their efforts to track individual test scores over time.

By proceeding with a pilot project with clear goals and criteria and by requiring states to compare results from their growth model with status model results, Education is poised to gain valuable information on whether or not growth models are overstating progress or whether they appropriately give credit to fast-improving schools. In comments on a draft of our recent report, Education expressed concern that the use of a broader definition of growth models would be confusing. GAO used this

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definition in order to reflect the variety of approaches states have been taking to measure growth in academic performance.

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## Background

The NCLBA<sup>2</sup> requires states to set challenging academic content and achievement standards in reading or language arts and mathematics<sup>3</sup> and determine whether school districts and schools make AYP toward meeting these standards.<sup>4</sup> To make AYP, schools generally must:

- show that the percentage of students scoring at the proficient level or higher meets the state proficiency target for the school as a whole and for designated student groups,
- test 95 percent of all students and those in designated groups, and
- meet goals for an additional academic indicator, such as the state's graduation rate.

The purpose of Title I Part A is to improve academic achievement for disadvantaged students. Schools receiving Title I federal funds that do not make AYP for 2 or more years in a row must take action to assist students, such as offering students the opportunity to transfer to other schools or providing additional educational services like tutoring.

States measure AYP using a status model that determines whether or not schools and students in designated groups meet proficiency targets on state tests 1 year at a time. States generally used data from the 2001-2002 school year to set the initial percentage of students that needed to be proficient for a school to make AYP, known as a starting point. From this point, they set annual proficiency targets that increase up to 100 percent by 2014. For example, for schools in a state with a starting point of 28 percent to achieve 100 percent by 2014, the percentage of students who scored at or above proficient on the state test would have to increase by

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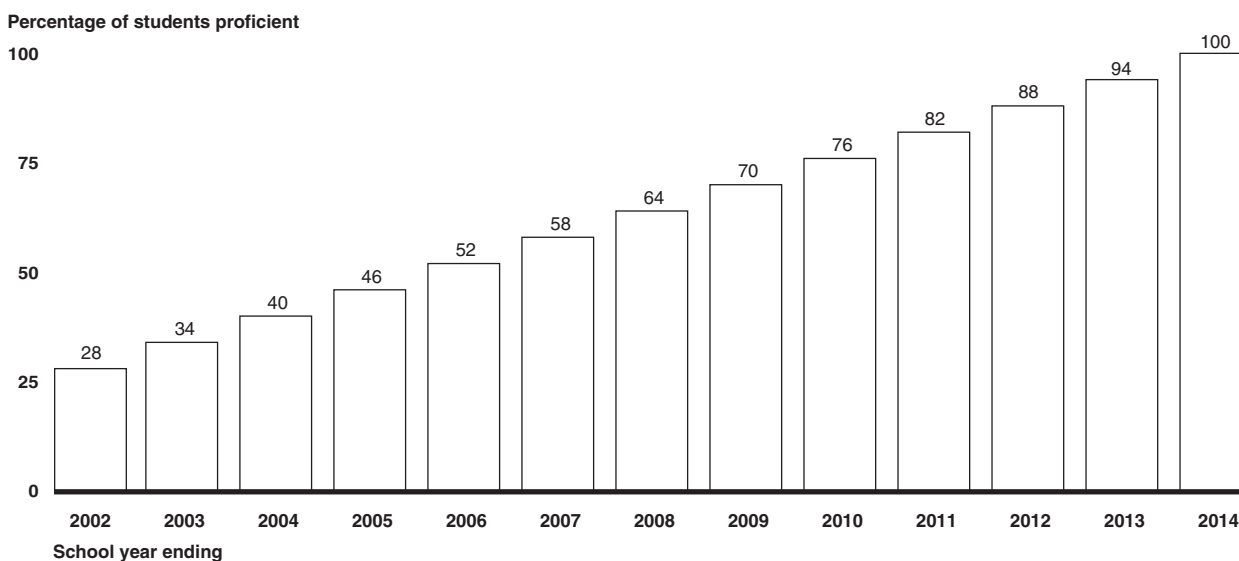
<sup>2</sup> Pub. L. No. 107-110 (Jan. 8, 2002).

<sup>3</sup> The law also requires content standards to be developed for science beginning in the 2005-2006 school year and science tests to be implemented in the 2007-2008 school year.

<sup>4</sup> States determine whether schools and school districts make AYP or not. For this report, we will discuss AYP determinations in the context of schools.

6 percentage points each year, as shown in figure 1.<sup>5</sup> Schools that do not reach the state target will generally not make AYP.

**Figure 1: Hypothetical Example of Annual Proficiency Targets Set under a Status Model**



Source: GAO.

The law indicates that states are expected to close achievement gaps, but does not specify annual targets to measure progress toward doing so. States, thus, have flexibility in the rate at which they close these gaps. To determine the extent that achievement gaps are closing, states measure the difference in the percentage of students in designated student groups and their peers that reach proficiency. For example, an achievement gap exists if 40 percent of a school's non-economically disadvantaged students were proficient compared with only 16 percent of economically disadvantaged students, a gap of 24 percentage points. To close the gap, the percentage of students in the economically disadvantaged group that reaches proficiency would have to increase at a faster rate than that of their peers.

<sup>5</sup> States were able to map out different paths to universal proficiency subject to certain limitations. For example, states must increase the targets at least once every 3 years and those increases must lead to 100 percent proficiency by 2014. See GAO, *No Child Left Behind Act: Improvements Needed in Education's Process for Tracking States' Implementation of Key Provisions*, GAO-04-734, (Washington, D.C.: Sept. 30, 2004).

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If a school misses its status model target in a single year, the law includes a “safe harbor” provision that provides a way for schools that are showing significant increases in proficiency rates of student groups to make AYP. Safe harbor measures academic performance in a way that is similar to certain growth models do and allows a school to make AYP by reducing the percentage of students in designated student groups that were not proficient by 10 percent, so long as the groups also show progress on another academic indicator. For example, in a state with a status model target of 40 percent proficient, a school could make AYP under safe harbor if 63 percent of a student group was not proficient compared to 70 percent in the previous year.

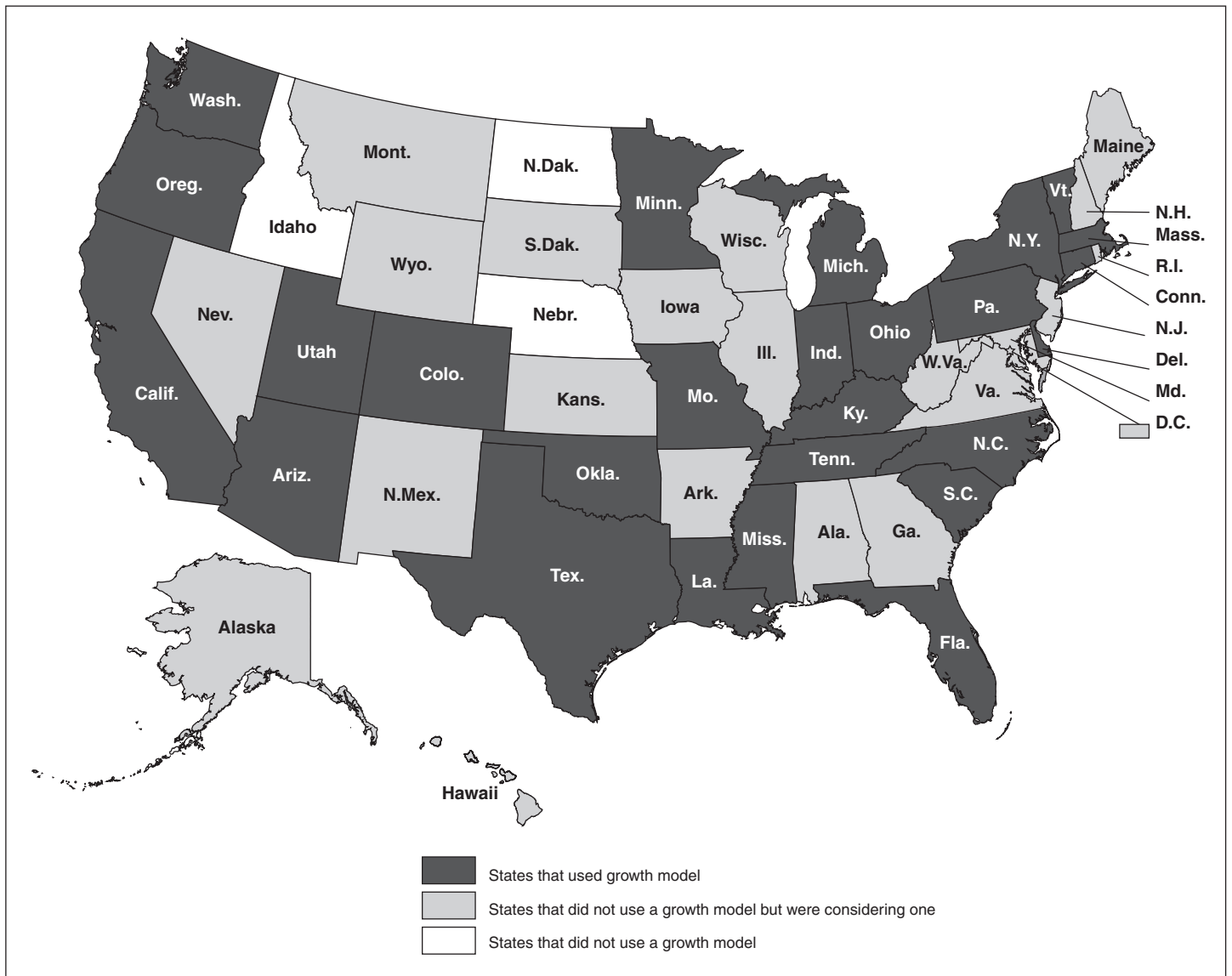
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## Nearly All States Reported Using or Considering Growth Models to Measure Academic Performance

Twenty-six states reported using growth models in addition to using their status models to track the performance of schools, designated student groups, or individual students, as reported in our March 2006 survey. Additionally, nearly all states are considering the use of growth models (see fig. 2).



**Figure 2: States That Reported Using or Considering Growth Models, as of March 2006**



Source: GAO survey.

Of the 26 states using growth models, 19 states reported measuring changes for schools and student groups, while 7 states reported measuring changes for schools, student groups, and individuals, as shown in table 1.

**Table 1: Types of Growth Models and States Using Them, as of March 2006**

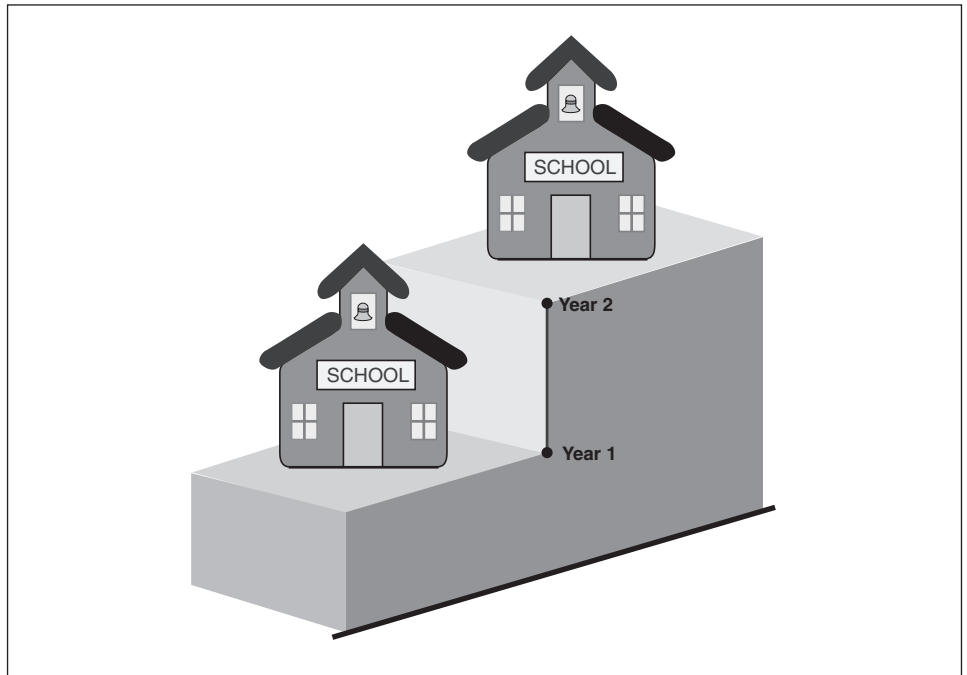
<b>Measures growth of schools and groups</b>	<b>Measures growth of schools, groups, and individual students</b>
Compares the change in scores or proficiency levels of schools or groups of students over time.	Compares the change in scores or proficiency levels of schools, groups of students, and individual students over time.
Data requirements, such as measuring proficiency rates for schools or groups, are similar to those for status models.	Data requirements, such as tracking the proficiency levels or test scores for individual students, are typically more involved than those for status models.
Arizona California Colorado Connecticut Delaware Indiana Kentucky Louisiana Massachusetts Michigan Minnesota Missouri New York Ohio Oklahoma Oregon Pennsylvania Vermont Washington	Florida Mississippi North Carolina South Carolina Tennessee Texas Utah

Source: GAO survey.

For example, Massachusetts used a model that measures growth for the school as a whole and for designated student groups. The state awards points to schools in 25-point increments for each student,<sup>6</sup> depending on how students scored on the state test. Schools earn 100 points for each student who reaches proficiency, but fewer points for students below proficiency. The state averages the points to award a final score to schools. Growth in Massachusetts is calculated by taking the difference in the annual scores that a school earns between 2 years. Figure 3 illustrates the growth a school can make from one year to the next as measured by Massachusetts model.

<sup>6</sup> Students with disabilities are generally included in these calculations. The state is allowed to give different tests to students with significant cognitive impairments and to count them differently for calculating points awarded to schools.

**Figure 3: Illustration of School-Level Growth**

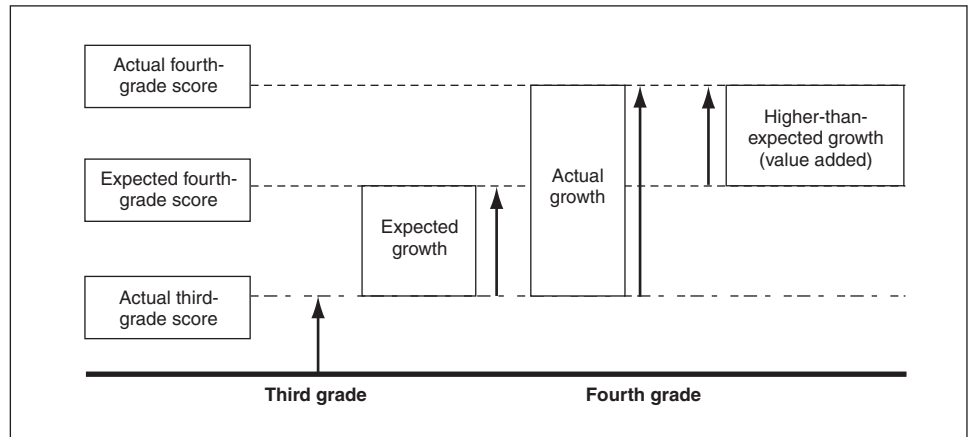


Sources: GAO and Art Explosion.

Tennessee reported using a growth model that sets different goals for each individual student based on the students' previous test scores. The goal is the score that a student would be expected to receive, and any difference between a student's expected and actual score is considered that student's amount of yearly growth,<sup>7</sup> as shown in figure 4.

<sup>7</sup> Tennessee's growth model mentioned here is not used to make AYP determinations under NCLBA. However, Tennessee developed a different growth model to determine AYP for Education's growth model pilot project. That model is discussed later in this testimony.

**Figure 4: Example of Higher-than-Expected Growth for a Fourth-Grade Student under Tennessee’s Model**



Source: GAO illustration based on information provided by the state of Tennessee.

In addition, Tennessee’s model, known as the Tennessee Value-Added Assessment System, estimates the unique contribution—the value added—that the teacher and school make to each individual student’s growth in test scores over time.<sup>8</sup> The state then uses that amount of growth, the unique contribution of the school, and other information to determine whether schools are below, at, or above their level of expected performance. The model also grades schools with an A, B, C, D, or F, which is considered a reflection of the extent to which the school is meeting its requirements for student learning.

Seventeen of the 26 states using growth models reported that their models were in place before the passage of the NCLBA during the 2001-2002 school year, and the remaining 9 states implemented them after the law was passed. States used them for purposes such as rewarding effective teachers and designing intervention plans for struggling schools. For example, North Carolina used its model as a basis to decide whether teachers receive bonus money. Tennessee used its value-added model to provide information about which teachers are most effective with which student groups. In addition to predicting students’ expected scores on state tests, Tennessee’s model was used to predict scores on college

<sup>8</sup> The state calculates the unique contribution of schools and teachers by using a multivariate, longitudinal statistical method where results are estimated using data specific for students within each classroom or school.

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admissions tests, which is helpful for students who want to pursue higher education. In addition, California used its model to identify schools eligible for a voluntary improvement program.

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## Certain Growth Models Can Measure Progress toward Key NCLBA Goals

Certain growth models can measure progress in achieving key NCLBA goals of reaching universal proficiency by 2014 and closing achievement gaps. While states developed growth models for purposes other than NCLBA, states such as Massachusetts and Tennessee have adjusted their state models to use them to meet NCLBA goals. The Massachusetts model has been used to make AYP determinations as part of the state's accountability plan in place since 2003. Tennessee submitted a new model to Education for the growth models pilot that differs from the value-added model described earlier. This new model gives schools credit for students projected to reach proficiency within 3 years in order to meet key NCLBA goals. Our analysis of how models in Massachusetts and Tennessee can measure progress toward the law's two key goals is shown in table 2.

**Table 2: How a Status Model and Certain Growth Models Measure Progress in Achieving Key NCLBA Goals**

	<b>Status model</b>	<b>Growth models</b>	
		Massachusetts (school-level and group-level)	Tennessee <sup>a</sup> (student-level)
Universal proficiency by 2014	Sets same annual proficiency target for all schools in the state	Sets biennial growth targets for each school/group in the state	Sets same annual proficiency target for all schools in the state
	State proficiency targets increase incrementally to 100% by 2014	School/group growth targets increase incrementally to 100% proficiency by 2014; increments may be different by school/group	State proficiency targets increase incrementally to 100% by 2014 Projects future test scores to determine if students may be proficient
	School makes AYP if it reaches the state proficiency target	School makes AYP if it reaches the state proficiency target or its own growth model targets	School makes AYP if it reaches the state proficiency target based on students projected to be proficient in the future
Closing achievement gaps	State proficiency target applies to each student group in all schools	Each student group in a school has its own growth target	State proficiency target applies to each student group in all schools
	School makes AYP if each student group reaches the state proficiency target	School makes AYP if each student group reaches the state proficiency target or its own growth model target	School makes AYP if each student group reaches the state proficiency target based on students projected to be proficient in the future

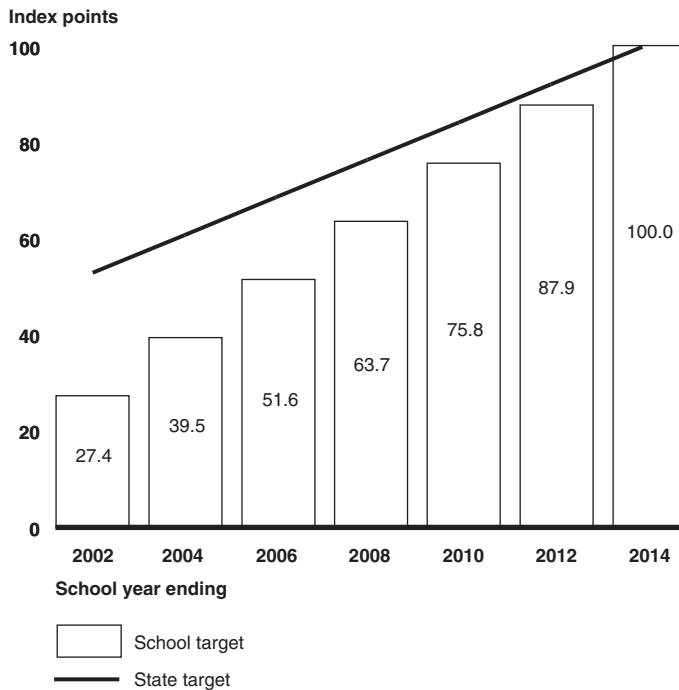
Source: GAO analysis of NCLBA and of information provided by the states of Massachusetts and Tennessee.

Note: Additional requirements for schools to make AYP are described in the background section of our report. Massachusetts refers to proficiency targets as performance targets and refers to growth targets as improvement targets.

<sup>a</sup>The information presented in this table reflects the model Tennessee proposed to use as part of Education's growth model pilot project, as opposed to the value-added model it uses for state purposes. The information is based on the March 2006 revision of the proposal the state initially made in February 2006.

Massachusetts designed a model that can measure progress toward the key goals of NCLBA by setting targets for the improvement of schools and their student groups that increase over time until all students are proficient in 2014. Schools can get credit for improving student proficiency even if, in the short term, the requisite number of students has yet to reach the state's status model proficiency targets. For example, figure 5 illustrates a school that is on track to make AYP annually through 2014 by reaching its growth targets. While these growth targets increase at a faster pace than the state's annual proficiency target until 2014, they do provide the school with an additional measure by which it can make AYP.

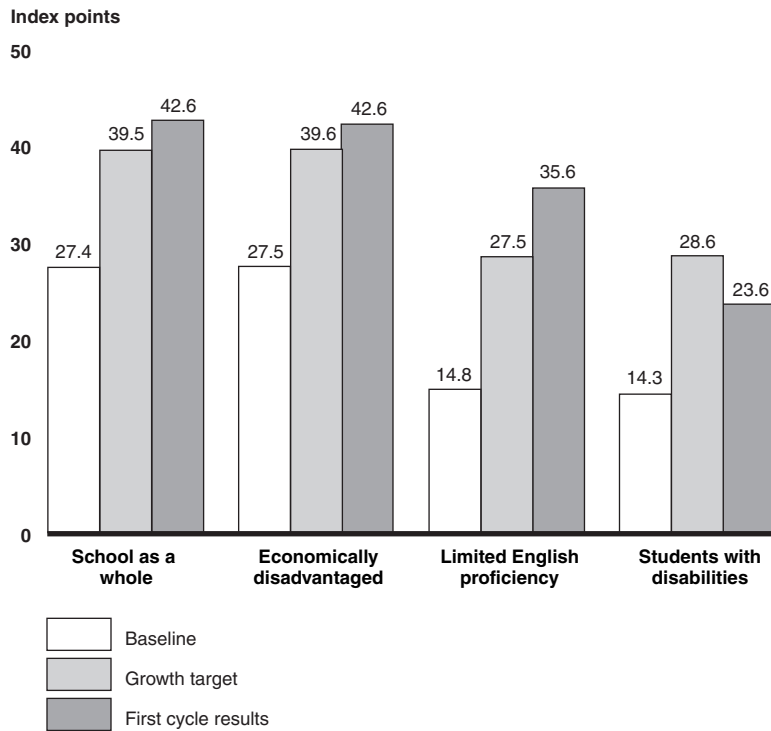
**Figure 5: Targets for a Selected School in Massachusetts Compared to State Status Model Targets**



Source: GAO analysis of data provided by Massachusetts Department of Education; *Commonwealth of Massachusetts Consolidated State Application Accountability Workbook*, June 29, 2005.

The model also measures whether achievement gaps are closing by setting targets for designated student groups, similar to how it sets targets for schools as a whole. Schools that increase proficiency too slowly—that is, do not meet status or growth targets—will not make AYP. For example, one selected school in Massachusetts showed significant gains for several designated student groups that were measured against their own targets. However, the school did not make AYP because gains for one student group were not sufficient. This group—students with disabilities—fell short of its growth target, as shown in figure 6.

**Figure 6: Results for a Selected School in Massachusetts in Mathematics**



Source: GAO analysis of data provided by the Massachusetts Department of Education.

Tennessee developed a different model that can also measure progress toward the NCLBA goals of universal proficiency and closing achievement gaps. Tennessee created a new version of the model it had been using for state purposes to better align with NCLBA.<sup>9</sup> Referred to as a projection model, this approach projects individual student's test scores into the future to determine when they may reach the state's status model proficiency targets.

In order to make AYP under this proposal, a school could reach the state's status model targets by counting as proficient in the current year those students who are predicted to be proficient in the future. The state projects scores for elementary and middle school students 3 years into the future to determine if they are on track to reach proficiency, as follows:

<sup>9</sup> Tennessee continues to use its original model to rate schools based in part on the unique contributions—or the value added—of school to student achievement.



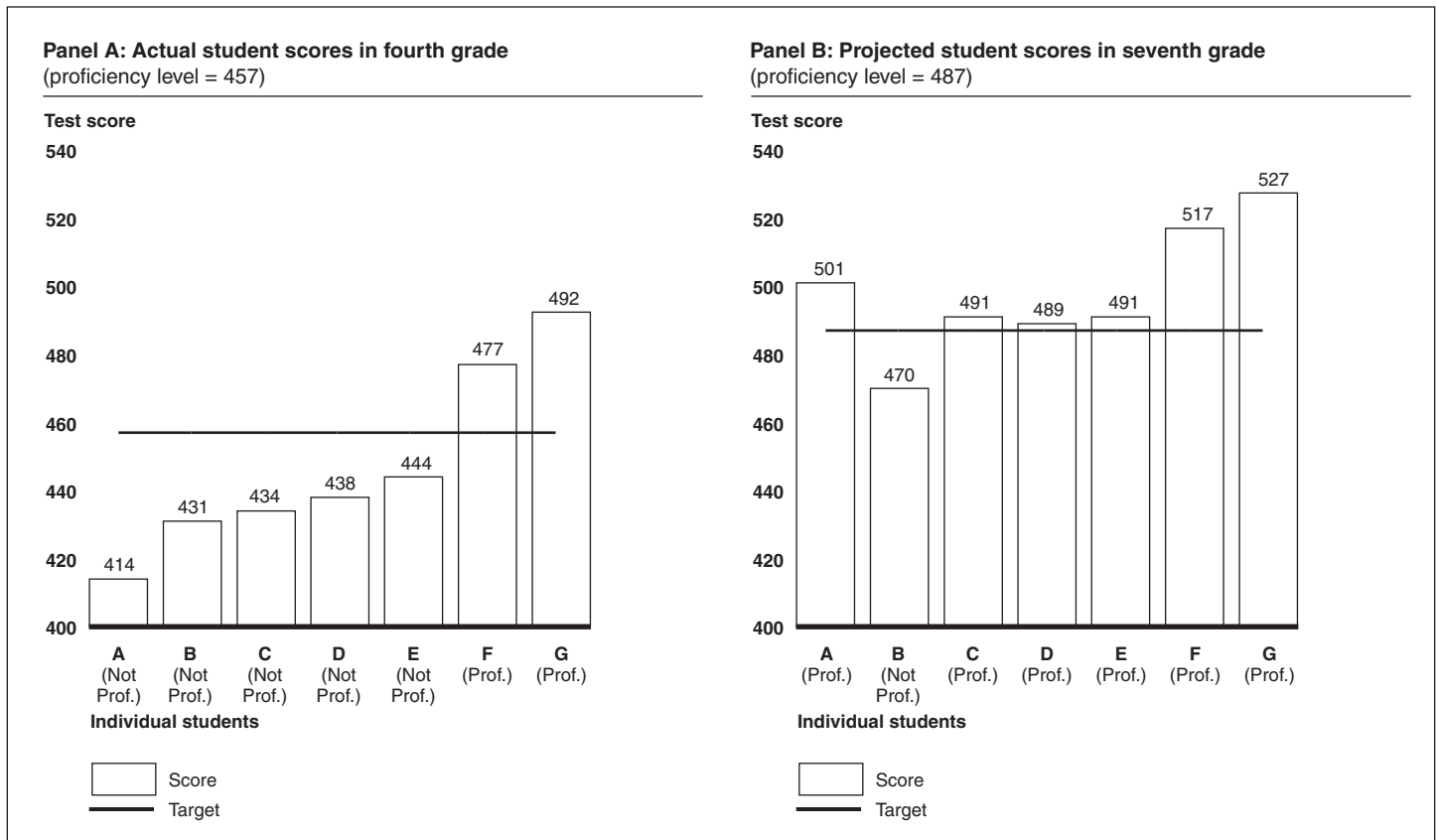
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- fourth-grade students projected to reach proficiency by seventh grade,
  - fifth-grade students projected to reach proficiency by eighth grade, and
  - sixth-, seventh-, and eighth-grade students projected to reach proficiency on the state's high school proficiency test.

These projections are based on prior test data and assume that the student will attend middle or high schools with average performance (an assumption known as average schooling experience).<sup>10</sup> At our request, Tennessee provided analyses for students in several schools that would make AYP under the proposed model. To demonstrate how the model works, we selected students from a school and compared their actual results in fourth grade (panel A) with their projected results for seventh grade (panel B) (see fig. 7).

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<sup>10</sup> While Tennessee's model estimates future performance, other models are able to measure growth without these projections. For example, Florida uses a model that calculates results for individual students by comparing performance in the current year with performance in prior years.

**Figure 7: Results for Selected Students in Mathematics from a School in Tennessee**



Source: Tennessee Department of Education.

Note: The same students are presented in both panels (for example, student A in panel A is the same student as student A in panel B). While these data reflect the scores of individual students, Tennessee provided data to GAO in such a way that student privacy and confidentiality were ensured. Data are illustrative and are not meant to be a statistical representation of the distribution of students in this school.

Tennessee’s proposed model can also measure achievement gaps. Under NCLBA, a school makes AYP if all student groups meet the state proficiency target. In Tennessee’s model, whether the achievement gap is potentially closed would be determined through projections of students’ performance in meeting the state proficiency target.

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## States Face Challenges in Implementing Growth Models

States generally face challenges in collecting and analyzing the data required to implement growth models including models that would meet the law's goals. In addition, using growth models can present risks for states if schools are designated as making AYP while still needing assistance to progress. Education has initiatives that may help states address these challenges.

States must have certain additional data system requirements to implement growth models, including models that would meet NCLBA requirements.

First, a state's ability to collect comparable data over at least 2 years is a minimum requirement for any growth model. States must ensure that test results are comparable from one year to the next and possibly from one grade to the next, both of which are especially challenging when test questions and formats change. Second, the capacity to collect data across time and schools is also required to implement growth models that use student-level data. This capacity often requires a statewide system to assign unique numbers to identify individual students. Developing and implementing these systems is a complicated process that includes assigning numbers, setting up the system in all schools and districts, and correctly matching individual student data over time, among other steps. Third, states need to ensure that data are free from errors in their calculations of performance. While ensuring data accuracy is important for status models, doing so is particularly important for growth models, because errors in multiple years can accumulate, leading to unreliable results.

States also need greater research and analysis expertise to use growth models as well as support for people who need to manage and communicate the model's results. For example, Tennessee officials told us that they have contracted with a software company for several years because of the complexity of the model and its underlying data system. Florida has a contract with a local university to assist it with assessing data accuracy, including unique student identifiers required for its model. In addition, states will incur training costs as they inform teachers, administrators, media, legislators, and the general public about the additional complexities that occur when using growth models. For example, administrators in one district in North Carolina told us that their district lacks enough specialists who can explain the state's growth model to all principals and teachers in need of guidance and additional training.

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Using growth models can present risks for states if schools are designated as making AYP while still needing assistance to progress. On the basis of growth model results, some schools would make AYP even though these schools may have relatively low-achieving students. As a result, some students in Title I schools may be disadvantaged by not receiving federally-required services.

In two Massachusetts districts that we analyzed, 23 of the 59 schools that made AYP did so based on the state's growth model, even though they did not reach the state's status model proficiency rate targets in 2003-2004.<sup>11</sup> Consequently, these schools may not be eligible to receive services required under NCLBA for schools in need of improvement, such as tutoring and school choice. Because these schools would need to sustain high growth rates in order to achieve universal proficiency by 2014, it is likely that their students would benefit from additional support.

In Tennessee, 47 of the 353 schools that had not made AYP in the 2004-2005 school year would do so under the state's proposed projection model. One school that would be allowed to make AYP under the proposed model was located in a high-poverty, inner-city neighborhood. That school receives Title I funding, as two-thirds of its students are classified as economically disadvantaged. The school was already receiving services required under NCLBA to help its students. If the school continues to make AYP under the growth model, these services may no longer be provided.

Education's initiatives, such as the growth model pilot project, may facilitate growth model implementation. In November 2005, Education announced a pilot project for states to submit proposals for using a growth model—one that meets criteria established by the department—along with their status model, to determine AYP. While NCLBA does not specify the use of growth models for making AYP determinations, the department started the pilot to evaluate how growth models might help schools meet NCLBA proficiency goals and close achievement gaps.

For the growth model pilot project, each state had to demonstrate how its growth model proposal met Education's criteria, many of which are consistent with the legal requirements of status models. In addition to

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<sup>11</sup> Another 11 schools also met the growth target, but these 11 schools made AYP under NCLBA's safe harbor provision.

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those requirements, Education included criteria that the proposed models track student progress over time and have an assessment system with tests that are comparable over time. Of the 20 proposals, Education approved 2 states—North Carolina and Tennessee—to use growth models to make AYP determinations in the 2005-2006 school year. States may submit proposals for the pilot again this fall.

In addition to meeting all of the criteria, Education and peer reviewers noted that Tennessee and North Carolina had many years of experience with data systems that support growth models. These states must report to Education the number of schools that made AYP on the basis of their status and growth models. Education expects to share the results with other states, Congress, and the public after it assesses the effects of the pilot.

In addition to the growth model pilot project, Education awarded nearly \$53 million in grants to 14 states for the design and implementation of statewide longitudinal data systems—systems that are essential for the development of student-level growth models. While independent of the pilot project, states with a longitudinal data system—one that gathers data such as test scores on the same student from year to year—will be better positioned to implement a growth model than they would have been without it. Education intended the grants to help states generate and use accurate and timely data to meet reporting requirements, support decision making, and aid education research, among other purposes. Education plans to disseminate lessons learned and solutions developed by states that received grants.

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## Conclusion

While status models provide a snapshot of academic performance, growth models can provide states with more detailed information on how schools' and students' performance has changed from year to year. Growth models can recognize schools whose students are making significant gains on state tests but are still not proficient. Educators can use information about the academic growth of individual students to tailor interventions to the needs of particular students or groups. In this respect, models that measure individual students' growth provide the most in-depth and useful information, yet the majority of the models currently in use are not designed to do this.

Through its approval of Massachusetts' model and the growth model pilot program, Education is proceeding prudently in its effort to allow states to use growth models to meet NCLBA requirements. Education is allowing

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only states with the most advanced models that can measure progress toward NCLBA goals to use the models to determine AYP. Under the pilot project, which has clear goals and criteria that requires states to compare results from their growth model with status model results, Education is poised to gain valuable information on whether or not growth models are overstating progress or whether they appropriately give credit to fast-improving schools.

While growth models may be defined as tracking the same students over time, GAO used a definition that also includes tracking the performance of schools and groups of students. In comments on our report, Education expressed concern that this definition may confuse readers because it is very broad and includes models that compare changes in scores or proficiency levels of schools or groups of students. GAO used this definition of growth to reflect the variety of approaches states are taking to measure academic progress.

Mr. Chairman, this concludes my prepared statement. I would be happy to respond to any questions that you or members of the committee may have.

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## GAO Contact and Staff Acknowledgments

For more information on this testimony, please call Marnie S. Shaul at (202) 512-7215. Individuals making key contributions to this testimony include Blake Ainsworth, Karen Febey, Harriet Ganson, Shannon Groff, Andrew Huddleston, Jason Palmer, and Rachael Valliere.

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