

HAWAII DEPARTMENT OF EDUCATION
GROWTH MODEL PROPOSAL
FEBRUARY 17, 2006

EXECUTIVE SUMMARY

Background

The Hawaii Department of Education is pleased to submit our proposed growth model plan to the United States Department of Education. This proposal fully demonstrates our State's commitment to the primary objectives of No Child Left Behind (NCLB) and comprehensively explains how the growth model will be used to complement the already existing accountability structure.

Four factors converge to place Hawaii in a unique position to effectively implement a growth model and integrate it with our existing accountability system:

- Among the 50 states, Hawaii has a long, if not the longest history of statewide, unique student identifiers, and our experience tracking individual students extends back to the 1970s.
- We have tested all students with criterion-referenced tests in grades 3–8 and 10 in both reading and mathematics since 2004–05.
- We have recently engaged the American Institutes for Research (AIR) to implement our testing system, bringing some of the nation's leading experts in psychometrics, statistics, and student growth models and ensuring the technical quality of our vertical scales and growth models.
- Our superintendent and school board are publicly and ideologically committed to standards-driven reform and have demonstrated this commitment through their allocation of resources.

We are confident in the technical adequacy of our assessment instruments and our proposed growth model. Furthermore, we believe that the implementation of our proposed design will serve as a proof of the concept to other states and will demonstrate how such models can be integrated within NCLB accountability structures and support the identification of effective schools.

Alignment with NCLB

As detailed in our plan, the growth model will align with the core principles of NCLB and we remain committed to universal proficiency for all students by 2013–14. Specifically, the following principles guided the development of this growth model:

- All students are expected to reach proficiency.
- Students must be on a growth trajectory that places them on track to reach proficiency within a three-year period.
- The Annual Measurable Objectives (AMO) for growth must be more stringent than the AMOs for the current status model.
- The system for reporting student progress must communicate the results of the growth model to all audiences by using simple text and visual displays, not complex reports with statistical data.

These key issues formed the foundation for all technical developments presented herein.

Purpose of the Growth Model

The model presented is designed to identify schools that have started with a student population significantly below the AYP threshold but are making remarkable gains with these students. Typically, these schools would be labeled underperforming. However, they are in fact among the highest performing schools in the state. This fact may be obscured because these schools often begin the year with students scoring significantly below the benchmark needed to make AYP in the current model. However, these schools have made such great strides with this student population that a significant proportion of the students are now on track to reach the proficient cut point within a very short time.

Hence, our model is designed to identify these schools and to ensure that their tremendous efforts are recognized in a fair accountability structure. Moreover, our model retains rigor in that the adequacy of the growth rate for individual students will be judged within a standards-based framework. In other words, a student's growth rate is considered adequate only if it places this student on a path toward the proficient benchmark three years hence. This short timeline was intentionally selected to ensure that schools accept instructional responsibility for all their students, which we believe would not occur if students were expected to be proficient at a distal endpoint, such as grade 10.

We have devoted significant attention to describing the technical aspects of our growth model, which rests on statistical methods rooted in accepted scientific practice. We firmly believe that the use of educational data for high-stakes accountability systems warrants such attention to ensure that end users of the data make decisions and classify students and schools appropriately. Because our highest aim is to provide policymakers with reliable data for decision making that distinguishes measurement and sampling error from true instructional quality, anything less would be a disservice to the students and schools in our state.

For example, our model is unique in that we use the entire probability distribution surrounding each student's score to estimate aggregate proportions of students on track to reach proficiency three years hence. This allows us to make probabilistic statements regarding student growth patterns rather than assume that each student's growth rate is fixed. This technical guard is in place to ensure that certain conclusions regarding school effects are not made beyond what the actual data can support.

We also believe that accountability data should provide educators and parents with useful information that they can apply to make instructional changes that will increase student achievement. This is best accomplished when the results rest on technically adequate methods and are reported to parents and educators in a transparent and meaningful way. Therefore, we are undertaking a significant effort to develop variable

information score reports that communicate the results of growth data to all audiences through straightforward language, not complex statistical data. Furthermore, our reports will offer recommendations based on how the student, or a group of students, is performing in each school. When reported in such a transparent manner, the data become a useful resource to spur improvements at all levels.

Summary

Hawaii is well positioned to implement this growth model. Our assessment system has the necessary foundations to support the measurement of student progress, the goals of the model are aligned with the primary aims of NCLB, the technical design of our model is rigorous and meets standards of statistical practice, and our methods for reporting rely on new technologies that have been proven to help audiences better understand and use assessment data.

Our growth model in no way compromises the rigor expected of state accountability plans. In fact, we have taken careful steps to demonstrate how using the growth model will add an extra element to the current accountability design. Therefore, we now have an additional indicator that will help support the identification of those schools making great strides with their students.