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ABSTRACT

This paper reviews a descriptive model that attempts to build a relationship between funding and school effectiveness. The model describes schools in terms of their component parts. The model allows policymakers to make assumptions about how much improvement in student performance should be expected as a result of changes in funding. It also allows projections on the specific impacts of funding cuts on educational programs. The purpose of the model is not to dictate specific strategies or organizational structures to local schools. Instead, it is designed to demonstrate that a certain level of funding can be reasonably associated with a certain level of student performance. The paper explains the model, its composition, and its relationship to local control. The report explains the hypothetical school approach and discusses assumptions about the schools and why assumptions are important. The paper discusses the characteristics of schools, a school's program elements and components, and how assumptions and costs for components are calculated using the model. The paper explores how the model works with elementary schools, middle schools, and high schools. The paper then calculates the total cost for a K-12 education in Oregon. It details phased implementation of the model, the model's full implementation, and two approaches to implementation. (RJM)

# Quality Education Model Final Report

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## I. Introduction: what we are trying to accomplish (rationale and goal)

The process of determining the proper level of funding for Oregon schools is a difficult and contentious one. Particularly since the passage in 1991of Measure 5, more and more responsibility for K-12 funding has fallen on the Legislature while the tools available to legislators to determine what the right funding level is, or the effects of any change in funding, have not grown proportionately. Legislators are still left making general assertions whether they favor increasing or decreasing funding. In this climate it is difficult to ascertain with any certainty what changes in student performance might be expected as a result of any increase or decrease in funding.

Measure 5 effectively moved control of local school finance to the Legislature. At the same time Oregon retains a local control governance model for its public schools. This creates a new and potentially more contentious relationship between the Legislature and local school districts. Given that the state now provides approximately 70 percent of the funding to most districts, the districts are inclined to place ever greater pressure on the Legislature for funding increases. At the same time, the Legislature has no real way to know what level of funding is actually needed for schools. The net effect is that setting education funding levels is simultaneously the most critical aspect of state budget building and perhaps the least precise.

Following the passage of Measure 5, the Oregon Legislature undertook two major policy shifts for public education during its 1991 session. The first was passage of H.B. 3565, which for the first time authorized the state to develop standards for what students should know and assessments to determine how well they had mastered the knowledge and skills outlined in the standards. This bill evolved in 1995, as a result of H.B. 2991, into the current system of statewide standards and assessments. This system allows for comparisons among individual schools and school districts to determine what students know and the skills they have mastered.

The second important piece of legislation passed in 1991 mandated funding equalization among districts. This "leveled the playing field" between high and low-spending districts and set the stage for comparisons of the results schools were achieving with similar resources.

The 1997 Legislature funded the Database Initiative Project. This project was designed to create common definitions of various spending functions among all schools. The pilot of this project has been completed and the database is now ready to move to full implementation. All districts will code and report expenditures in a uniform fashion beginning December 1999 so that by January 2001 it will be possible to compare spending among school buildings and districts statewide.

These three pieces of legislation have created commonality among Oregon schools that did not exist before 1991. This commonality of resources available, standards to

be attained, ways attainment is measured, and ways resources are allocated to attain standards creates a framework for understanding for the first time the true relationship between costs and performances. The Quality Education Model allows the state for the first time to think about resources devoted to education in some sort of cause-and-effect relationship.

Costs for other governmental agencies can be disaggregated and considered at a unit level: how much per mile of road resurfaced or constructed, how much per prisoner per bed, etc. The Oregon Health Plan establishes a hierarchy of medical services, then funds to a designated level. Educational costs, on the other hand, have never been broken out in detail in ways that allow comparisons between districts. Nor have the effects of funding decisions on student learning ever before been considered systematically in Oregon.

This model attempts to begin building a relationship between funding and performance. It describes schools in terms of their component parts in a way that closely reflects reality and also suggests possibilities. It allows for the first time to make assumptions about how much improvement in student performance could be expected as a result of changes in funding. It also allows projections on the specific impacts of funding cuts on educational programs. The model creates a framework for focused discussion to identify those educational services that are valued by the state and an implicit commitment to fund those that are deemed essential at levels that result in identified levels of performance.

The purpose of the model is not to dictate specific strategies or organizational structures to local schools. Instead, it is designed to demonstrate hypothetically that a certain level of funding can be reasonably associated with a certain level of student performance. By drawing from the newly-developed fiscal database that will eventually yield comparable data for every school in the state, the relationship between funding, programs, and performance can for the first time be described. The first version of the model presented here uses the database extensively to establish many current actual costs. Over time as the model operates and data are gathered on student performance, differences will emerge among schools. By studying these differences more carefully, it will be possible to ascertain how resources are put to best use in schools. This will allow the model to predict with ever increasing precision the funding level needed for a certain level of achievement to be reached.

The Quality Education Model is not an allocation or distribution tool. It is a predictive model. The model generates a number, an amount of money that should result in certain levels of student achievement, when other assumptions of the model are met. The state is still left with the decision of how exactly to distribute this money to individual school districts and school buildings. The Legislative Council for a Quality Education Model has investigated some of the issues associated with distribution, but its recommendations in these areas are separate from this report and from the model itself. The state will need to reexamine the assumptions and mechanisms of its distribution formula once it begins to use the Quality Education Model and its assumptions to generate an initial figure for school funding.

## II. The Quality Education Model Explained

The Quality Education Model (QEM) is just that, an attempt to describe a quality education that leads to improved performance by all students on Oregon state assessments. It is not a model for how to improve test scores alone. It takes into account all the elements of a quality education. Even though elements of the model go beyond the immediate boundaries of the Oregon content standards and assessments, there is plentiful evidence that the comprehensive program outlined in the model leads to enhanced success by more students than a model focused strictly on academic areas. The model considers the total educational experience. Education is more than state standards and assessments, important as they may be. The QEM takes this more comprehensive view of what it takes for students to reach high levels of achievement while remaining firmly centered on achievement of state standards.

### A. Composition of the model

The model is composed of the 1991 Oregon Education Act as amended, with its academic content, performance standards and assessments of student achievement; the seven developmental goals identified by the Oregon Board of Education; plus appropriate class size, proper professional development for teachers and administrators, adequate duration of instructional time, and sufficient operational support for implementation.

#### 1) Academic content or curriculum

The academic content of curriculum for students in kindergarten through grade 12 includes the following disciplines:

a) English – reading, writing, speaking and listening, literature, and media and technology

b) Mathematics – select and use units and tools for measurement, statistics and probability, algebraic relationships, geometry, mathematic problem solving

c) Science – unifying concepts and processes, physical science, life science, earth and space science, history and nature of science, science and technology, science in personal and social perspectives, scientific inquiry

d) Social sciences – history, civics, geography, economics, social science analysis

e) The Arts – aesthetics and art criticism, historical and cultural perspectives, create, present and perform

f) Second Languages – communication, culture, connection to other disciplines

g) Other academic content: Health Education, Physical Education, Technology

#### 2) Standards

Standards for student achievement for the above six numbered disciplines have been developed by the Oregon Department of Education. The content

standards are the portion of the Common Curriculum Goals related to statewide assessment and the Certificates of Initial and Advanced Mastery.

Local districts are to develop standards for the Other Subjects, thereby providing standards for all K-12 students in all academic areas.

The Certificates of Initial Mastery (CIM) will be awarded by local districts at approximately grade 10 to students who meet performance standards in the areas of English, mathematics, science, social sciences, arts and second languages. The CIM will cover English and mathematics in 1998-1999 and include science, social sciences, arts and second languages by 2002-2003.

Also, CIM students will have opportunities to demonstrate abilities to learn, think, retrieve information, use technology, work effectively as individuals and as individuals in group settings.

The Certificate of Advanced Mastery (CAM) will be awarded, also by local districts, at approximately grade 12 to students who meet Oregon grade 12 performance standards in English, mathematics, science, and social sciences, and grade 12 district performance standards in the arts and second languages.

Students must also participate in an "endorsement area" through work, community, and school-based learning. The six endorsement areas are (a) Arts and Communication, (b) Business and Management, (c) Health Services, (d) Human Resources, (e) Industrial and Engineering Systems, and (f) Natural Resource Systems.

Finally, CAM students must achieve career related learning standards in personal management, problem solving, teamwork, communication, workplace systems, career development and employment foundations.

The Oregon Department is currently developing content standards for the CAM.

3) **Assessment**
Students achievement of standards are assessed by the Oregon department of Education at grades 3, 5, 8, 10, or 12 in English, mathematics, science and social science. There are no state tests in the arts and in second languages. Performance standards define the number, type, and minimum scores required on state and local assessments.

4) **Additional Components**
There are four important components relative to quality learning that the Legislative Council on Education believes should be included in Oregon's Quality Education Model:

a) Class size adequate to allow students to master standards and reach specified levels on assessments

b) Professional development for teachers and administrators to develop necessary skills to implement state standards and improve student performance to specified achievement levels and to deliver the Quality Education Model successfully to all children

a) Duration of instructional time adequate to allow those students who need more time to master the standards the opportunity to do so.

b) Operational support to implement the Quality Education Model, including instructional materials, guidance and counseling, libraries, personnel administration, business and fiscal services.

5) **Additional Goals**

The seven goals identified by the Oregon Board of Education as stated in Oregon Administrative Rules 581-022-1021 (June, 1997) designed to prepare students to function in a rapidly changing world:

a) To insure that all students, regardless of linguistic background, culture, race, gender, capability, or geographic location have access to a quality education in a safe, motivating environment;

b) To hold all Oregon students to rigorous academic standards and expect them to succeed;

c) To provide Oregon students with the opportunities to demonstrate their achievement in knowledge and skills;

d) To encourage parental and community involvement in their student's education;

e) To develop in Oregon students lifelong academic skills to prepare them for an ever-changing world;

f) To develop in Oregon students the core ethical values that our diverse society shares and holds important, including but not limited to: respect, responsibility, caring, trustworthiness, justice and fairness, and civic virtue and citizenship; and

g) To equip Oregon students with the knowledge and skills necessary to pursue the future of their choice and to prepare students to function effectively in various life roles.

**B. Relationship of the model to local control**

The model describes a hypothetical program of instruction in the context of a hypothetical school. The hypothetical school's structure and program are designed in a way that should enable a certain percentage of students to meet state standards. As the components of the model vary, so do the number of students who can be expected to meet the standard in the hypothetical school.

Districts and schools retain the right to organize their program in any fashion they see fit. However, the local school is still expected to meet the assumed student performance level. In other words, a school receiving the level of funding associated with a certain level of student performance could organize however they thought was best for their students, but the school would still be expected to meet the performance levels predicted by the model.

The model is therefore an attempt to bridge the gap between centralized decisions about funding and decentralized decisions about programs while still retaining some level of accountability for funds allocated.

**C. The hypothetical school approach explained**

The model is grounded on the concept of the school as the unit of analysis although funding is still distributed on a per-pupil basis in the model. However, a quality education is considered to include a school's total program. Since state assessment scores are reported by school, it seems logical to consider the effects funding has on a school building. Furthermore, it is possible to demonstrate the effects of funding increases or decreases on the various elements of the school's instructional program with some precision, instead of reporting effects at the district level as is now commonly the practice. This allows policy makers, educators, and parents to understand more clearly and precisely the real effects of changes in funding on a school's operations.

Research on schools indicates that schools are the proper unit of study when considering school improvement. While individual teachers can perform heroically, their gains can be wiped out if the other teachers are not aligning their efforts in a similar fashion. Schools are cultures where people shape their behavior to norms and expectations. Extensive evidence exists that schools with similar student populations in terms of income, racial composition, and other factors produce dramatically different results in terms of student learning. For these reasons, a quality education model should focus on identifying a hypothetical school model that should result in a projected level of student achievement.

**D. Assumptions about the schools and why assumptions are important**

In order to construct a hypothetical school, it is necessary to make some assumptions about the school. If not, it is impossible to make decisions with any accuracy about funding. These assumptions fall into two broad categories: tangibles and intangibles. Tangible assumptions have a direct relation to costs. An example is pupil-teacher ratio. As the assumption about the pupil-teacher ratio used in the school changes, so do the costs. Other assumptions are intangible, but still have implications for cost. Principal leadership has been show to be critically important to school improvement, so it is necessary to assume, for example, that the principal is capable and competent to lead an comprehensive improvement effort designed to enable more students to meet standards. If the principal is not able to do this, the likelihood of improvement diminishes dramatically regardless of increases in funds.

The model makes certain assumptions about how efficient the hypothetical school is in its use of resources. Schools that are inefficient should not expect to be held to a lesser standard as a result of their inefficiencies. The model therefore makes certain assumptions about the efficiency with which schools use their resources and conduct their business. These assumptions must be fulfilled for schools to have adequate resources to devote to improving student performance. Adequate evidence exists to suggest that simply increasing funding does not result automatically in improved student achievement (Report Card on American

Education, 1999, American Legislative Exchange Council, Washington, D.C.). However, when funding is directed to specific, whole school programs focused on improved student learning, the results can be markedly different (Slavin, Robert E. & Olatokunbo S. Fashola, 1998, Show me the evidence!: Proven and promising programs for America's schools).

Examples of assumptions about the hypothetical elementary school:

| Tangible: | Intangible: |
|---|---|
| Pupil-teacher ratio of xx:1 K-5 | Principal leadership is adequate to lead sustained improvement effort |
| Building is approximately 25 years old | Support for reform among teachers is moderate, knowledge of content required for students to meet benchmarks is strong |
| Socioeconomic status of student body | Measures of parent involvement |
| Gap between current student performance and desired level of performance in relation to benchmarks | Level of teacher training/expertise/experience |
| Number of second language learners | Time devoted to academic instruction for all students |
| Number and type of special education students | Amount of homework assigned related to standards |

**E. Characteristics of the schools**

To visualize the effects of a particular funding level as well as to define specific expenses, it is necessary to identify a range of characteristics for the hypothetical schools. These characteristics represent a range of tangible and intangible dimensions that all affect student performance either directly or indirectly. The numbers and assumptions selected derive from a variety of sources, but generally are close to the current state of average or slightly below average Oregon schools.

| Assumption: | Elementary School, Middle School, High School |
|---|---|
| District size | Large enough to provide full range of central office services |
| Geographic location | Bordering/in/or in close proximity to an urbanized area (not inner city) |
| Socioeconomic status (ODE definition) | Slightly below the state median (approximately 40$^{th}$ percentile) (students on free/reduced lunch, student mobility, student attendance, parent education level) |
| Special education students | Approximately 12 percent |

| | | | |
|---|---|---|---|
| English as a Second Language students | Approximately 5 percent | | |
| Facility condition | Approximately 35 years old in reasonably good condition with reasonably good maintenance history | | |
| Quality of teacher force | Moderately open to reform goals<br>Less than 10 percent teaching outside endorsement area<br>Nearly all possess content knowledge necessary to teach to applicable state standards | | |
| Quality of principal leadership | Moderately supportive of reform goals<br>Moderately knowledgeable about reform requirements and moderately involved in reform implementation<br>Moderately skilled as a leader<br>Highly skilled as a manager | | |
| Professional development needed to teach to standard | Substantial in the areas of assessment, adapting instruction to below-standard learners, scoring work samples, specifics of content standards, curriculum articulation | | |
| **Assumption:** | **Elementary School** | **Middle School** | **High School** |
| Student enrollment (ADMr) | 340 | 555 | 1000 |
| Teacher experience | 14.5 years | 14.7 years | 15.7 years |
| Failure rate (students retained or failing classes currently) | Approximately 5 percent | Math: 15 percent<br>English: 15 percent<br>Science: 10 percent | Math: 15 percent<br>English: 20 percent<br>Science: 10 percent |
| Percent of families attending at least 1 parent conference/ year | 60 percent | 50 percent | 40 percent |
| Proportion of time in English and math devoted to standards | 66 percent | 50 percent | Math: 85 percent<br>English: 60 percent |
| Hours of homework completed per student per week in subjects where there is a state assessment | 2 hours | 4 hours | 8 hours |
| Hours devoted to instruction not covered by state standards in one week | 6 hours | 8 hours | 7-8 hours |

| | | | |
|---|---|---|---|
| Additional time available for students not meeting standard | 120 hours/student | 120 hours/student | 120 hours/student |
| Current computers/ student | | | |
| Percent of classrooms with one or more computers connected to Internet | 60 percent | 60 percent | 60 percent |
| Students/computer | 10.2 students | 10.2 students | 10.2 students |
| Dropout rate | | | |
| Attendance rate | 93.5 percent | 93.5 percent | 91.7 percent |
| Serious discipline/ behavior problems/ year | | | |
| Current overall pupil-teacher ratio | | | |
| Current proportion of students meeting English & math standards on state assessments | Grade 3 English:<br>Grade 3 math:<br>Grade 5 English:<br>Grade 5 math: | Grade 8 English:<br>Grade 8 math: | Grade 10 English:<br>Grade 10 math: |

**F. Program elements and components: What they are and why they are used**

For the model to be a useful tool to policy makers and educators, it must identify spending at a level of detail that allows people to see relatively precisely how funds are being allocated while also allowing the effects of increases and decreases in funding to be evident. The program elements and components seek to provide this level of detail.

The program elements and components were identified by subcommittees during an exhaustive eighteen-month process and were included based on their importance to the school's overall instructional program.

An element is defined as a set of functions or activities that are important to the school's ability to offer an instructional program. Components are subsets of elements. Components allow elements to be broken into smaller, more understandable parts and to understand better how funds are distributed.

Below is an example of a program element, core staffing, and its components, Kindergarten staffing, grades 1-3 staffing, and grades 4-5 staffing. Other certified staffing positions, such as areas like art and music, special education, and instructional improvement coordinator are contained elsewhere in the model. This element allows consideration to be given separately to how core staff will be defined and allocated.

| Program Element: | Component |
|---|---|
| Core staffing | Kindergarten |
| | 1-3 |
| | 4-5 |

**G. How assumptions and costs for elements and components were calculated**

The costs for each element and component were calculated from the following sources: a) Statewide Database Initiative Project results from pilot schools, b) research on effective educational practices, c) data from the Oregon Department of Education, d) data from Oregon education professional associations (e.g., Confederation of Oregon School Administrators, Oregon School Employees Association), d) experts from Oregon school districts and schools. In addition, these sources were used in developing certain assumptions about hypothetical schools and how they would best be organized and funded.

Preliminary results from Statewide Database Initiate Project provided all the information on central expenditures, those outside the school building. Research on effective education practice helped inform assumptions about optimum class size and about additional time needed to bring students to standard. Oregon Department of Education data were used in calculating enrollment figures, in developing hypothetical school assumptions, and determining average salaries. The Confederation of Oregon School Administrators and the Oregon School Employees Association provided data on average salaries for administrators and support staff, respectively. Experts from Oregon schools, including members of the Task Force, provided information on specific school functions and costs in areas where data were not well enough developed. In addition, these experts reviewed the model at various points to ensure a correspondence between the model and the ways schools actually function.

**H. Explanation and assumptions columns**

The model contains these two additional columns to provide greater understanding of how each number was derived and what it represents. The explanation column provides additional detail on how a number was calculated. The assumptions column contains information that can be changed to adjust the cost of the program element or component related to that assumption. Assumptions were derived from the same four sources as the element and component costs.

| Program Element: | Component | Explanation | Assumptions |
|---|---|---|---|
| | | | Enrollment |
| Core staffing | Kindergarten | 2.0 FTE | K=40: 2 FTE @ 20:1 |
| | 1-3 | 9.0 FTE | 1-3=180: 9 fte @ 20:1 |
| | 4-5 | 5.0 FTE | 4-5=120: 5 fte @ 20:1 |

| | | | |
|---|---|---|---|
| | | Takes 97-98 average and increases it 2.75% for 98-99. Average salary assumes COLA increase for 98-99 with lower salaries of new hires balancing cost increase of step increases. | Average salary for 98-99: 59,328 |

**I. Special education assumptions**

The model assumes a new method of allocating special education costs. In this method, certain categories of high-cost special education students are identified as being beyond the ability of local districts to fund, and the state pays their actual expenses out of a centralize fund. For all other special education students, the hypothetical schools operates programs for them out of the resources provided in the model, which makes certain assumptions about the number of special education students present at the schools and the staff and resources available to serve them.

The model also assumes the existence of "Family Resource Centers," intergovernmental service centers designed to address the needs of families, not just individual students. The centers would include services from agencies such as employment, AFS, mental health, and CFS.

The complete set of special education recommendations goes beyond the immediate parameters of the QEM as presented here.

## III. The Elementary School

The hypothetical elementary school contains the following elements and components:

| Program Element: | Components: | Cost Source: |
|---|---|---|
| Core staff | Kindergarten<br>1-3<br>4-5 | ODE/OEA/COSA/ Database pilot |
| Program staff | Music, PE, art, Media, 2nd Lang, ESL (school's choice) | |
| Special education staff | | |
| Building support staff-Instruction | | |
| Instructional support staff assistance | Special ed. assistant, records clerk, parent involvement coordinator<br>Secretary | OSEA salary survey |
| Administrative accountability | Principal | COSA salary survey |
| Computer hardware/software | Hardware including student and administrative<br>Software | Legislative Council on QEM recommended, xpert estimate |
| Supplies, books, materials | Texts, consumables, classroom sets<br>Classroom materials & equipment<br>Copying<br>Media center materials | Current best practice, expert estimate |

| | | |
|---|---|---|
| | Teacher reimbursement of materials purchases | |
| Professional training & development | 10 days<br><br>Materials, Travel, Consultants<br>Support staff-10 days | ODE/Expert estimate |
| Building support costs | Food services<br>Student transportation<br>Technology services<br>Operation, plant maintenance<br>Other support services | Database pilot |
| District administrative overhead | Executive administration: Board of Education, superintendent<br>Business & Fiscal Services<br>Personnel Services<br>Public Information | Database pilot |
| Additional instructional time for students to achieve standards | Certified<br><br>Classified<br>Supplies | Expert estimate |

## IV. The Middle School

| **Program Elements:** | **Program Components:** | **Cost Source:** |
|---|---|---|
| Core staffing | English, math, science, social sciences, second languages, the arts | ODE/OEA/COSA/ Database pilot |
| | Additional teacher in math, English, science | |
| | ESL | |
| | Additional course staffing | |
| | Licensed academic support staff | |
| | Special education staffing | |
| | Alternative ed. program | |
| Counseling | | |
| Instructional improvement | | |
| Instructional support staff assistance | Special ed. | OSEA salary survey |
| | principal's secretary | |
| | Attendance | |
| | Departmental support | |
| | volunteer coordinator | |
| | Media center assistant | |
| | Receptionist | |
| | Campus monitor | |

| | | |
|---|---|---|
| Administrative accountability | Principal | COSA salary survey |
| | Assistant principal | |
| | Teacher leadership | Local district survey |
| Computer hardware/ software | Hardware including student and administrative | Current best practice, expert estimate |
| | Software | |
| Supplies, books, materials | Texts, consumables, classroom sets | Current best practice, expert estimate |
| | Classroom materials, all equipment, supplies | |
| | Copying | |
| | Media center materials | |
| | Teacher reimbursement of materials purchases | |
| Extra-curricular activities | Other extracurricular sponsors | Expert estimate |
| Professional training & development | Teacher professional development related to standards and assessments | ODE/Expert estimate |
| | Materials, Travel, | |
| | Consultants | |
| | Instructional support staff-10 days | |
| Additional instructional time for students to achieve standards | Licensed | Expert estimate |
| | Classified | |
| | supplies | |
| Building support costs: Centralized costs distributed to each building | Food services | Database pilot |
| | Student transportation | |
| | Technology services | |
| | Operation, maintenance of plant | |
| | Other support services | |
| District administrative overhead | Executive administration (Board of Education, superintendent) | Database pilot |
| | Business & Fiscal Services | |
| | Personnel Services | |
| | Public Information | |

## V. The High School

| **Program Element:** | **Components:** | **Cost Source:** |
|---|---|---|
| Core staffing | English, math, science, social sciences, second languages, the arts Additional teacher in math, English, science | ODE/OEA/COSA/ Database pilot |

| | | |
|---|---|---|
| | ESL<br>Additional course staffing (e.g., electives)<br>Licensed academic support staff (e.g., library media specialist)<br>Special education staffing<br>Additional special student programs (e.g, alternative education) | |
| Counseling | | |
| Building support staff-Instruction | Curriculum development specialists | |
| Instructional support staff assistance | Support staff for Alternative ed., teen parent<br>Special ed.<br>principal's secretary<br>Counseling office<br>School-to-work coordinator<br>Registrar<br>Attendance<br>Departmental support<br>Bookkeeper<br>volunteer coordinator<br>Health clerk<br>Media center assistant<br>Receptionist<br>Campus monitor | OSEA salary survey |
| Administrative accountability | Principal<br>Assistant principals<br>Athletic director | COSA salary survey |
| | Teacher Leadership | Local district survey |
| Computer hardware/ software | Hardware including student and administrative<br>Software | Current best practice, expert estimate |
| Supplies, books, materials | Texts, consumables, classroom sets<br>Classroom materials, all equipment, supplies<br>Copying<br>Media center materials<br>Teacher reimbursement of materials purchases | Expert estimate, current best practice |
| Extra-curricular activities | Coaching<br>Other extracurricular sponsors<br>Athletic event-related expenses | Expert estimate |

| | | |
|---|---|---|
| Professional training & development | Teacher professional development related to standards and assessments<br>Materials, Travel,<br>Consultants<br>Instructional support staff-10 days | ODE/Expert estimate |
| Additional instructional time for students to achieve standards | Licensed<br><br>Classified<br>supplies | Expert estimate |
| Building support costs: Centralized costs distributed to each building | Food services<br><br><br>Student transportation<br>Technology services<br>Operation, maintenance of plant<br>Other support services | Database pilot |
| District administrative overhead | Executive administration (Board of Education, superintendent)<br>Business & Fiscal Services<br>Personnel Services<br>Public Information | Database pilot |

## VI. Calculating a cost for K-12 education in Oregon

The model produces a final overall number for the state education budget when the numbers for the hypothetical schools are divided to produce a per-pupil expenditure figure for each level that is then multiplied by the number of students in the state. Since the number the model produces are not yet precise, it must be used with caution until the precision of the numbers and assumptions upon which it is based can be refined. In the interim, it can be a useful tool for identifying effects of different funding increases. A tool like this can focus debates about school funding on the likely impact of changes in funding levels.

In this report, the model is used to generate four different service levels: 1) Current Service, 2) Significant Improvement, 3) Phased Implementation, 4) The Vision of the Quality Education Model Fully Implemented. These four scenarios are meant to demonstrate the uses of the model as well as to suggest the likely effects on schools of various funding levels.

### A. Current Service Level

The Current Service Level budget describes current conditions in schools. While some differences of opinion remain about what the actual costs of current services are, the model takes the Governor's Current Service Level (CSL) budget as its point of departure. The model starts by designing three hypothetical schools with characteristics broadly reflective of Oregon schools and uses the number of students in the final head count (unweighted), what is commonly known as ADMr, to come up with an general figure for education costs at the school level.

To these are added costs not easily allocated to school buildings. These include high-cost special education students (those costing more than approximately $22,500), which the model assigns to a state pool of revenue, rural/small schools in proportion to their weightings, poverty/distressed schools in proportion to their weightings, and proposed funds for school improvement contained in the Governor's CSL budget. The totals are then divided by both ADMr and ADMw figures to establish per-pupil costs that can be compared with current amounts.

The model also acknowledges the role ESD funding plays in the education of students without allocating those funds out to the school building level. ESD funds are added in a separate subtotal category to reach a final total CSL budget that parallels the budget proposed by the Governor.

The first test of the model is, therefore, its ability to emulate current costs closely. The following chart contains the model's CSL scenario for the first year of the biennium and for the full biennium:

| **Quality Ed. Model Current Service Level** | | | |
|---|---|---|---|
| *Level* | *Per pupil* | *ADMr* | *Cost* |
| Elementary | $5,190 | 238,510 | $1,237,830,763 |
| Middle | $4,968 | 129,625 | $644,007,964 |
| High School | $5,624 | 150,365 | $845,601,631 |
| Total- Hypothetical schools | $5,476 | 518,500 | $2,839,265,414 |
| Rural/small schools | | | $30,000,000 |
| Poverty/distressed schools | | | $50,000,000 |
| School reform implementation | | | $50,000,000 |
| School district high-cost special-education student expenses | | | $30,000,000 |
| Grand Total | | | $2,999,265,414 |
| Per-pupil cost, 1999-2000, ADMr | | | $5,785 |
| Per-pupil cost, 1999-2000, ADMw | | 618,544 | $4,849 |
| Per-pupil cost, 1999-2000, ESDs | | | $231 |
| Amount above Gov's proposed CSL budget (99-00 only) | | | $865,414 |
| Amount above Gov's proposed CSL budget (biennium) | | | $1,739,481 |

**B. Significant improvement level**

Significant improvement level adds funding for two elements: training for teachers in the core standards areas of math, English, science, and social sciences; and increased time for students who do not reach standards during available instructional time.

It is worth restating that school districts would decide how best to apply the resources, but that the state would be expecting significant improvement from schools as a result of these funds.

| **Quality Ed. Model Significant Improvement Level** | | | |
|---|---|---|---|
| *Level* | *Per pupil* | *ADMr* | *Cost* |
| Elementary | $5,190 | 238,510 | $1,237,830,763 |

| | | | |
|---|---|---|---|
| Middle | $5,037 | 129,625 | $652,856,973 |
| High School | $5,878 | 150,365 | $883,810,169 |
| Total- Hypothetical schools | $5,570 | 518,500 | $2,888,252,320 |
| Rural/small schools | | | $30,000,000 |
| Poverty/distressed schools | | | $50,000,000 |
| School reform implementation | | | $50,000,000 |
| School district high-cost special-education student expenses | | | $30,000,000 |
| Grand Total | | | $3,048,252,320 |
| Per-pupil cost, 1999-2000, ADMr | | | $5,879 |
| Per-pupil cost, 1999-2000, ADMw | | 618,544 | $4,928 |
| Per-pupil cost, 1999-2000, ESDs | | | $231 |
| Amount above Gov's proposed CSL budget (99-00 only) | | | $49,852,320 |
| Amount above Gov's proposed CSL budget (biennium) | | | $100,203,163 |

**C. Phased implementation of Quality Education Model**

This level acknowledges the challenges in implementing the overall goals of the Quality Education Model while still pursuing the vision laid out in the model.

This scenario focuses resources at the primary level initially, lowering class sizes in Kindergarten and grades 1 through 3 to a pupil-teacher ratio of 20:1. This strategy acknowledges the importance of early intervention and establishing literacy and numeracy as the foundations of further learning.

If this level of significantly higher resources were pursued, the expectation would be that schools would 90 percent of students at the benchmark level in 3rd grade by the end of the biennium.

The Quality Education Model would then be phased in gradually, with funding of its recommendations preceding in the following fashion:

Grades 4-5: 2001-2003 biennium

Grades 6,7,8: 2003-2005 biennium

Grades 9,10: 2005-2007 biennium

Grades 11, 12: 2007-2009 biennium

As the cohort of students now in first grade moves through the system, schools would be expected to sustain this cohort at the 90 percent level of attainment of benchmarks and standards, resulting in a CIM attainment rate of 90 percent in 2007.

| **Quality Ed. Model Phased Implementation Level** | | | |
|---|---|---|---|
| *Level* | *Per pupil* | *ADMr* | *Cost* |
| Elementary | $5,554 | 238,510 | $1,324,790,711 |
| Middle | $5,067 | 129,625 | $656,750,584 |
| High School | $5,878 | 150,365 | $883,810,169 |
| Total- Hypothetical schools | $5,753 | 518,500 | $2,982,830,874 |

| | | | |
|---|---|---|---|
| Rural/small schools | | | $30,000,000 |
| Poverty/distressed schools | | | $50,000,000 |
| School reform implementation | | | $50,000,000 |
| School district high-cost special-education student expenses | | | $30,000,000 |
| Grand Total | | | $3,142,830,874 |
| Per-pupil cost, 1999-2000, ADMr | | | $6,061 |
| Per-pupil cost, 1999-2000, ADMw | | 618,544 | $5,081 |
| Amount above Gov's proposed CSL budget (99-00 only) | | | $144,430,874 |
| Amount above Gov's proposed CSL budget (biennium) | | | $337,306,057 |

**D. Full implementation of Quality Education Model vision**

The full implementation of the Quality Education Model is a goal, a vision of where we should be going in our attempt to provide all of Oregon's children with an education that will truly prepare them for success in the future. The full implementation model combines all the recommendations from the Legislative Council that worked two years to identify all the elements of a quality education.

The model was not developed with attention to cost; it was developed with attention to quality. The intent of putting a price on the cost of a quality education is not necessarily to suggest that it must or can be achieved in one legislative session. It is to create a goal and to identify what it would cost to get there.

While the Quality Education Model naturally exceeds current expenditure levels, it should be noted that comparisons between per-pupil spending in Oregon in the late 1980s and the number suggested in the full implementation, when adjusted for inflation, are quite similar. This suggests that Oregonians have in the past saw fit to invest in public education at levels described in the full implementation model.

The most important difference between then and now is that schools are more closely focused on standards for high student achievement. Additional resources committed to education at this point will go to improving student performance in relation to state standards. This is a different frame of reference for considering the merits of increased funding for schools. More money, in the current policy environment, will mean better student achievement.

In fact, with the level of support outlined in the full implementation model, Oregon schools could be held accountable for getting essentially all students over time to the high standards contained in the Oregon Educational Act for the 21st Century.

The amounts contained in the following chart illustrate the approximately costs of full implementation of the vision of the Quality Education Model:

| **Quality Ed. Model Full Implementation Level** | | | |
|---|---|---|---|
| *Level* | *Per pupil* | *ADMr* | *Cost* |
| Elementary | $6,309 | 238,510 | $1,504,783,589 |
| Middle | $5,821 | 129,625 | $754,546,894 |
| High School | $6,813 | 150,365 | $1,024,467,525 |

| | | | |
|---|---|---|---|
| Total- Hypothetical schools | $6,593 | 518,500 | $3,418,433,726 |
| Rural/small schools | | | $30,000,000 |
| Poverty/distressed schools | | | $50,000,000 |
| School reform implementation | | | $50,000,000 |
| School district high-cost special-education student expenses | | | $30,000,000 |
| Grand Total | | | $3,578,433,726 |
| Per-pupil cost, 1999-2000, ADMr | | | $6,902 |
| Per-pupil cost, 1999-2000, ADMw | | 618,544 | $5,785 |
| Amount above Gov's proposed CSL budget (99-00) | | | $580,033,726 |
| Amount above Gov's proposed CSL budget (biennium) | | | $1,165,867,788 |

## VII. What is included in the Significant Improvement Level budget scenario

This level of support for all schools in Oregon would cost approximately $100,000,000 over the course of the biennium. The model identifies this as being adequate resources for the following activities:

**A. High school, middle school and elementary school**

- Ten days of professional development @ $200/day per staff in areas where there are state standards and assessments (math, English, science, social sciences) plus special education staff at secondary schools; ten days for all classroom teachers and special education staff at elementary schools
- Three-week summer school for up to 20 percent of students in the school, or other additional instructional time

## VIII. What is included in the Phased Implementation budget scenario

The two-year costs of phased implementation are approximately $162,000,000 in the first year and approximately $210,000,000 the second year. The key elements of phased implementation are:

**A. Elementary School**

- 20:1 class size in Kindergarten, grades 1 and 2 during first year of biennium.
- 20:1 class size in grade 3 during second year of biennium.

**B. Secondary Schools**

- Additional time for students who are having trouble reaching standard
- Professional development time and resources for teachers and support staff to develop skills to enable most students to reach standard

## IX. What is included in the full Quality Education Model vision

**A. Elementary school**

- All- day kindergarten
- 20:1 pupil-teacher ratios at all grade levels

- Specialists for areas like art, music, P.E., or second language (at each building's discretion)
- On-site instructional improvement/curriculum development support
- Adequate computer/software budget
- Additional time for students who are having trouble reaching standard
- Professional development time and resources for teachers and support staff to develop skills to enable most students to reach standard

**B. Middle School**

- 29:1 class size maximum in core academic courses
- 1.5 extra teachers to provide extra options in math, English, science
- Adequate computer/software budget
- Additional time for students who are having trouble reaching standard including summer school
- Adequate materials/supplies budget
- One counselor per 250 students
- Adequate professional development resources to allow teachers to develop skills to teach to standards successfully and assess student work reliably
- On-site instructional improvement/curriculum development support
- School-to-work coordinator and volunteer coordinator
- Adequate campus security
- Alternative programs for special needs students

**C. High School**

- 29:1 class size maximum in core academic courses
- 3 extra teachers, one each in math, English, science
- Adequate computer/software budget
- Additional time for students who are having trouble reaching standard including summer school
- Adequate materials/supplies budget
- One counselor per 250 students
- Adequate professional development resources to allow teachers to develop skills to teach to standards successfully and assess student work reliably
- On-site instructional improvement/curriculum development support
- School-to-work coordinator and volunteer coordinator
- Adequate campus security

- Alternative programs for special needs students

## X. Two approaches to implementing the model

The model assumes improvements in student performance on state assessments. The level of performance is related to the level of funding of the hypothetical model. However, the goal of the model is to enable 90 percent of students in the hypothetical school to reach state benchmarks on time.

### A. Full implementation of the model

Full implementation is designed to enable all Oregon students to move rapidly to required performance levels. All Oregon schools would be expected to demonstrate rapid, sustained improvement in student scores on state assessments, performance tasks, and work samples until 90 percent are at benchmark or receive the CIM.

While the amount of time it will take each school to reach this level may vary, the model assumes all schools are able to reach the performance goal of 90 percent at benchmark/CIM. Therefore, any school that was not making progress or reaching the goal would be assumed to be violating assumptions of the model, particularly some of the intangible assumptions such as leadership or teacher content knowledge, or would be assumed to be utilizing resources in a way that does not lead to student learning.

When schools were not making adequate progress toward improved student performance, the state would investigate the reasons for the lack of goal attainment by the school and would respond accordingly after analyzing the reasons the school did not meet the target performance levels.

### B. Phased-in funding plus one-time funding

A second option is a phased implementation. This option decreases the amount of money needed during the next biennium to begin implementing, while still allowing full implementation at some levels. This enables the model to be fully tested and causes schools to need to respond to the challenge of dramatically increasing student performance.

At the same time, support in two key areas would be provided to all Oregon schools. This key support would help ensure that attention was paid to all students currently in the system as well as moving all teachers toward higher levels of skill and knowledge relative to content standards and assessments.

The options are as follows:

1. Fund full implementation of the model at K through 3 during this biennium. Next biennium, continue funding K-3 and add grades 4 and 5. Continue adding two grade levels each biennium until model is fully implemented.
2. In the interim, fund two elements of the model for all schools: additional instructional time for students to achieve standards and professional training and development. This will allow students currently in the system to receive improved instruction during the phase-in period.

Oregon schools would be expected to demonstrate significant, sustained improvement until the goal of 90 percent at standard was reached. In many cases, it would not be unrealistic to expect schools to reach the 90 percent level for each grade of the fully funded cohort as the cohort moved through the school.

However, under the phased-in funding approach, schools would be accountable for ensuring that the fully-funded cohort (K-3 in 1999-2000) would reach benchmarks as it moved through the system. In other words, as full funding followed next year's third graders up through the grades, 90 percent of that group would be expected to meet the fifth-grade benchmarks in 2001-2002, the eighth grade benchmarks in 2004-2005, the CIM in 2006-2007, and the CAM in 2008-2009. This period of time would also correspond to the hiring of a new generation of teachers who would be properly trained to achieve the goal of 90 percent of students at benchmark and receiving the CIM and, eventually, the CAM.

## XI. Undeveloped aspects of the model

The model does not yet take into account federal funds or ESD contributions to local districts. The hypothetical schools developed do not reflect the range of diversity or special situations that exist in reality within the state. There is no compensating factor for poverty in particular. The model will need refining over a period of time to determine how many adaptations are necessary to roughly reflect the general categories of Oregon schools accurately.

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