QUALITY EDUCATION MODEL

Final Report

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Quality Education Commission

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DEPARTMENT OF EDUCATION

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Table of Contents

Exhibits

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Preface

This 2018 report is the eleventh biennial report since the first Quality Education Model report was released in 1999. It provides a description of the latest version of the model, and it also describes the Quality Education Model's basic structure and parameters.

The Oregon Quality Education Model was initially developed to estimate the level of funding required to operate a system of highly-effective schools in the state. To achieve this, the model utilizes information on effective practices and extensive data on school district expenditures to estimate the cost of implementing those practices. Over the years, the model has been improved by adding more and better data and by incorporating a growing body of empirical research on promising practices. The model is meant to be a resource for educators and policymakers as Oregon continues its efforts to improve educational outcomes for its students. The model can estimate the costs of individual policy proposals, providing important information to policymakers on how scarce resources can best be used. As the education environment in Oregon changes, the Commission will continue to update the model so it can continue to provide useful guidance to practitioners and policymakers.

In the work leading to this report, the Quality Education Commission, working with the Oregon Department of Education and the Chief Education Office, focused on the latest research on how the practices and processes schools build into their daily routines form the foundation for success. The Best Educational Practices section of the report provides a description of that research and how Oregon schools could benefit from adopting the research's findings.

This report also provides a description of the current environment in K-12 education in Oregon, presenting information on enrollment, teachers, funding, test scores, and graduation rates. This information provides the needed context for evaluating both the progress and the remaining challenges for Oregon's K-12 system. With this broad range of research and data on the current context in Oregon schools, the Commission, using the Quality Education Model, presents estimates of the cost of continuing current practices and resource levels into the 2019-21 biennium—what is called the "Current Service Level". The Commission also presents the estimated costs of the "Fully-Implemented QEM", which represent the resource levels needed to run a system of highly-effective schools.

These estimates, along with the summary of best practices research and the description of current conditions, will allow policymakers to make well-informed decisions to improve Oregon's K-12 system.

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Executive Summary

The Quality Education Model (QEM) was developed as a research and data-driven tool to evaluate educational practices and estimate the level of funding required to meet Oregon's educational goals. The model provides information that promotes a more informed dialogue among policymakers, educators, the public, and other stakeholders, using national research as well as lessons learned from the analysis of Oregon schools. The Quality Education Commission, a legislative mandate, maintains and enhances the QEM and assists others using the model for policy analysis and has the goal of promoting better-informed decision-making that leads to better prepared students, a more equitable system, a more successful populous, and a more productive economy in the state.

The Quality Education Model continues to evolve so it can remain a useful guide to education policy. The Quality Education Commission has maintained its commitment to improving the model using national research and through ongoing analysis of the experiences in Oregon schools. The Quality Education Model will be most effective if it serves as a resource that promotes an informed and robust dialogue among educators, communities, and policymakers. To accomplish this:

- The Quality Education Model cannot simply be the mechanism used to quantify Oregon's funding shortfall. The model's greatest value lies in evaluating the costs and expected impacts on student success of specific policy proposals to help policymakers and educators make better decisions.
- The Commission must progress in its work evaluating the "inputs" to the K-12 system (Pre-K and other early education) as well as the "outputs" (readiness for college and other post-secondary training). The knowledge gained will allow schools to help students navigate critical transition points in the system, where many students struggle.
- The State must continue to promote a balanced system of shared local and state education leadership. Decisions driven by individual schools and their communities are critical, but without a framework for implementing effective practices and processes, our schools and students cannot reach their full potential.

For this edition of the Quality Education Model Report, the Commission focuses less on specific educational practices and more on the structure of the educational system as a whole and the processes required to make it function more effectively in serving the broad range of student needs in Oregon schools.

Key Findings

Current funding is inadequate to meet Oregon's ambitious educational goals

Oregon continues to fund its K-12 system at nearly two billion dollars less per biennium than is needed to run a system of highly-effective schools. Currently, Oregon ranks 29th nationally in funding per student, down from 15th in 1990-91, when Oregon passed the first of two property tax limitations that dramatically reduced local sources of revenue for schools. If Oregon were to fund its schools at the level recommended in this report, our national ranking would rise to approximately 18th, still lower than our ranking in 1990-91.

The funding gap has decreased, but is still large

The State School Fund requirement to fund K-12 schools at a level recommended by the QEC is estimated at $10.734 billion in the 2019-21 biennium, $1.963 billion

more than the funding required to maintain the Current Service Level—that is, to simply keep up with inflation and enrollment growth.[1] As Exhibit 1 shows, this funding gap rose from the prior biennium, (2017-19), when it was $1.771 billion, but is lower than its peak in the 2011-13 biennium. The primary education cost drivers between the 2017-19 and 2019-21 biennia are the PERS rate (up 19.5%), health insurance costs (6.9%), teacher salaries (4.3%), and enrollment growth (0.9%).

EXHIBIT 1: Quality Education Model Funding Requirements

Dollars in Millions			
	2017-19	**2019-21**	**2021-23**
Current Service Level Total Funding Requirements from All Sources		$15,817.9	$16,956.6
Less: Local, Federal, and Non-State School Fund Sources		$7,046.6	$7,514.8
Equals: State School Fund Requirements for Current Service Level*	$8,200.0	$8,771.4	$9,441.8
Percent Change from Prior Biennium		7.0%	7.6%
Fully-Implemented Quality Education Model Funding Requirements from All Sources		$17,780.5	$19,060.6
Less: Local, Federal, and Non-State School Fund Sources		$7,046.6	$7,514.8
Equals: State School Fund Requirements for Full Quality Education Model	$9,971.1	$10,733.9	$11,545.8
Percent Change from Prior Biennium		7.7%	7.6%
Funding Gap: Amount Fully-Implemented Model is Above Current Service Level	$1,771.1	$1,962.6	$2,104.0
Percent Change from Prior Biennium	-0.6%	10.8%	7.2%
Gap as a Percent of the Current Service Level	21.6%	22.4%	22.3%

*The 2017-19 amount is actual legislative appropriation to the State School Fund.

Exhibit 2 shows a history of the estimated funding gap since the 1999-01 biennium. The gap has grown from $1.092 billion in the 1999-01 biennium to an estimated $1.963 billion above the Current Service Level in 2019-21. In percentage terms, however, the gap has actually declined slightly since 1999-01, falling from 23.9 percent of the legislative appropriation in 1999-01 to 22.4 percent of the Current Service Level in 2019-21. This is after hitting a peak of 38.0 percent in 2011-13. The recent decline in the funding gap is encouraging, but more progress is needed if Oregon is to meet its educational goals.

1 The Current Service Level used in the Quality Education Model is the one estimated for the legislative budgeting process and is based on the level of funding appropriated by the legislature. Estimates of the Current Service Level made by other groups, in contrast, are typically based on school district spending, not revenue, resulting in estimates that are different than the one shown here. Historically, the estimates made by other groups have been higher than the one estimated for the budgeting process.

EXHIBIT 2: Gap Between QEM and Actual State Funding

Dollars in Millions				
Biennium	**QEM Full Implementation**	**Legislative Appropriation***	**Gap**	**Percent Gap**
1999-01	$5,654.2	$4,562.0	$1,092.2	23.9%
2001-03	$6,215.6	$4,573.9	$1,641.7	35.9%
2003-05	$6,659.2	$4,907.6	$1,751.6	35.7%
2005-07	$7,096.7	$5,305.2	$1,791.5	33.8%
2007-09	$7,766.2	$6,131.0	$1,635.2	26.7%
2009-11	$7,872.8	$5,756.9	$2,115.9	36.8%
2011-13	$8,004.9	$5,799.0	$2,205.9	38.0%
2013-15	$8,775.0	$6,650.4	$2,124.6	31.9%
2015-17	$9,158.4	$7,376.3	$1,782.1	24.2%
2017-19	$9,971.0	$8,200.0	$1,771.0	21.6%
2019-21	$10,733.9	$8,771.4	$1,962.6	22.4%

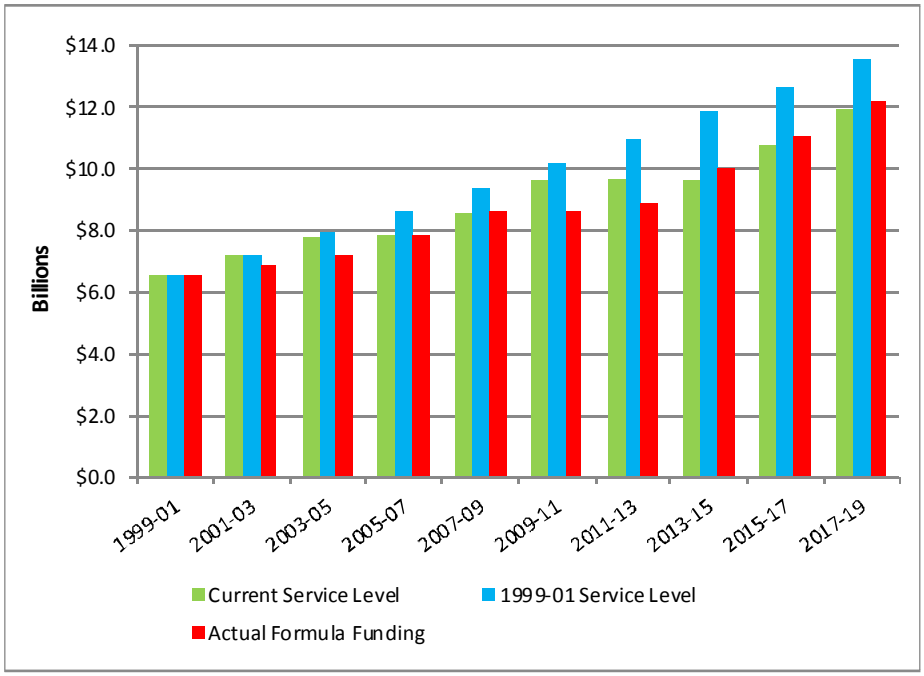
*For 2019-21 the amount is the estimated Current Service Level since the legislative appropriation had not yet been made at the time this report was published.

The methodology Oregon uses to determine funding levels during the budget process may also contribute to the slow growth in school funding. Before each long legislative session, budget analysts estimate the "Current Service Level" (CSL) for K-12 funding. The CSL is the amount of funding required in the coming biennium to provide the same level of educational services as provided in the current biennium.[2] That is, the CSL adjusts for inflation and enrollment growth to prevent erosion of services over time but does not ensure that funding levels meet adequacy targets from one biennium to the next. It "rolls forward" the level of funding from the prior biennium, even if that level is inadequate.

This process may be misleading when actual funding in a given biennium falls short of the estimated CSL. When this occurs, the lower level of actual funding becomes the base for the CSL calculation for the next biennium, resulting in a "ratcheting down" of the education budget. (Exhibit 3). Funding can also "ratchet up" when actual funding is higher than the CSL, and that happened in the 2013-15, 2015-17, and 2017-19 biennia. Ratcheting up, however, is less common than ratcheting down, and the gains from ratcheting up are far smaller than the losses from ratcheting down. The result is that actual funding (the red bar) is considerably lower in the 2017-19 biennium that it would be if it had simply kept up with inflation and enrollment growth since 1999-01 (the blue bar).

2 The process uses funding in the second year of the current biennium as the starting point for estimating the Current Service Level for the coming biennium.

EXHIBIT 3: Current Service Level, 1999-01 Service Level, and Actual Formula Funding*



*Includes revenue from the State School Fund and from local property taxes and other local sources

Oregon's high school graduation rate continues to rise, but slowly. More funding can make a difference.

Oregon's on-time high school graduation rate increased to 76.7 percent in 2016-17, up from 74.8 percent in the prior year. That is good news, but it will take substantial further increases if Oregon is to meet its educational goals, and additional funding is a key part of making that happen. Recent analysis by the Oregon Department of Education (ODE) uses the results of two recent national studies to estimate the impact of increased funding on graduation rates. The key findings from those studies were:

- A 10 percent increase in per-pupil expenditures resulting from adequacy-focused school-reform legislation leads to an estimated 10 percentage point increase in the probability of graduation for students from economically disadvantaged families and a 2.5 percentage point increase for non-economically disadvantaged students.
- An additional $1,000 of annual per-pupil spending has an impact over two times greater than the per-dollar impact of class size reduction found in Tennessee's Project Star class size experiment.

Oregon can improve student outcomes considerably by helping districts and schools create more effective continuous improvement processes.

Additional funding alone is not sufficient for significant increases in academic outcomes for Oregon students. In addition, Oregon needs to create a system of continuous improvement for its schools that is sensitive to the specific circumstances of individual schools, is flexible enough to change as circumstances change, and results in effective practices and processes being incorporated into the daily routines of every school.

Such a system has seven key elements. It is grounded in a **shared vision** about what a school wants to accomplish and **a common understanding of the problems to be solved**. It is based on a common set of principles and processes that are adapted to the particular circumstances in that particular school. At the center are **effective teachers**, and around them are the support systems that allow learning to happen. This includes **strong and stable leadership** by principals and teacher leaders and **coordinated support by other staff**, **community partners**, and **parents**. Such a system also includes a common and coherent set of practices and

processes with enough flexibility that each district and school can adapt to its specific student needs.

Taken together, these elements can create a school culture that promotes excellence and helps keep the vast majority of students fully engaged in their learning. It helps nurture meaningful relationships between students and teachers and, by not being rigidly tied to a particular set of programs, is adaptable to changing circumstances and to the needs of particular schools and individual students.

Recommendations

1. **Increase funding to the level of the fully-implemented Quality Education Model.** As an alternative to fully funding the QEM all at once, the legislature could phase in funding over time—for example over a 3-biennia (6-year) period. This would require an increase in the State School Fund of 16 percent each biennium through 2023-25. As the first installment on a phase-in plan, the legislature should appropriate at least $9.5 billion to the State School Fund for the 2019-21 biennium, with the intent of increasing funding each biennium to reach full QEM funding by 2023-25.
2. **Continue efforts to increase spending for high-quality Pre-K programs.** Research shows high-quality Pre-K has a large impact on later success in school and in adult life.
3. **Raise more revenue.** Despite education being the single largest area of spending in Oregon's budget, education funding in Oregon continues to be about 9 percent below the national average. That is a dramatic decline from 1990-1991, prior to Oregon's Measure 5 and 50 property tax limitations, when Oregon was 6 percent **above** the national average. Those property tax limitations, along with a long-term decline in the share of revenue coming from the corporate income tax, have made Oregon into a relatively low-tax state.[3] If the legislature is to fund schools adequately without diminishing the state's ability to fund other state services, more revenue is needed or dramatic and sustainable reductions in key education cost drivers must be made.
4. **Help districts and schools develop Networked Improvement Communities.** These networks provide a framework for creating coherent systems and processes for long-term school improvement. Because circumstances and needs differ among schools, districts should make sure the locus of decision-making is at the proper level—decisions about matters that are truly district-wide can be made centrally, but decisions about matters that depend on school-specific context and conditions should be made by individual school leaders.
5. **Pay more attention to equity:** All Oregon students deserve a chance to succeed in school, but many of our highest-need students will be left behind if the schools serving those students do not have sufficient resources. School districts must pay attention to how they allocate resources to individual schools to make sure the distribution of resources takes into account the varying student needs of different schools. Schools should also do the following to promote equitable outcomes:
   - Start early to assure that all students read at grade level by the third grade by utilizing best practices and intentional collaboration with the early learning community. The State's increased investment in Pre-K programs and full-day kindergarten is a good start.
   - Continue their efforts to provide more individualized instruction time, particularly for struggling students. To make that time most productive, schools must promote teacher collaboration that focuses on the needs of individual students.
   - Promote a culture of learning that is responsive to the needs of minority students and student from low-income families.
   - Increase efforts to recruit teachers of color to teach in Oregon schools.

3 Taxes in Oregon represent 9.85 percent of the state's Personal Income, while the national average is 10.08 percent. Oregon ranked 26th highest in 2015 while we ranked 13th highest in 1991.http://www.taxpolicycenter.org/statistics/state-and-local-tax-revenue-percentage-personal-income

- Seek out community partners that can assist with challenges students face outside of school.
- Increase efforts to improve attendance by working with families and by increasing efforts to improve student engagement.
- Evaluate the different needs of urban and rural schools to make sure Oregon's funding, school support, and other systems are able to serve the needs of both. Because rural schools have few, if any, opportunities to collaborate with community partners, added support from their districts, ESDs, and the state may be needed.
- Build on the work done for the African American/Black Student Success Plan[4] and the American Indian/Alaska Native Education State Plan[5] to develop strategies to improve outcomes for historically underserved student populations.

4 African American/Black Student Success Plan https://www.oregon.gov/ode/students-and-family/equity/AfricanAmericanBlackStudentEducation/Documents/aabsSuccessPlan.pdf

5 Oregon American Indian/Alaska Native Education State Plan 2015 https://www.oregon.gov/ode/students-and-family/equity/NativeAmericanEducation/Documents/Final-oregon-american-indian-alaska-native-state-plan%20Mar%202017.pdf

Introduction

The Oregon Legislative Assembly established the Quality Education Commission in statute in 2001 with the responsibility to identify best educational practices and to determine the costs of implementing those practices in Oregon's K-12 schools. To carry out that responsibility, the Commission adopted and enhanced the Quality Education Model (developed in 1999 by the Legislative Council on the Oregon Quality Education Model) to be used as a research-based tool to evaluate best educational practices and their costs. The model provides information that promotes a more informed dialogue among policymakers, educators, the public, and other stakeholders, using national research as well as lessons learned from the analysis of Oregon schools. The goal of the Quality Education Commission, a legislative mandate, is to promote a better-informed decision-making process that will lead to continued improvement in educational outcomes for Oregon's students.[6]

Oregon's Educational Goals

Oregon continues to maintain high expectations for all of its schools and students. In the 1991 Oregon Education Act for the 21st Century, legislators outlined challenging goals for the state's K-12 system of education. They called for a world-class school system in which all students are challenged by rigorous academic content standards and have the opportunity to gain knowledge and skills to reach their full potential. The State Board of Education has adopted standards—guidelines for what students should know and be able to do—to implement these legislative goals.

Twenty years later, Oregon's State Board of Education adopted the Common Core State Standards, a set of rigorous academic standards developed by a collection of states under the coordination of the Council of Chief State School Officers (CCSSO). Then in 2013, the Oregon legislature adopted a set of education reforms intended to integrate all levels of public education in Oregon. Those reforms contain an aspirational goal known as 40-40-20: by the year 2025, 40 percent of students will earn a bachelor's degree or higher, 40 percent will earn an associate's degree or technical certification, and 20 percent will have a high school diploma or its equivalent as their highest attainment.

These goals and standards are necessary—but not sufficient—for creating excellence in all of Oregon's schools. What remains is to create the systems, practices, and processes within districts and schools that consistently deliver success to more of Oregon's students. Oregon still has far too few of its pre-kindergarten students in high-quality Pre-K programs that prepare them to successfully transitions to kindergarten. The share of students reading at grade-level by the third grade is much too low. Oregon's high school graduation rate, at 76.7 percent, is still disappointingly low and leaves far too many of the state's young people unprepared for success in their civic, social, and economic lives. Of those who graduate high school, not all are adequately prepared for work or college, and too many of those who enter college leave without a degree.

To achieve Oregon's educational goals, schools must be more successful at engaging students so they stay in school and engage them in a way that clearly demonstrates that finishing high school is an essential interim step for students to achieve their life goals. High school graduation remains the Quality Education Model's key measure of K-12 system success and is consistent with the state's aspirational 40-40-20 goals. To make substantial improvement, Oregon needs to adopt proven school improvement practices statewide. Their implementation needs to be tailored to the circumstances of students in each individual school and be fully integrated into the daily routines of every school.

6 ORS 327.497 through 327.506, which established the Quality Education Commission and defined its responsibilities, can be found in Appendix C.

Best Educational Practices

It is tempting to think about best practices in education as a set of individual activities or "programs", often developed by outside researchers and vendors, which just need to be applied in the classroom to improve student outcomes. Experience tells us, however, that because each classroom is made up of individual students who are all different, flexibility and attention to individual student needs are critical. Experience also tells us that simply collecting a set of programs, no matter how good they are, does not necessarily result in a coherent, effective system. It is the talents of the people in the system, and the processes they adopt to make it function well, that are the keys to creating a coherent system that maximizes student learning. A particular program that works in one school may be ill-suited in another because of local differences in student needs and other factors. That means it is not possible to widely adopt specific programs and expect them to work everywhere.

This is not to say that the research on successful programs and curricula is not important—it is. But without systematic, sustainable processes for implementation, and the flexibility to adapt to local circumstances and needs, we will not get the most benefit from the practices that research tells us work best. Such a system, to the extent that it reflects local circumstances and adapts to them, *can* be widely adopted. History tells us, though, that there is work to do:

> *"...The field of education...has been slow to take up such approaches. This is partly due to the fact that schools and districts are not organized in ways that promote continuous learning; Work is often done in silos, policy demands push for quick results, data isn't provided frequently or quickly enough for it to meaningfully inform and change practice, and poor outcomes are viewed as individual failures rather than a by-product of a misaligned system...Nevertheless, and given the press for improved student and teacher performance amidst severe budget cutbacks, schools and districts have begun to recognize the need to continuously improve (i.e., work more efficiently and effectively) if they hope to achieve increasingly ambitious outcomes, though definitions of improvement vary widely.*[7]

Building a System of Highly Effective Schools

So what does such a system that creates continuous improvement look like? It is a system grounded in a **shared vision** about what an individual school wants to accomplish and a **common understanding of problems to be solved**. It is based on a set of principles and processes that are adapted to the particular circumstances in that particular school. At the center are **effective teachers**, and around them are the support systems that allow learning to happen. These include **strong and stable leadership** by principals and teacher leaders and **coordinated support by other staff**, **community partners**, and **parents**. It also includes a common and coherent set of practices and processes with enough flexibility so that each district and school can adapt to its specific student needs.

Taken together, these seven elements can create a school culture that promotes excellence and helps keep the vast majority of students fully engaged in their learning. This culture nurtures meaningful relationships between students and teachers and, by not being rigidly tied to a particular set of programs, is adaptable to changing circumstances and to the needs of particular schools and individual students.

7 Park, S., Hironaka, S., Carver, P., & Nordstrum, L. (2013). *Continuous Improvement in Education*. Stanford, CA: Carnegie Foundation for the Advancement of Teaching. Retrieved from https://www.carnegiefoundation.org/wp-content/uploads/2014/09/carnegie-foundation_continuous-improvement_2013.05.pdf

A Shared Vision

Schools are most effective when there is a shared vision among the key players: building leaders, teachers, parents, and students. This vision plays an important role in promoting a positive school culture and environment that emphasizes academic excellence, shared responsibility, collaboration, and mutual trust and respect.

Principals and teacher leaders play a key role in facilitating the creation of the shared vision and in creating a positive school culture and environment. At the district level, the way the system makes rules and policies, spends resources, and provides supports to teachers and principals also impacts the learning environment. Districts that recognize the differing needs of individual schools, and build that into their decision-making processes and resource allocations, will help schools be more effective.[8]

A Common Understanding of the Problems to be Solved

School improvement is fundamentally about identifying problems, then developing and implementing solutions. Effective solutions are not possible, however, if there is not a shared understanding of the key problems that a school faces. Principals and teacher leaders can help facilitate this common understanding by engaging staff, students, and parents in an honest discussion about the key problems in their particular school.

In developing solutions, the first step is to recognize that the problems are specific to the context of each individual school and the problems exist because the existing system, practices, and processes have not been effective at solving them. Developing effective solutions requires understanding which aspect of the existing system is at the root of the problem so that part of the system can be made better.

Effective Teachers

Schools require a broad range of inputs and supports to succeed, but education practitioners and researchers generally agree that high-quality teaching is the most important factor contributing to student success.[9] To find talented candidates and develop effective teachers requires sustained effort at many points in the system.

- Colleges of education must recruit talented people to be future teachers, set high standards for what they must know and be able to do, and pay close attention to the circumstances of the schools in which these future teachers will actually work. That is, they must tailor their programs to Oregon schools. This requires coordination between Pre-K and K-12 schools and the colleges of education.[10]
- Teachers' clinical practice (student teaching) should involve hands-on co-teaching with a well-matched cooperating teacher. Simply observing others teach is not sufficient.
- Mentoring and other supports are important. Research shows that teacher effectiveness increases markedly in the second and third years of teaching, so high-quality induction, support, and mentoring which can reduce early attrition and may be effective in increasing the overall quality of teaching.[11]
- Teachers must routinely take charge of their professional development and work continuously to become more effective. Teachers increase their capacity to meet the needs of their students by tapping into each other's expertise in planning teaching strategies and in solving teaching challenges. Professional development is context-specific, so it may best be driven by collaboration between teachers and principals in each school.
- Schools should dedicate resources to support regular collaboration time for teams of teachers.

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8 Ucelli-Kashyap, Marla. "Straight Talk on Teaching Quality: Six Game-Changing Ideas and What to Do About Them," page 1, Providence, RI: Annenberg Institute for School Reform, December 2011. http://www.annenberginstitute.org/sites/default/files/StraightTalk.pdf

9 Chetty, Raj, John N. Friedman, and Jonah E. Rockoff, Measuring the Impacts of Teachers II: Teacher Value-Added and Student Outcomes in Adulthood, *American Economic Review,* 2014, 104(9): 2633-2679 http://dx.doi.org/10.1257/aer.104.9.2633

10 Boyd, D., Grossman, P., Lankford, H., Loeb, S., & Wyckoff, J. (2009). Teacher Preparation and Student Achievement. *Education Evaluation and Policy Analysis*, 31(4), 416–440. https://doi.org/10.3386/w14314

11 Hanushek, Eric A., John F. Kain, and Steven G. Rivkin (1998). Teachers, Schools, and Academic Achievement. Working Paper, 6691. National Bureau of Economic Research. http://www.nber.org/papers/w6691

Teachers need time to meet to analyze student progress, diagnose individual student learning needs, and make sure their teaching strategies are ensuring their students are on track. Using data on individual students so that teachers can address students' specific needs is essential in this process. Effective collaboration is supported by school leadership, but is created by teachers.

- Teachers need meaningful evaluations with feedback. Principals must pay attention to how teachers work together, not just how individual teachers perform in the classroom. Principals also should integrate the state's education standards (Common Core) into teacher evaluations to ensure that teachers are effectively covering the content that students need to master to meet the standards.
- Teachers need to develop an increasingly sophisticated skill set that includes 1) small group facilitation; 2) accurate analysis of a wide range of individual student achievement data/evidence; 3) strategic planning to counteract the root causes of student underachievement in their school and community; and 4) expansion of social capital by successfully collaborating across classrooms, departments, and the local community to develop a stronger support network for the school's continuous improvement agenda.
- To reduce teacher attrition, school districts need a better career path for teachers. Districts can provide more "rungs" on the ladder by having their best teachers take on tasks such as mentoring, curriculum development, and evaluation of the effectiveness of new practices. This last task is a key part of a continuous improvement environment—trying and evaluating new practices that other research suggest may be effective. Each building should be staffed so that *collectively* there is adequate experience and expertise in every school. In other words, districts need to pay attention to the mix of teachers, not just to each teacher as an individual, when allocating resources to schools.

Strong and Stable School Leadership

School leadership is a critical element of school improvement efforts. Building-level leaders, particularly principals and teacher leaders, play a key role in establishing the school's shared vision and culture, developing and empowering effective teachers, coordinating support staff and external partners, and generally assuring the coherence of the processes that are present in a well-functioning school. For school improvements to be sustainable, school leadership needs to be stable.

An effective school leader:

- fosters a shared vision for the school
- sets high expectations for both students and staff
- empowers teachers in the leadership of their schools, recognizing that teachers are in the best position to understand the specific needs of their students
- persists in creating a culture of trust and support. Administrators collaborate with their entire staff in making operational improvements to the system (e.g., daily schedule, attendance/discipline policies, freshman academies) to ensure students are known well and have a net of supportive adults in the school that will not let them "fall through the cracks"
- promotes a culture of continuous improvement that is developed and owned by staff and has not been mandated or imposed by outside forces. This grassroots process is responsive to local context and is guided by teachers who passionately pursue equitable outcomes for all their students. The principal's role is to help teachers learn how to spend their time together wisely and to establish disciplined processes for improving core work streams.[12]
- helps develop the next generation of leaders by identifying highly-effective teachers who also demonstrate leadership abilities.[13]

12 Gajda, R., & Koliba, C. J. (2008). Evaluating and Improving the Quality of Teacher Collaboration. *NASSP Bulletin*, 92(2), 133–153. https://doi.org/10.1177/0192636508320990

13 Ingersoll, R. M., Sirinides, P., & Dougherty, P. (2017). *School Leadership, Teachers' Roles in School Decisionmaking, and Student Achievement* (CPRE Working Papers). Philadelphia, PA: Consortium for Policy Research in Education. Retrieved from https://repository.upenn.edu/cpre_workingpapers/15/

Well-coordinated Support Staff

A culture of learning can and should be promoted by all staff, not just teachers and leadership staff. Support staff, including counselors, library and media staff, custodians, teaching assistants, and all other staff that have contact with students can play a key role in supporting students relating to both academic and personal issues. Counselors in particular can play a role in assisting high needs and struggling students to get the added assistance they often need. Counselors also can lead in the use of restorative practices approaches.

Community Partners

Community partners, including non-profit organizations and government agencies, can be an important resource improving student engagement and academic outcomes, so schools should seek them out. Many of these organizations exist specifically to assist families with issues that are not directly related to schools but that have an impact on students' school experience. These organizations are not just advisory boards or financial contributors, but groups that add value by working on the ground to directly assist families, students, and schools in solving problems. The intersection between a community and its schools is the place where community partners can play a critical role. These organizations can:

- assist students and families with challenges that are outside of school
- play a part in promoting a positive school culture
- be providers of wrap-around services
- help connect schools to their neighborhoods

Engaged Parents

Parents play a key role in the education of their child, both in the years prior to the child attending school outside of the home and once the child enters Pre-K or the K-12 system. Once the child is in the K-12 system, developing good communication between teachers and parents can help students stay on track. It also allows parents to learn about opportunities to volunteer, meet other parents, and form relationships that can enhance the culture of learning in the school.

Building Coherent Systems

The above seven elements are important resources that schools have at their disposal, but must also cultivate. Using these resources effectively requires a coherent system that allows schools to take full advantage of the strengths of each resource. The National Center on Education and the Economy, in its guide 9 Building Blocks for a World-Class State Education System,[14] provides a framework for how and where to deploy these resources in a systematic way to maximize their impact:

1. **Provide strong supports for children and their families before students arrive at school**

   Children who come to school prepared, healthy, and eager to learn can take full advantage of the instruction provided. High-quality Pre-K programs, affordable health care, and other family-supporting services are instrumental in preparing children for entering kindergarten, particularly those from lower-income families.

2. **Provide more resources for at-risk students than for others**

   At-risk students require additional attention and resources if they are to fully benefit from school. Many of these students arrive in kindergarten well behind their more fortunate peers, often have behavioral problems that require additional attention, and experience more summer learning loss. Districts can help these students by putting their best teachers into the classrooms of the students who need them most.[15]

3. **Develop world-class, highly coherent instructional systems**

   Top performing education systems have highly aligned systems of standards, curriculum frameworks, assessments, and course requirements.

4. **Create clear gateways for students through the system, set to global standards, with no dead ends**

   Set expectations high for students, and make sure that all students have a clear understanding of the

14 National Center on Education and the Economy, 9 Building blocks for a World-Class State Education System, 2016 http://ncee.org/9buildingblocks/

15 Clotfelter, Ladd, and Vigdor, How and Why Teacher Credentials Matter for Student Achievement, National Center for Analysis of Longitudinal Data in Education Research, Working Paper 2, March 2007

next steps toward which they are working. Also make sure that struggling students are provided clear options other than dropping out.

5. **Assure an abundant supply of highly qualified teachers**

   Set high licensing standards for teachers and be intentional about teacher recruiting. Recruiting should start well before potential future teachers enter college. High schools can identify talented students who have an interest in becoming teachers and help cultivate that interest.

6. **Redesign schools to be places in which teachers will be treated as professionals, with incentives and support to continuously improve their professional practice and the performance of their students**

   Treat teachers like professionals. Give them an increased role in decision-making and more non-classroom time to improve instruction. Create decision-making processes based on communities of practice rather than on hierarchies.

7. **Create an effective system of career and technical education and training**

   Expect high-level academic performance from all students—don't create CTE for the students who are not good at academics

8. **Create a leadership development system that develops leaders at all levels to manage such systems effectively**

   Recruit promising leaders and invest resources in their development. Actively seek out high-quality teachers with leadership potential rather than letting teachers self-select into administrative training programs.

9. **Institute a governance system that has the authority and legitimacy to develop coherent, powerful policies and is capable of implementing them at scale.**

   Effective systems need coordination at the school, district, and state levels. The goal is to reduce the fragmentation of governance to achieve coherence. This does not mean that the state dictates most things to districts, or districts to schools—decision-making needs to be made at the proper level, and there need to be well-articulated priorities at each level. The diversity across districts, and across schools within districts, means that practices need to be tailored to the specific set of students in a specific school at a specific time. Rather than state mandates, support should come in the form of expert assistance in diagnosing problems, devising local solutions, and assisting with implementation.

Implementing these building blocks requires a well-planned and sustained effort. It is important, therefore, to consider other guides which support the type of continuous improvement we wish to generate. The Carnegie Foundation has developed a set of core principles of improvement that come from the field of Improvement Science and are a useful guide for organizing the work.[16]

The Six Core Principles of Improvement

1. **Make the work problem-specific and user-centered.**

   It starts with a single question: "What specifically is the problem we are trying to solve?" It enlivens a co-development orientation: engage key participants early and often.

2. **Variation in performance is the core problem to address.**

   The critical issue is not what works, but rather what works, for whom, and under what set of conditions. Aim to advance efficacy reliably at scale.

3. **See the system that produces the current outcomes.**

   It is hard to improve what you do not fully understand. Go and see **how local conditions shape work processes**. Make your **hypotheses** for change public and clear.

4. **We cannot improve at scale what we cannot measure.**

16 The Six Core Principles of Improvement. (n.d.). Retrieved from https://www.carnegiefoundation.org/our-ideas/six-core-principles-improvement/

Embed measures of key outcomes and processes to track if change is an improvement. We intervene in complex organizations. Anticipate unintended consequences and measure these too.

5. **Anchor practice improvement in disciplined inquiry.**

   Engage rapid cycles of **Plan, Do, Study, Act (PDSA)** to learn fast, fail fast, and improve quickly. That failures may occur is not the problem; that we fail to learn from them is.

6. **Accelerate improvements through networked communities.**

   Embrace the wisdom of crowds. We can accomplish more together than even the best of us can accomplish alone.

Networked Improvement Communities Can Drive Improvement

The joining together of improvement science and networks into "networked improvement communities" has promise for improving schools.[17] Networked Improvement Communities have four essential characteristics:

1. **They are focused on a well-specified aim**. They are communities of common accomplishment rather than communities of common interest. That is, they have a specific outcome in mind. They are goal-oriented around a particular problem to solve.
2. **They are guided by a deep understanding of the problem, the system that produces it, and a theory of improvement relevant to it**. To get better results, you need to build a better system.
3. **They are disciplined by the rigor of improvement science.** This focuses on "how to make a program work reliably across contexts" rather than determining "whether some program works". That is, achieving an understanding of what makes a program work rather than just observing whether it works.
4. **They are coordinated to accelerate the development, testing, and refinement of interventions and their effective integration into practice across varied educational contexts**. This requires two steps: first, understand the interventions well enough that they can be tailored to a specific context and, second, integrate successful interventions/practices/processes into daily work.

NICs confer many distinct advantages to schools seeking improvement, as they:

- can be a source of innovation because they bring together a large number of people with a broad range of expertise and experience—someone probably has already grappled with the problem currently trying to be solved;
- have members from a broad range of contexts;
- provide social connections that accelerate testing and diffusion;
- provide a safe space to engage in comparative analyses; and
- permit the identification of patterns that would otherwise look particular to each specific context

Because the nuances of problems are context-specific, a single solution provided by a central authority is unlikely to work in all places. What is needed is a system that recognizes the basic nature of the problem and creates the mechanisms that can produce local solutions. For example, poor student engagement may be the primary cause of absenteeism, but the approach needed to improve engagement will likely vary from place to place because the contexts are different. Much of the difference from place to place will be a function of the particular students being served, so local solutions are more likely to be effective.

Recommendations for System Improvement in Oregon

Oregon schools can develop the practices and processes described above that are needed to improve student outcomes. In fact, many Oregon schools are well on their way to doing so, and the improvements in the state's

17 Networked Improvement Communities, Paul LeMahieu, "Why a NIC?, Carnegie Foundation, 8/18/15 https://www.carnegiefoundation.org/blog/why-a-nic/

high school graduation rate is evidence that it is working. To make those improvements in all of Oregon's schools, however, requires a more intentional and systematic effort that is not yet present in all parts of the state.

To do so, Oregon needs to:

- Take a long-term view and recognize there are no silver bullets that will quickly and dramatically improve school effectiveness,
- Focus on system coherence and performance,
- Identify the specific problems in our current systems so we can improve the systems' ability to solve those particular problems,
- Create processes that research has shown are effective at improving student learning and make them a regular part of what schools do every day, and
- Create measures for these processes to supplement our current measures of student outcomes so that over time we learn what does and does not work.

Accomplishing these requires leadership at the state level to embrace and create a coordinated system. This does not mean relinquishing local control over decisions of local significance, but rather creating a system that benefits from guidance and coordination at the state level and that allows flexibility in specific practices and implementation based on local circumstances. It also means that school district leadership must recognize the differences among schools within their districts need to be considered when making resource allocation decisions—schools with higher needs require more resources if their students are going to have an equal chance to succeed.

Governance

Oregon should revamp its governance system across the education enterprise to bring coherence to the system while allowing flexibility for differences in local circumstances. Oregon currently has some elements of this type of governance system for K-12 (state assessments and performance standards), but it is not coordinated with Pre-K programs, higher education, the teacher preparation programs in our colleges of education, or ongoing teacher professional learning efforts. It also appears to have had only limited success in creating coherent systems and processes at the district and school level.

Coherent Systems and Processes

Help districts and schools build coherent systems for educational delivery that meet their needs within the governance framework. ODE can play a role here with its school improvement efforts.

Teacher Preparation

Start with building a system to develop highly effective teachers. The Chalkboard Project's Class Project has developed a set of recommendations to increase teacher effectiveness.[18] Key recommendations include the following:

1. Create partnerships between colleges of education, districts, and the state to prepare new teachers for the specific circumstances of Oregon schools
2. Make deliberate efforts to recruit strong teacher candidates
3. Increase financial aid for teacher candidates
4. Strengthen grow-your-own programs, and start early (at middle and high schools)
5. Involve communities of color to increase diversity of teachers
6. Work with community college partners and the Higher Education Coordinating Commission to develop entry-level education-focused programs
7. Increase quality of clinical practice (student teaching)
8. Compensate cooperating teachers[19]
9. Increase the use of technology in teacher training
10. Create a database related to teacher preparation programs and their graduates to provide data on the impact of their programs
11. Strengthen teacher mentoring and induction programs

18 Chalkboard Project. (2017). TeachOregon: Lessons Learned, Promising Practices, and Recommendations for the Future. Portland, OR. Retrieved from https://chalkboardproject.org/sites/default/files/TeachOregon_ThreeYear_Mar2017_singlepg.pdf

19 Cooperating teachers are teachers who serve as mentors, models, and instructors to student teachers.

Teacher Professional Learning

Ongoing professional learning is important for teachers at all points in their careers. Successful teacher professional learning programs provide the following key elements:

- Personalized professional learning tailored to individual teacher needs and the needs of the students they teach.
- More time outside of the classroom for teachers to discuss how to better serve specific students and to improve their skills by learning from one another.
- Mentoring to early-career teachers without ignoring the needs of later-career teachers. While some research shows teacher effectiveness increases with experience throughout a teacher's career, the gains diminish in later years.[20] More effective professional development in the later years is needed if high-experience teachers are to continue to increase their effectiveness.

School Leadership

Districts should develop a principal leadership program to identify talented teachers with leadership potential and groom them for future leadership. The current system of teachers self-selecting into administrative and leadership positions may not attract the most effective candidates.

Culture of Learning

A positive school culture that is welcoming, focuses on learning, and successfully engages students will improve attendance, student achievement, and graduation rates.

Community Partners/Neighborhood Hubs

Schools and districts should seek out community partners—both non-profits and governmental agencies—that can assist students with challenges that are outside of school but affect school performance. These organizations can provide wrap-around services or neighborhood hubs where a range of services are available, ultimately improving access to families. Students and families should be given input as to what is offered in their communities.

Counselors

Oregon should work to reverse the trend of declining numbers of counselors in its schools. This is particularly important in high schools, where counselors help students stay in school through graduation. Since 1990-91, the counselor-to-student ratio has risen from one counselor for every 424 students to one counselor for every 472 students. Research suggests reducing the ratio to one counselor for every 250 students in schools where it is higher than that can reduce disciplinary problems and improve student outcomes.[21]

Resource Allocation

For the system as a whole, direct more resources to the areas where they make the most difference (e.g., high-quality Pre-K programs, the early elementary grades, added instruction time for struggling students, transition points, etc.) Within districts, allocate more resources to schools with the highest-need students, and direct more resources into instruction by being as efficient as possible in other areas (e.g., administration, building operations, transportation, etc.).

Career and Technical Education

Continue to improve and expand Oregon's CTE programs and the partnerships with employers who need skilled workers.

Assistance with Implementation and Support

Recognize that districts and schools will need help implementing system changes. That help should include state-level assistance with diagnosis, process change design, and implementation. Teams of specialists from the Oregon Department of Education, for example, can help schools work toward achieving the cohesive processes that improve outcomes.

Specific Promising Practices for Oregon Schools

In addition to the above recommendations, Oregon schools should adopt the following specific practices that research has been shown to be effective:

20 Clotfelter, Ladd, and Vigdor, *How and Why Teacher Credentials Matter for Student Achievement*, National Center for Analysis of Longitudinal Data in Education Research, Working Paper 2, March 2007

21 Carrell, S. & Carrell, S. (2006). Do Lower Student-to-Counselor Ratios Reduce School Disciplinary Problems? *Contributions to Economic Analysis & Policy*: Vol. 5: Iss. 1, Article 11. Available at: http://www.bepress.com/bejeap/contributions/vol5/iss1/art11

Elementary Schools

Reducing class sizes across the board is very expensive, but targeting class size reductions where they have the most impact will cost far less. Oregon should work to reduce class sizes in the early grades and in schools with larger shares of students with higher needs.

Elementary schools and middle schools should work together to improve the transition from elementary to middle school. This should include elementary and middle school teachers meeting with one another and sharing student-specific data before the school year starts.

Middle Schools

Providing additional resources to middle schools may contribute to improved high school graduation rates. Analysis by the Oregon Department of Education shows that additional resources in middle schools was correlated with larger impact on graduation rates than a similar increase in resources in high schools did. This suggests that by better preparing students for high school, middle schools can contribute to increasing the probability of a student graduating from high school. The recent increase in the share of students who are "on track" to graduate after their ninth grade year suggests Oregon middle schools are preparing their students for a more successful transition to high school.

As with the transition between elementary and middle schools, middle and high schools should work together to improve the transition for students. This transition may be particularly important to the extent that it affects whether or not students in their ninth-grade year stay on track to graduate from high school.

High Schools

Oregon has made substantial progress in raising its high school graduation rate, which rose from 66.2 percent in 2008-09 to 76.7 percent in 2016-17. To continue this trend, districts can take a number of actions to support student success:

- Work with middle schools to make sure all students have a successful transition to high school. This should include middle school and high school teachers meeting before schools starts in the fall to share data and discuss individual student needs.
- Provide student supports in the ninth grade to make sure all students earn enough credits to be on track for graduation upon entering the tenth grade.
- Provide more counselors to assist students with academic and personal needs and to set goals for both high school and post-graduation. Helping students think about their post-graduation goals, and the importance of completing high school in order to achieve them, can increase graduation rates.
- Promote activities that foster student engagement, such as extracurricular activities, which can improve attendance and promote a positive school climate.
- Make and improve relationships with parents and external partners.

Examples of Success

Over the years, the Quality Education Commission has used a variety of research methods to analyze practices in a number studies of Oregon schools, including a matched-pair study, on-site interviews, online surveys, and in-depth case studies. It also selected schools of different sizes representing a wide range of geographic locations (e.g., urban, suburban, rural) throughout Oregon.

The Commission recently focused on schools with higher-than-average proportions of students who are economically disadvantaged, non-White and non-Asian, disabled, and/or English Language Learners. These are the students most likely to need additional support in order to graduate and enroll in postsecondary education. Below are three examples of schools with high-needs student populations that have achieved outcomes considerably above other schools with similar challenges and how they engendered these improvements.

Crater Renaissance Academy is a suburban high school located in the Central Point School District with a student population of 440 students, 54 percent of whom are economically disadvantaged, and a graduation rate that has increased from **74.7 percent to 80.7 percent** over the past four years. Drawing upon the principles of The Coalition of Essential Schools, Crater Renaissance has developed a highly collaborative culture to deliver differentiated instruction, academic interventions, personalized education plans, and a common set of best practice instructional strategies to all students. Knowing students well is a priority to staff who believe this makes it less likely that any student will fall through the cracks and allows staff to set increasingly higher expectations of every student. The school staff is well networked with local organizations through which it also offers a wide range of academic enrichment opportunities, Career and Technical Education (CTE), and extracurricular activities.

Jefferson High School is an urban high school located in Portland Public Schools with a diverse student population of 564 students of whom 44 percent are Black/African American, 15 percent are Hispanic/Latino, 10 percent are Multi-Racial, and 2 percent are Native Hawaiian/Pacific Islander. Jefferson has a graduation rate that has increased from **66.9 percent to 83.5 percent** over the past four years. With additional district funding, Jefferson transformed itself into a Middle College seven years ago and now works closely with Portland Community College and Portland State University to align curriculum so that students can successfully earn college credits. Students are offered a wide array of coursework and can earn college credits in many career and technical courses during their high school years. Jefferson also offers a summer transition academy for students transitioning from the eighth to ninth grade, mentoring and wrap-around supports from Self Enhancement, Inc., access to after school assistance three nights per week from a tutoring center staffed by Jefferson teachers, and a college readiness class for ninth-graders that focuses on academic reading and writing skills. Jefferson has also developed strong partnerships with Multnomah County to house a school-based health clinic.

Woodburn Academy of Art, Science and Technology (WAAST) is a city high school located in the Woodburn School District with a highly diverse student population of 385 students of whom 78 percent are Hispanic/Latino, and a graduation rate that has increased from **78.4 percent to 91.5 percent** over the past four years. The WAAST staff began its transformation from one of the lowest performing schools in the state nearly twenty years ago to one of the highest performing with grant funding used to support staff planning. Staff have been collaborating extensively in teams to ensure every student is known well by their teachers and prepared for college, careers and life ever since. WAAST has a wide range of academic support programs and opportunities for students including an advisory program, a student intervention team, before and after school tutoring, after school credit retrieval classes, math and writing labs, essential skills classes, Odyssey-ware online classes and academic interventions, summer school for essential skills development, and migrant student interventions. Academic enrichment is supported through dual language classes, world language courses (Spanish and Russian), STEM partnerships with Career and Technical Education/College Credit Now, Willamette Promise, Advancement Via Individual Determination (AVID) programs, and the International Baccalaureate (IB) Program.

Each of these successful, diverse high schools has a staff that is fully engaged in the day-to-day implementation of a continuous improvement process. While these processes are unique to each school, they share specific practices that help staff continue to make progress in ensuring students are thriving and on-track to graduate prepared for further education and careers. The schools:

1. Dedicate resources to support regular collaboration time for teams of teachers.
2. Implement a continuous school improvement process that is developed and owned by staff and has not been mandated, imposed, or appropriated by outside forces.
3. Take charge of their professional development and work continuously to become more effective.
4. Persist in fostering a culture of trust and support that gradually extends to whole system reform.
5. Develop an increasingly sophisticated skill set that can be readily observed in their collaborative teams.

The significance of these findings should not be underestimated. It is through staff engagement in a highly collaborative continuous improvement process that these schools are able to implement strategies well and effect a positive change in their rates of graduation and postsecondary enrollment. In such a system, staff members have time to evaluate and integrate proposed initiatives, strategies, and programs and time to collaborate regularly to implement the strategies in their school improvement plans. Without something like this process in a school, old and new initiatives are unlikely to make a difference in student outcomes. This collaborative continuous improvement process is very different work than school staff have typically been trained to do. It is, in fact, a sea change from the way in which high schools have operated in the United States for over a hundred years.

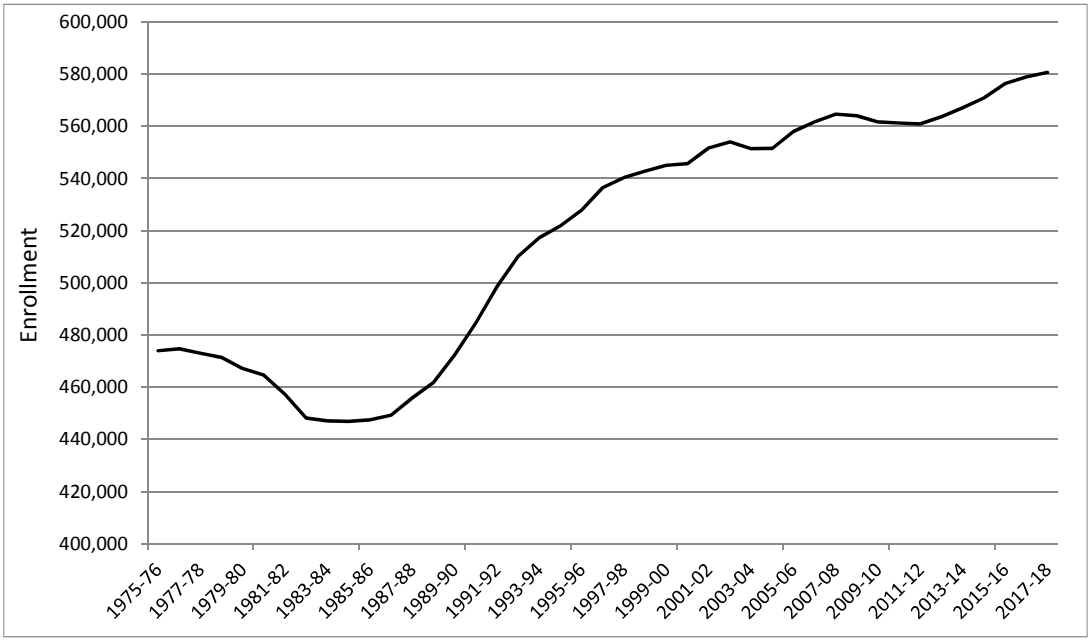
The Environment for Public Education in Oregon

Oregon schools face a number of challenges, including funding shortfalls, persistent achievement gaps among student groups, and high and increasing pension, health insurance, and other costs that are largely outside school districts' control. This section provides a brief description of the current environment of K-12 education in Oregon, providing important context for the sections that follow.

Enrollment

Exhibit 4 shows the trend in K-12 enrollment over the past 42 years, with enrollment growing an average of 0.5 percent per year, from 474,008 in 1975-76 to 580,690 in 2017-18. The growth has been relatively steady with the exception of a dramatic decline in the economic recession years of the mid 1970s and early 1980s and smaller declines in the recessions in the early and late 2000s. The enrollment declines tend to lag the recession by 2 to 3 years. Growth resumed in 2012-13 and has been strong, averaging 0.6 percent for the past 4 years.

EXHIBIT 4: Student Enrollment*



*Number of students enrolled on October 1 of each year

Exhibit 5 shows a breakdown by race and ethnicity. The highest percentage growth has been for Hispanic students. Average annual growth since 1975-76 has been 7 percent per year, and the Hispanic share of total students has risen from 2 percent to 22 percent. The White share has declined from 94 percent to 63 percent over the 42-year period. The Multi-Ethnic category, first used in 2004-05, has grown to 6 percent of the total.

Oregon's public school enrollment has steadily declined as a share of the state's population. Exhibit 6 shows the share fell from over 20 percent in 1975 to 14 percent in 2017. This reflects an aging population in the state. Census data for Oregon, which follows the population aged 5 to 24, shows the same pattern, with that population declining from 35 percent of the total in 1975 to 24 percent of the total in 2017. This trend is projected to continue until about the year 2035, when it is expected to level off.

EXHIBIT 5: Student Enrollment by Race/Ethnicity

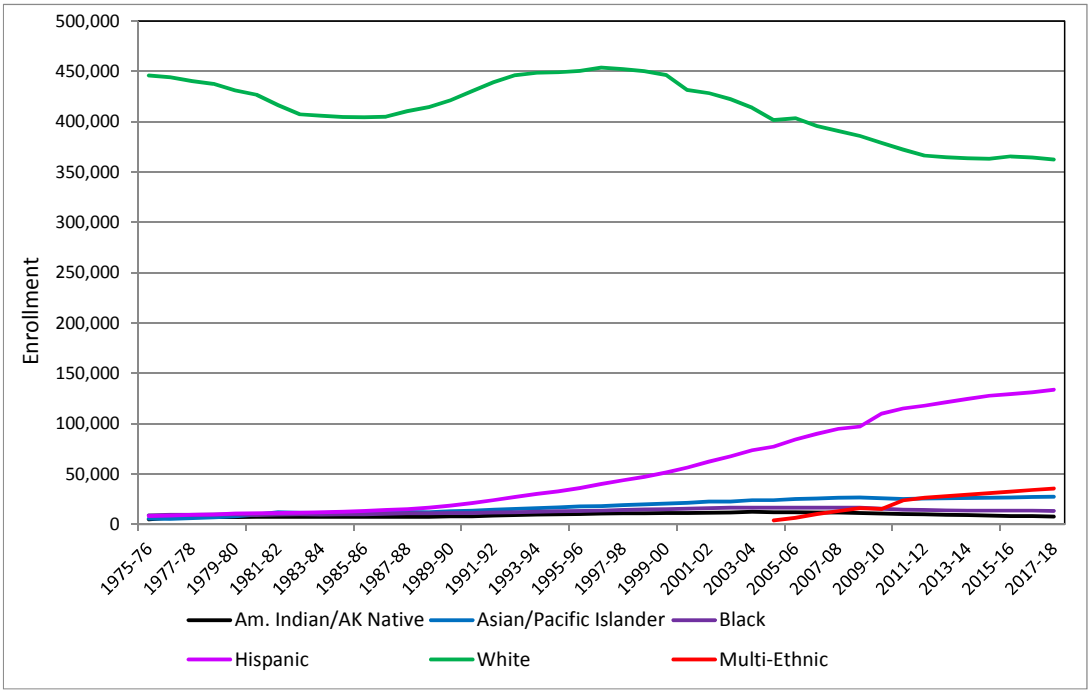
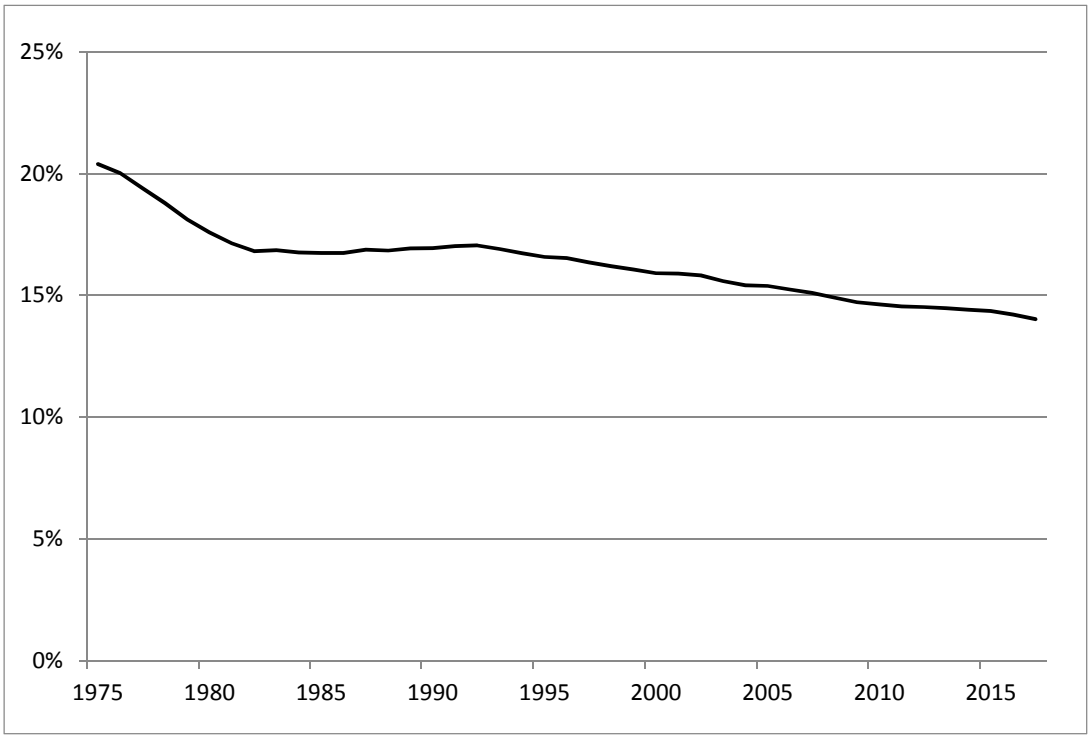


EXHIBIT 6: Student Enrollment as a Share of Population



Teachers

The number of teachers in Oregon has grown over the years as enrollment has increased, with the number of teachers growing slightly faster than enrollment since 1975-76. The pattern of growth, however, has been considerably different. With the exception of the late 1970s, enrollment growth has been fairly steady. Teacher growth, however, has been volatile (Exhibit 7), much more closely correlated with trends in funding than trends in enrollment. The number of teachers fell in the recessions of the early 1980s, 1990s, and 2000s as well as the much longer recession starting in 2007-08. Because enrollment continued to grow through most of this period, the student/teacher ratio rose substantially and was volatile as well, as shown in Exhibit 8. With improved funding starting in the 2013-15 biennium, districts have been able to start adding back teachers, but much of that hiring was for the increased need for kindergarten teachers as Oregon started funding full-day kindergarten starting in the 2015-16 school year.

EXHIBIT 7: Full-Time Equivalent Teachers

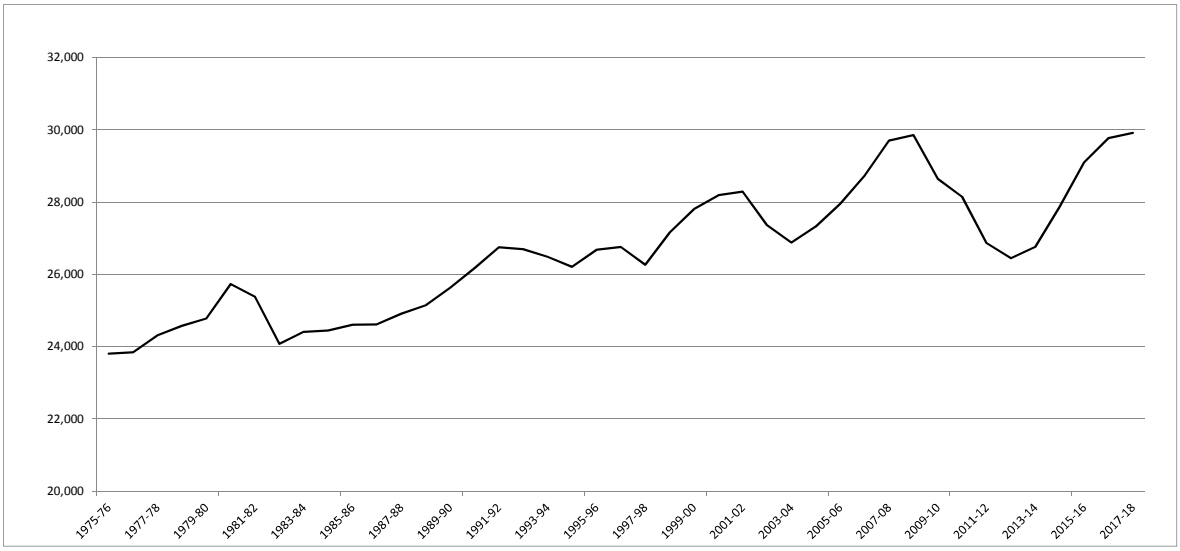
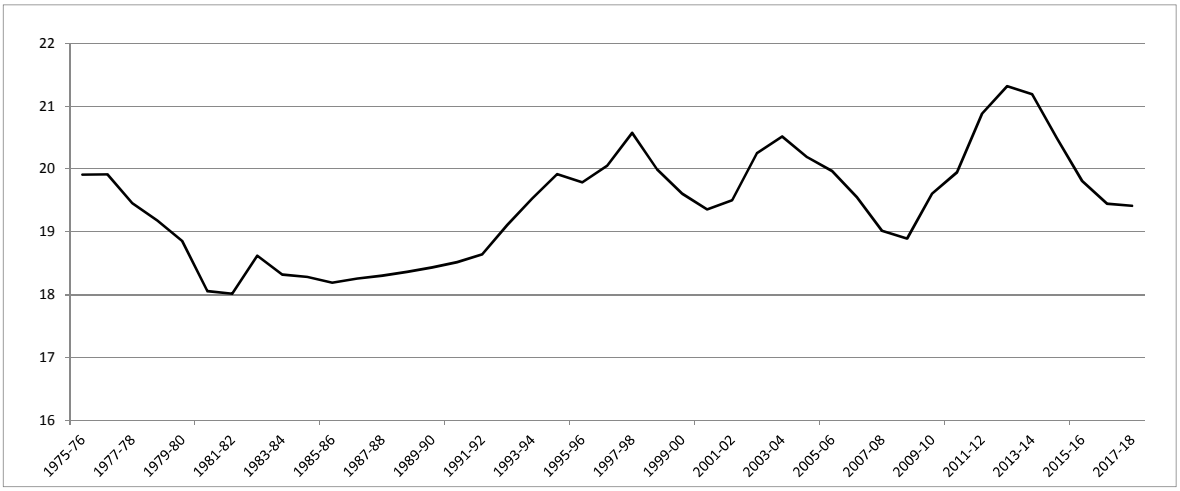
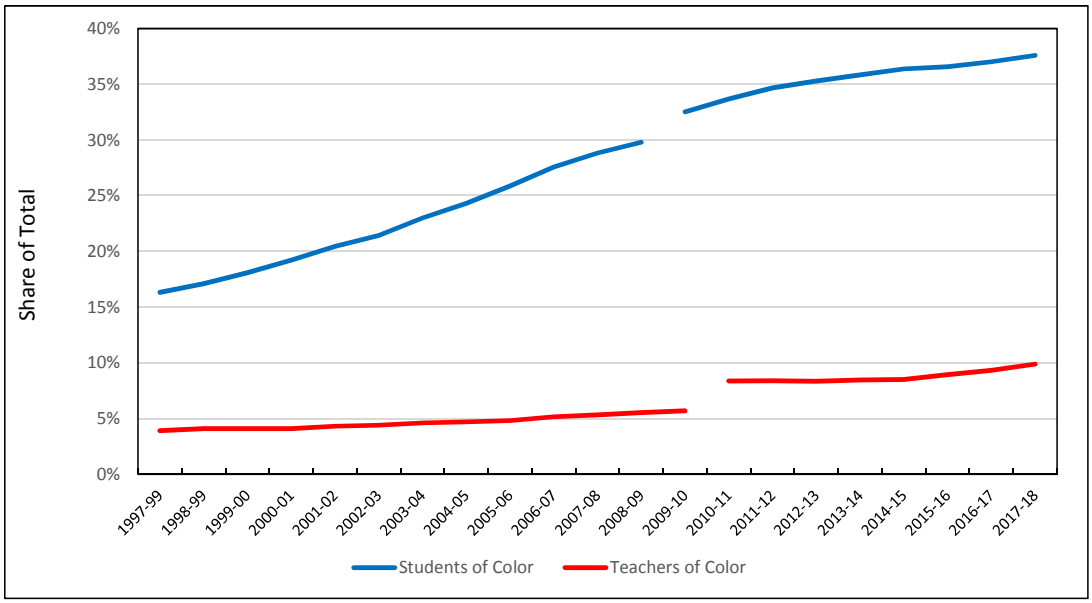


EXHIBIT 8: Student/Teacher Ratio



In Oregon schools that have high percentages of student of color, teachers rarely look like the students they serve. Exhibit 9 shows that Oregon has a long way to go to bring the share of teachers of color up to the same share as for students of color.

EXHIBIT 9: Students and Teachers of Color



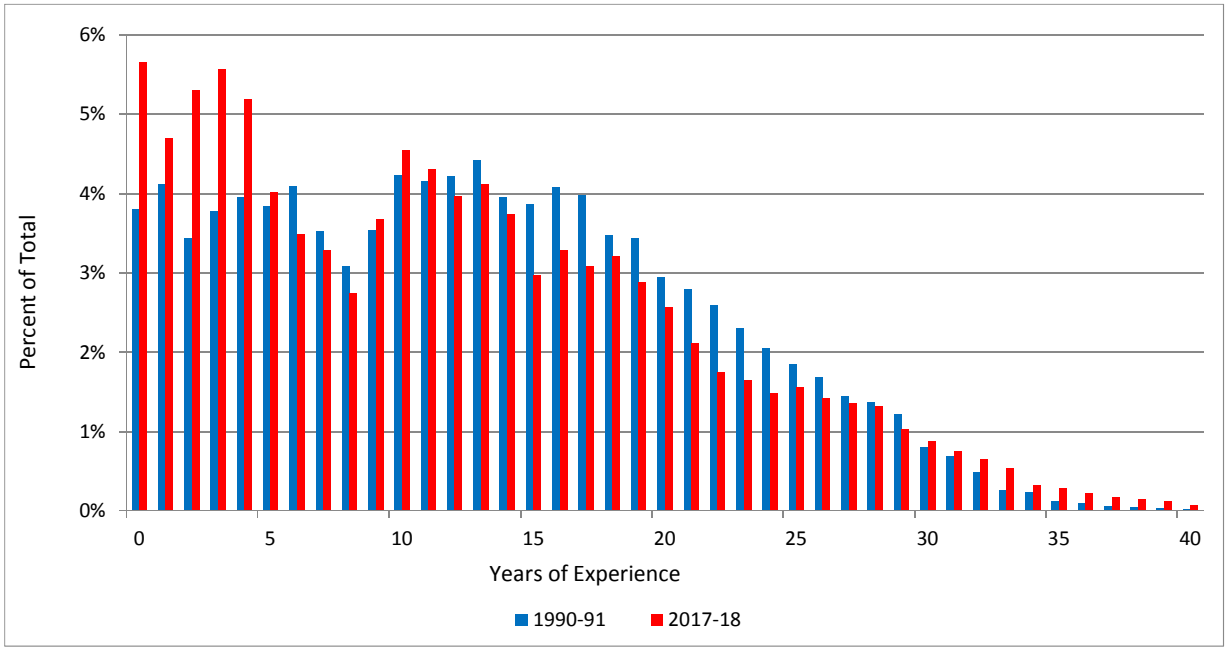
Note that in 2009-10 for students and 2010-11 for teachers, the guidelines for reporting race/ethnicity changed. See http://www.ode.state.or.us/news/announcements/announcement.aspx?=4630

The distribution of teacher experience has changed substantially over the past three decades, with far more teachers being less experienced than in the past, as shown in Exhibit 10. Part of this shift is due to the retirement of large numbers of highly experienced teachers, but part is also the result of hiring new, young teachers to replace those who were laid off during the recent recession, when funding declined, and to hire additional kindergarten teachers as kindergarten went from half-day to full-day in the 2015-16 school year.

Both in times of teacher hiring and teacher layoffs, many Oregon districts have difficulty finding qualified teachers in certain subjects and in certain geographic areas of the state. A recent analysis by the Oregon Department of Education found that there are shortages in math (particularly advanced math), science, Spanish, special education, and physical education.[22] The analysis also found that school districts in rural counties have more difficulty than urban and suburban districts in hiring and retaining qualified teachers.

22 Kelly Lovett, Understanding and identifying teacher shortage areas in Oregon, Oregon Department of Education Research Brief, July, 2016 http://www.ode.state.or.us/search/page/?id=5441

EXHIBIT 10: Teacher Years of Experience



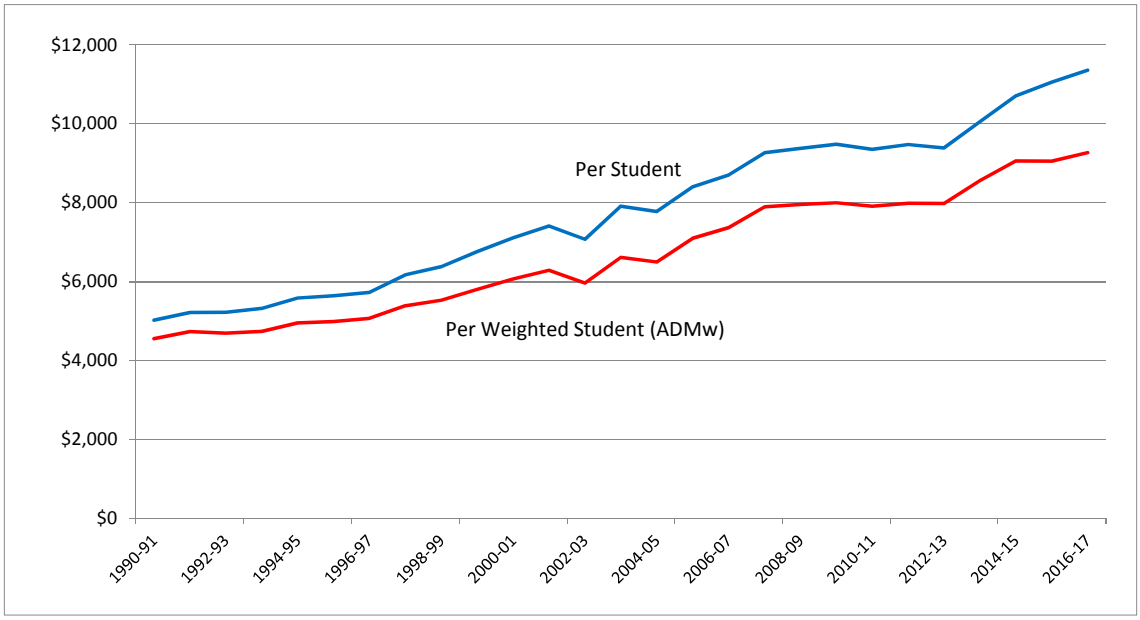
Funding

Operating revenues per student grew an average of 3.2 percent per year from 1990-91 to 2016-17, and operating revenues per weighted student grew more slowly—an average of 2.8 percent per year—because the number of student weights grew faster than the number of students. This faster growth in student weights resulted primarily from increases in English language learners and students in poverty, both of which receive extra weights in Oregon's school funding formula.

Because of a relatively large rainy day fund in place prior to the most recent recession, Oregon was able to avoid actual declines in per-student funding until 2009-10, when funding per student fell by 5.3 percent (see Exhibit 11). Then after very low growth for three years, the improving economy and higher revenue allowed the legislature to increase state funding for education substantially, leading to per-student increase of 7.1 percent in 2013-14 and 6.5 percent in 2014-15. Per-student revenue growth has since slowed—to 3.2 percent in 2015-16 and 2.7 percent in 2016-17. With increasing revenue, school districts have been able to hire back all of the teachers lost during the recession, reaching 29,914 FTE in 2017-18, slightly higher than the 29,858 FTE in 2008-09. With growth in enrollment during that period, however, Oregon's teacher student ratio, at 19.4 students per teacher, is slightly higher than in it was in 2008-09 and is estimated to currently be the 6th highest in the country.[23]

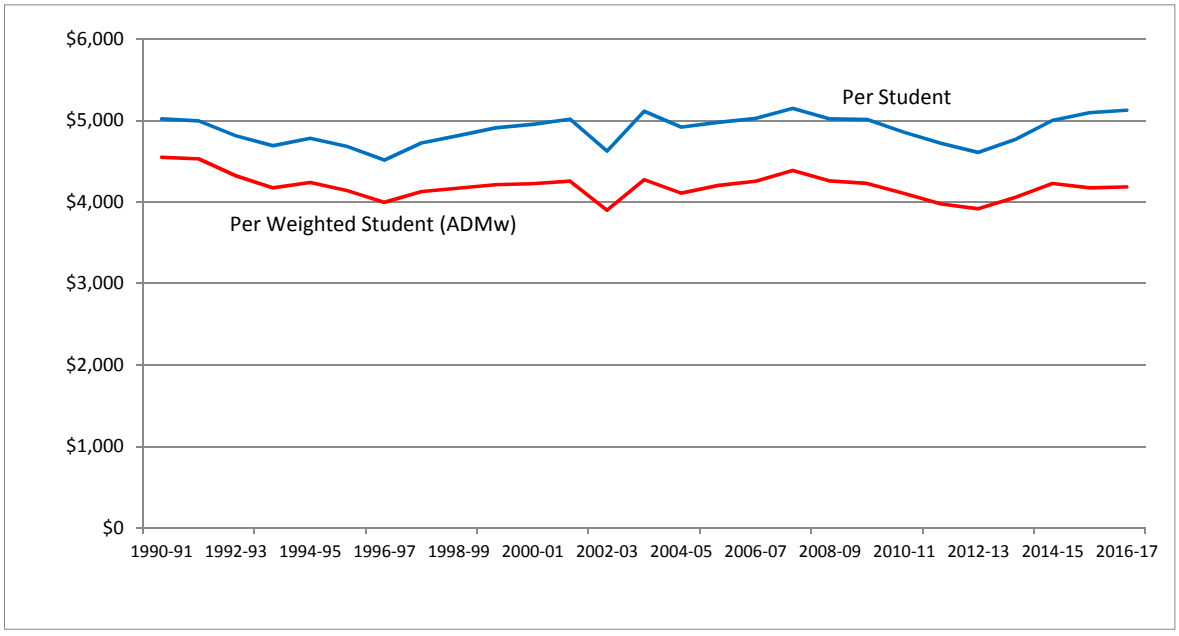
23 National Education Association, Rankings of the States 2017 and Estimates of School Statistics 2018, April 2018.

EXHIBIT 11: Operating Revenue Per Student and Per Weighted Student



When adjusted for inflation, however, Oregon has had virtually no increase in per-student funding since 1990-91, as shown in Exhibit 12. Funding per student declined steadily in the 1990s with the passage of Oregon's two property tax limitations, then rose again in the early 2000s as a result of economic and revenue growth. Funding has been volatile since then because of recessions in the mid and late 2000s, with weak economic and revenue growth continuing for nearly a decade since the financial crisis began in 2007.

EXHIBIT 12: Inflation-Adjusted Operating Revenue Per Student and Per Weighted Student



Over this period, Oregon has fallen from the 15th highest funded state in the U.S. to the 29th highest funded. Exhibits 13 and 14 show this change. The decline in Oregon's rank resulted from slow growth in funding due primarily to the two property tax limitations that Oregon voters passed in the 1990s and to a long-term decline, starting in the early 1980s, in the share of General Fund revenues coming from the corporate income tax. Oregon had the fifth lowest growth in spending per pupil in the U.S. over the 1990-91 to 2014-15 period (Exhibit 15).[24]

EXHIBIT 13: Per Pupil Expenditures by State, 1990-91

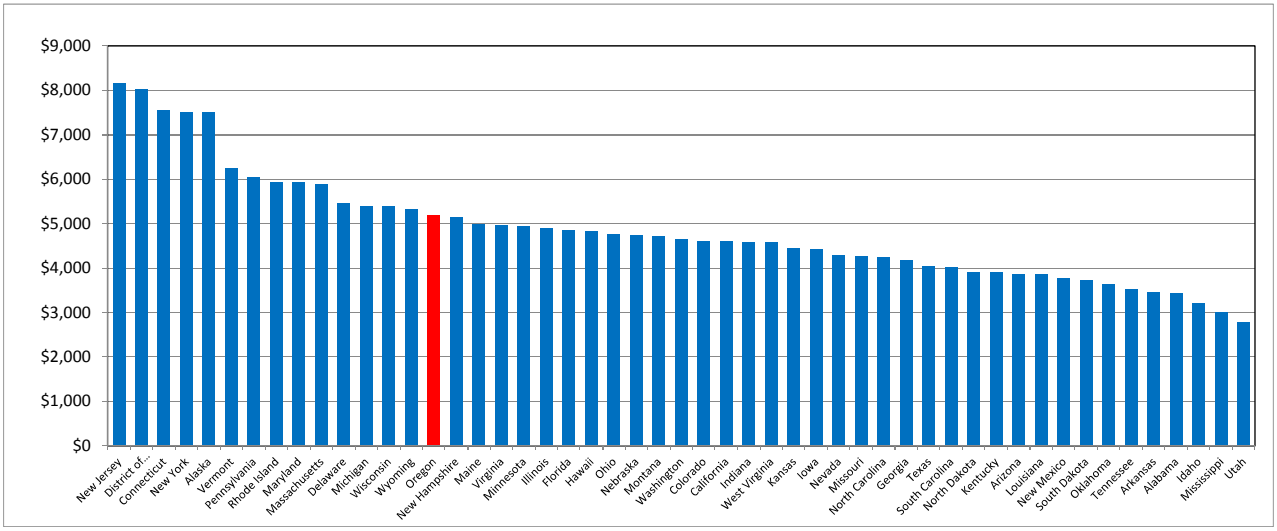
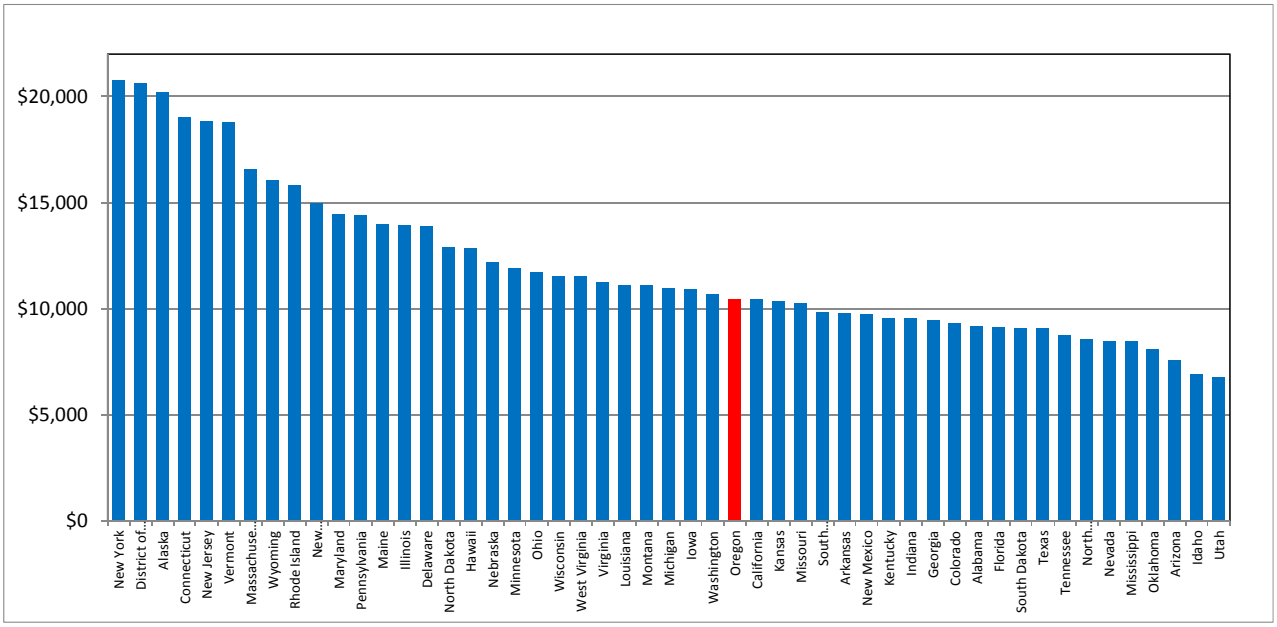
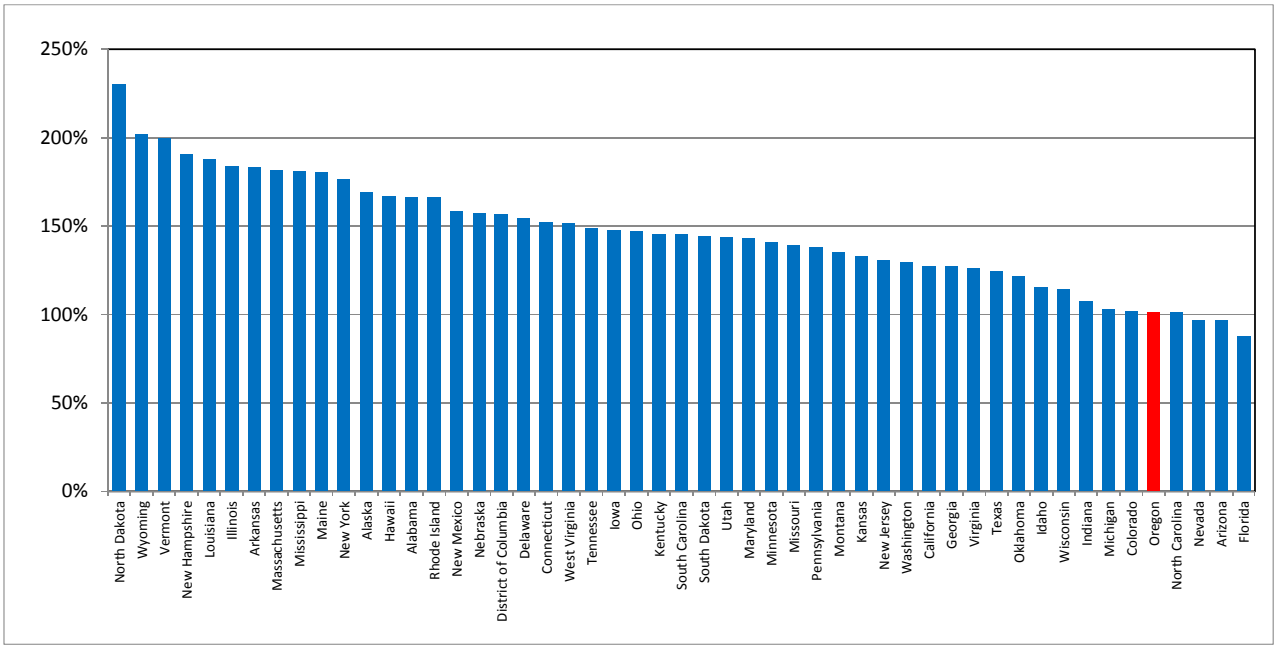


EXHIBIT 14: Per Pupil Expenditures by State, 2014-15



24 2014-15 is the most current data available for all states from the U.S. Department of Education's national Center for Education Statistics.

EXHIBIT 15: Percent Change in per Pupil Expenditures by State



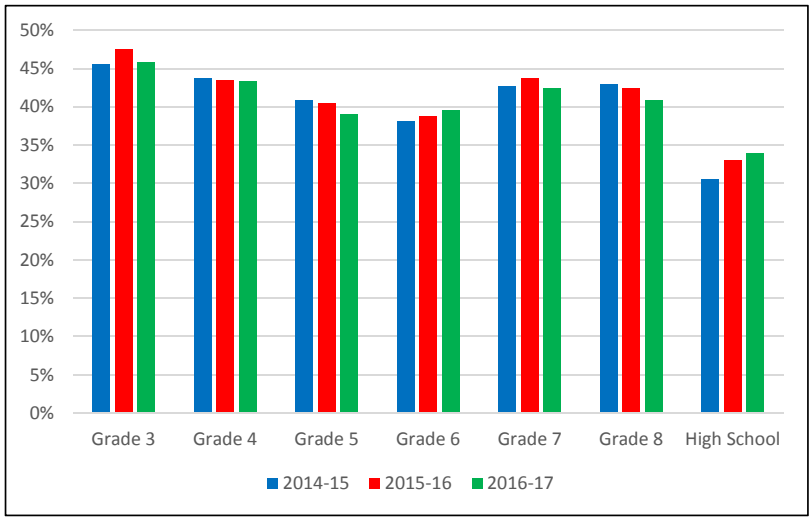
Exacerbating these funding challenges, Oregon school districts face extremely high retirement system payments to the Public Employees Retirement System (PERS). In the 2017-19 biennium the PERS employer contribution rate was set at 23.69 percent, about double the rates of the 1980s and 1990s. High investment earnings in those years led the PERS Board to credit to employee accounts earnings well above the 8 percent guarantee, leading to much higher required employer contribution rates in the future as investment earnings fell dramatically, particularly in the recession starting in 2007-08. The contribution rate is projected to be 28.32 percent in the 2019-21 biennium and as high as 31 percent by the 2021-23 biennium.

Standardized Test Scores

Oregon adopted the assessments developed by the Smarter Balanced Assessment Consortium (SBAC) starting in the 2014-15 school year. For both Math and Reading, the SBAC assessments and the score needed to meet the adopted standard are quite different than the assessments Oregon used in the past (the Oregon Assessment of Knowledge and Skills, or "OAKS"), so results from the two different assessment systems are not comparable. For that reason, below we present the three years of SBAC assessments results that are currently available, with no comparisons to the OAKS results from prior years.

Because the SBAC assessments are new, and because we have only three years of data, the results provide very little useful information about trends in student learning. Exhibits 16 and 17 show that there is little or no consistent pattern in the first three years of SBAC results. For Math, there is a decline in the percent of students meeting or exceeding standards from 3rd grade through 6th grade, increasing in the 7th and 8th grades, and then falling fairly dramatically in high school. Looking over the years, the pattern is an increase in the percent meeting or exceeding standards in some grades, a decline in others, and up then back down in others.

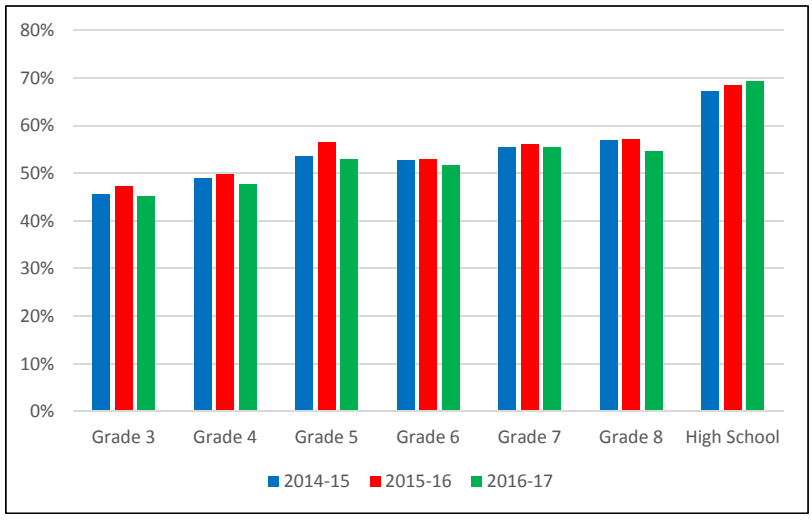
EXHIBIT 16: Math Percent Meeting or Exceeding Standard



For Reading the trend is more consistently rising percentages of students meeting or exceeding standards (with the exception of 6th grade), with a relatively large jump in high school. As with Math, the pattern is an increase in the percent meeting or exceeding standards in some grades, a decline in others, and up then back down in others.

As districts and schools become more familiar with the SBAC assessments and align their curricula more closely with the content on which the assessments are testing students, it is likely that the results will both improve and become more consistent over time and across grades.

EXHIBIT 17: Reading Percent Meeting or Exceeding Standard



High School Graduation

Because of its short history, SBAC assessment scores do not yet provide Oregon with a good barometer of trends in academic progress. For that reason, the Quality Education Commission has focused primarily on high school graduation rates in its evaluation for this report.

High School Graduation Rates Continue to Increase, but Slowly

Despite stagnant funding, Oregon's public schools have made steady gains in graduation rates. For the class of 2016-17, Oregon's graduation rate was 76.7 percent, up from 74.8 percent in 2015-16.[25] The rate has increased every year since 2008-09, the first year that the federally required cohort method was used to calculate the rate, when it was 68.0.[26] Research over the past eight years by the QEC points to the implementation of continuous improvement processes that increase effective instructional practices and personalize education for students as factors in improving graduation rates.[27] Findings from statewide community visits also highlight a need for personal and pointed outreach to students, youth, parents, and families, including building relationships, integrating culturally responsive practices, providing wrap-around services, and focusing on equity.

The improvement in the graduation rate despite flat funding means that Oregon schools have become more efficient, improving outcomes without additional resources. But while the graduation rate growth is encouraging, it is insufficient if Oregon is to meet its goal of having all students graduate from high school by 2025, and meeting that goal seems unlikely if recent funding trends continue.

To continue this progress and to ensure students are appropriately supported in their progress toward graduation and beyond, Oregon needs more investment in policies, practices, and processes that prioritize individual student needs. Without additional resources and strategic and sustainable processes for implementation, Oregon is unlikely to see enough improvement in student outcomes to meet its goals.

Graduation Rate Trends by Student Group

Graduation rates increased in 2016-17 for all student groups with the exception of Native Hawaiian/Pacific Islander Students, whose rate fell slightly from 70.1 percent to 69.4 percent. Exhibit 18 shows the largest gains were for Former English Learners, Students with Disabilities, Hispanic Students, Multi-Racial Students, and American Indian/Alaska Native Students. Former English Learners in particular have shown impressive progress, with their graduation rate exceeding those of most other groups. Exhibit 19 shows trends since 2008-09 for all racial/ethnic groups.

25 2008-09 was the first year that graduation rates were calculated using the "cohort" method, so rates prior to 2008-09 are not directly comparable to the rates presented here.

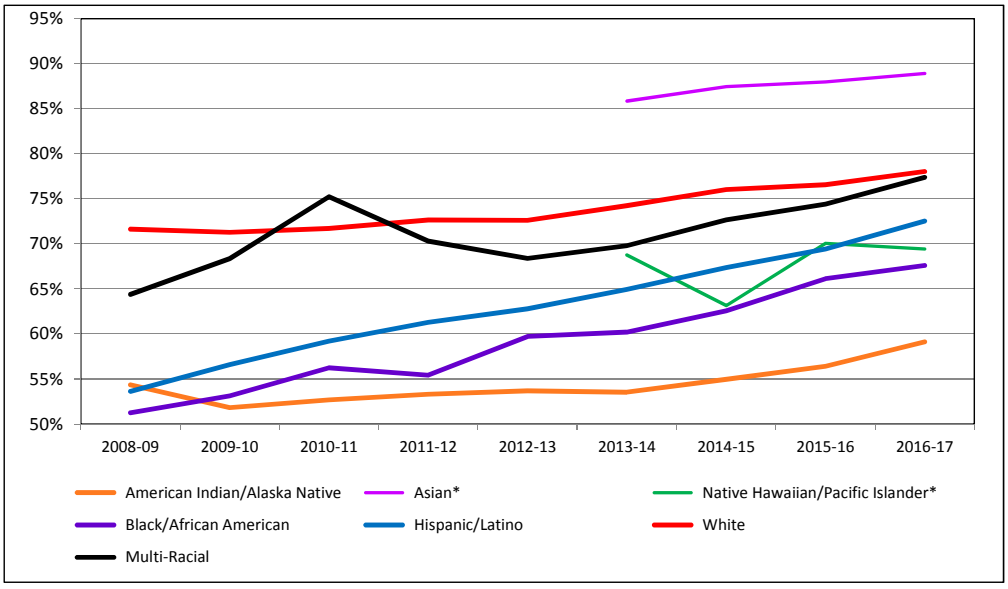
26 The cohort method follows a group of students from the 9th grade through 5 years to determine if they graduate on time (within 4 years), graduate within 5 years, or do not graduate. The cohort is adjusted for students transferring in and out of the state's public schools.

27 http://www.oregon.gov/ode/reports-and-data/taskcomm/Pages/QEMReports.aspx

EXHIBIT 18: Change in Graduation Rates By Student Group

	2015-16	2016-17	Change
All Students	74.8%	76.7%	1.8%
Males	71.4%	73.6%	2.2%
Females	78.4%	79.9%	1.5%
American Indian/Alaska Native	56.4%	59.1%	2.7%
Asian	88.0%	88.9%	0.9%
Native Hawaiian/Pacific Islander	70.1%	69.4%	-0.6%
Black/African American	66.2%	67.6%	1.5%
Hispanic	69.4%	72.5%	3.1%
White	76.6%	78.0%	1.5%
Multi-Racial	74.4%	77.4%	3.0%
Economically Disadvantaged	68.1%	70.1%	2.0%
Not Economically Disadvantaged	83.8%	85.4%	1.6%
English Learners in High School	52.9%	54.9%	2.0%
Former English Learners	77.9%	82.5%	4.6%
Not English Learners	75.8%	77.6%	1.7%
Students with Disabilities	55.5%	58.8%	3.3%
Students without Disabilities	78.1%	79.6%	1.5%
Talented and Gifted	92.7%	94.3%	1.6%
Not Talented and Gifted	73.0%	75.0%	1.9%

EXHIBIT 19: Trends in Graduation Rates By Race and Ethnicity



*Prior to 2013-14, Asian and Native Hawaiian/Pacific Islander students were combined.

A continuing concern for Oregon schools is the gap between the graduation rates of girls and boys (Exhibit 20). Although the gap has narrowed slightly in recent years, falling from 8.8 percentage points in 2010-11 to 6.3 percentage points in 2016-17, it still represents a significant challenge. Analysis by the Oregon Department of Education shows that even for boys who achieve at the same level as girls on standardized tests, the boys graduate from high school at a significantly lower rate, suggesting that non-academic barriers to completing high school may affect boys more than girls.

Economically disadvantaged students and students with disabilities also graduate at considerably lower rates than their peers, as shown in Exhibits 21 and 22.

EXHIBIT 20: Trends in Graduation Rates by Gender

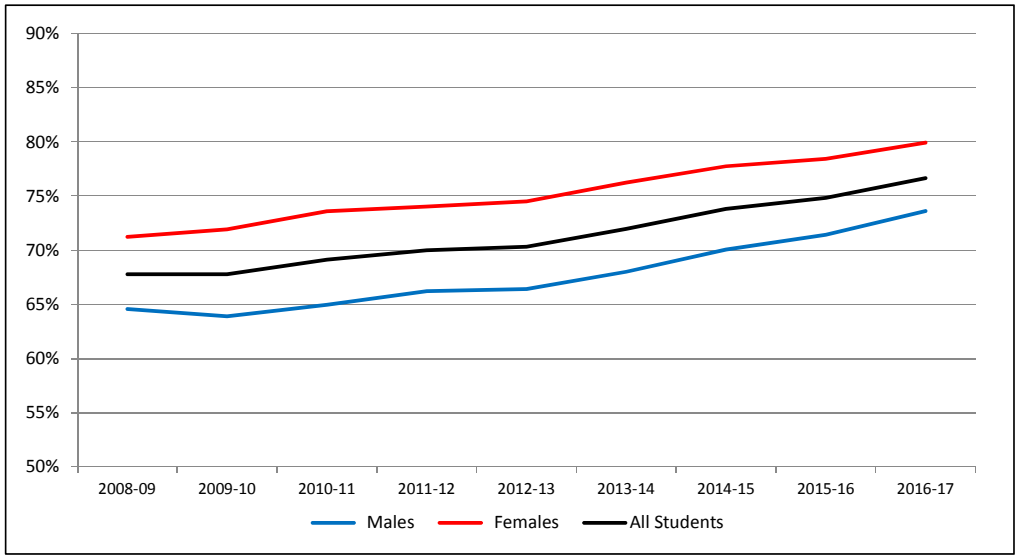


EXHIBIT 21: Trends in Graduation Rates by Economic Status

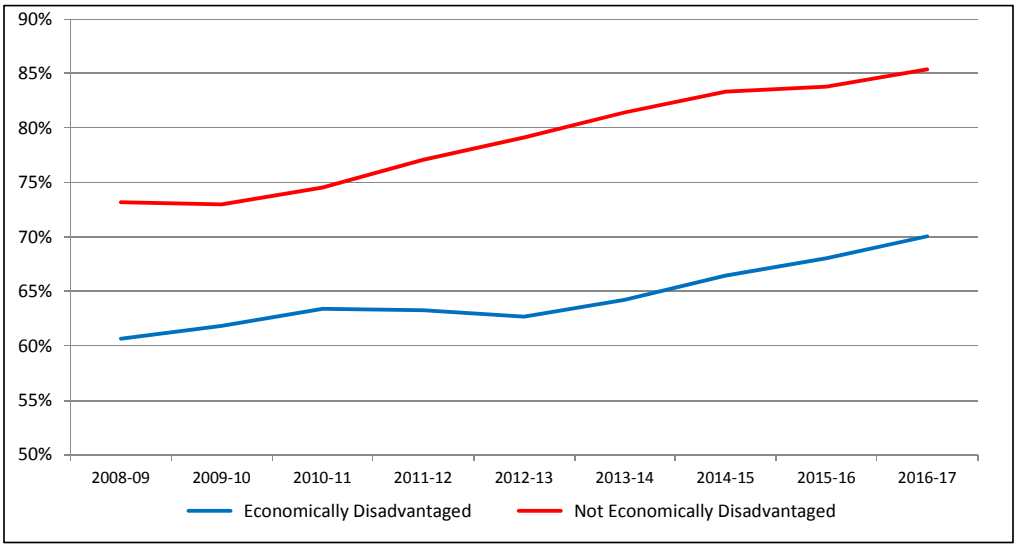
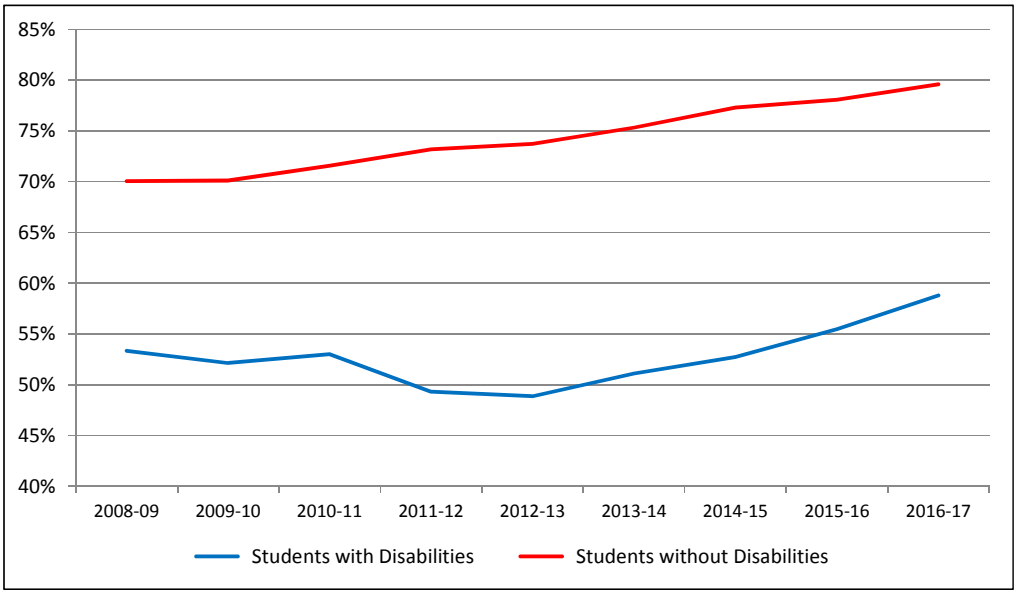


EXHIBIT 22: Trends in Graduation Rates by Disability Status



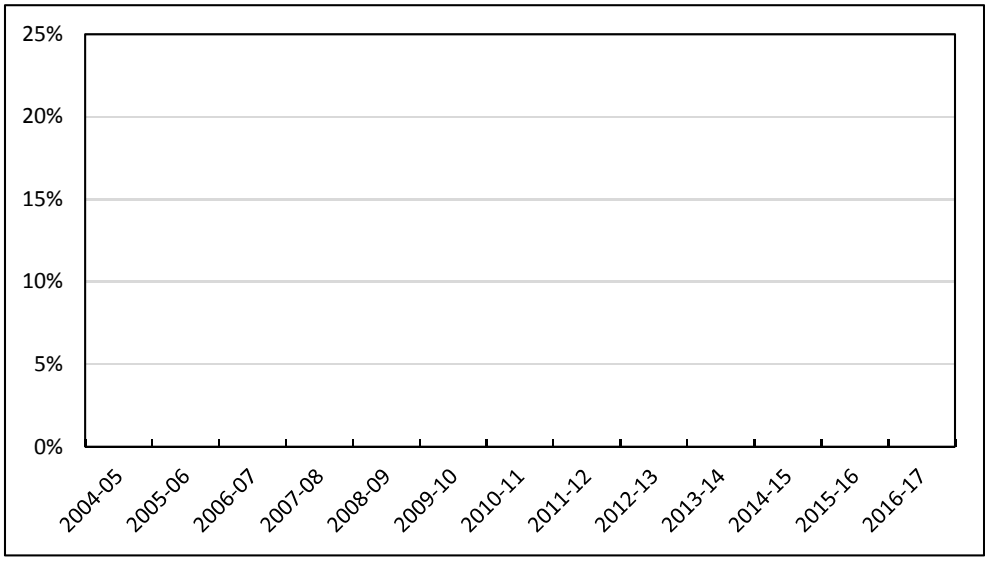
Chronic Absenteeism

Students who miss substantial amounts of school are less likely to succeed and are more at risk of not finishing high school. Analysis by the Oregon Department of Education shows that students who are chronically absent are far less likely to graduate from high school on time.[28]

Chronic absenteeism rates are more volatile over time for high school students and appear to be associated with the economic cycle, suggesting that when jobs are more plentiful, high school students may be more likely to have a job that interferes with school attendance. Exhibit 23 shows that the percent of students who are chronically absent has hovered around 20 percent in Oregon, with the exception of the period of the recent recession where job opportunities were most scarce. The absenteeism rate fell to 15 percent in 2013-14 but then started climbing as the economy improved.

28 Chelsea Clinton and Brian Reeder, School Attendance, Absenteeism, and Student Success, Oregon Department of Education, December 2015, https://www.oregon.gov/ode/reports-and-data/researchbriefs/Documents/Internal/school-attendance-absenteeism-and-student-success-final.pdf

EXHIBIT 23: Percent of Students Chronically Absent



Expected Impact on Graduation Rates of Higher Funding

Oregon's on-time high school graduation rate increased to 76.7 percent in 2016-17, up from 74.8 percent in the prior year. That is good news, but it will take substantial further increases if Oregon is to meets its educational goals and additional funding is a key part of making that happen. Recent analysis by the Oregon Department of Education (ODE) uses the results of two recent national studies to estimate the impact of increased funding on graduation rates.[29] The key findings from those studies were:

- A 10 percent increase in per-pupil expenditures resulting from adequacy-focused school-reform legislation leads to an estimated 10 percentage point increase in the probability of graduation for students from economically disadvantaged families and a 2.5 percentage point increase for non-economically disadvantaged students.
- An additional $1,000 of annual per-pupil spending has an impact over two times greater than the per-dollar impact of class size reduction found in Tennessee's Project Star class size experiment.

We can use the results of this research to predict the impact of additional funding on Oregon's high school graduation rate. Exhibit 24 shows expected graduation rates if funding remains at current levels—that is, if it only increases to account for inflation and enrollment growth. At current funding levels, we expect graduation rates to continue to grow, but for the growth rate to slow down.

With additional funding, however, we estimate that graduation rates will increase faster and to higher levels, as shown in Exhibit 25. Added funding, however, is not enough. Improving student outcomes also requires, as we stated earlier, that Oregon create a system of continuous improvement for its schools that increases school effectiveness throughout the state.

29 Oregon Department of Education, *4-year on-time graduation rates show continued improvement*, March 2018

EXHIBIT 24: Expected Graduation Rates at Current Funding Level

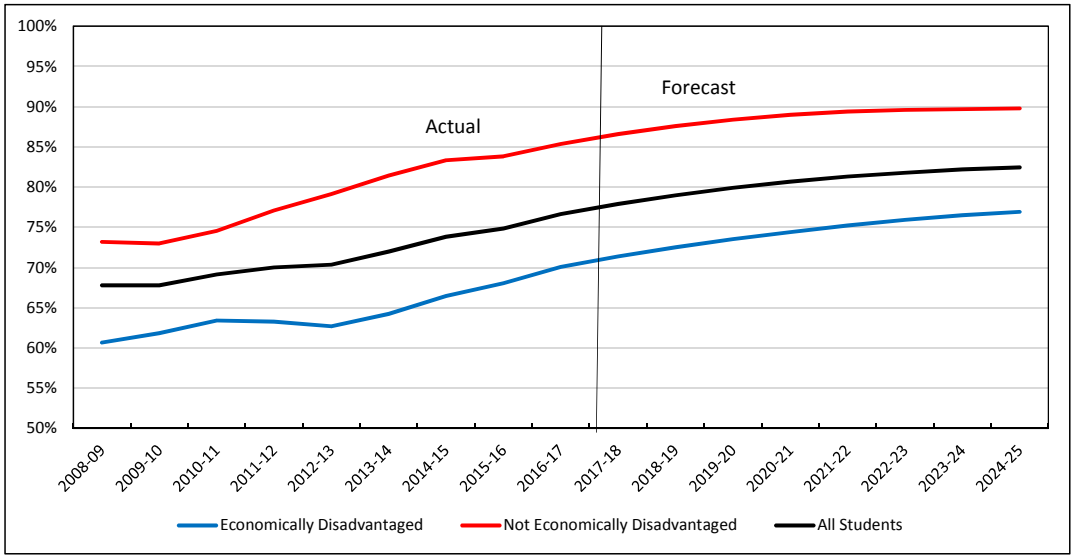
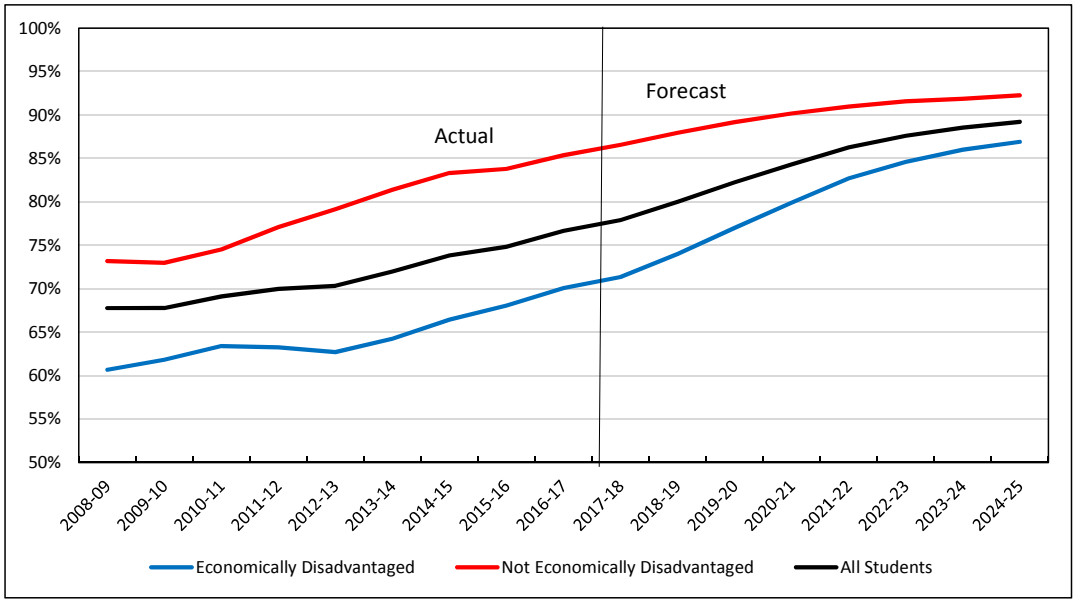


EXHIBIT 25: Expected Graduation Rates at Full QEM Funding Level

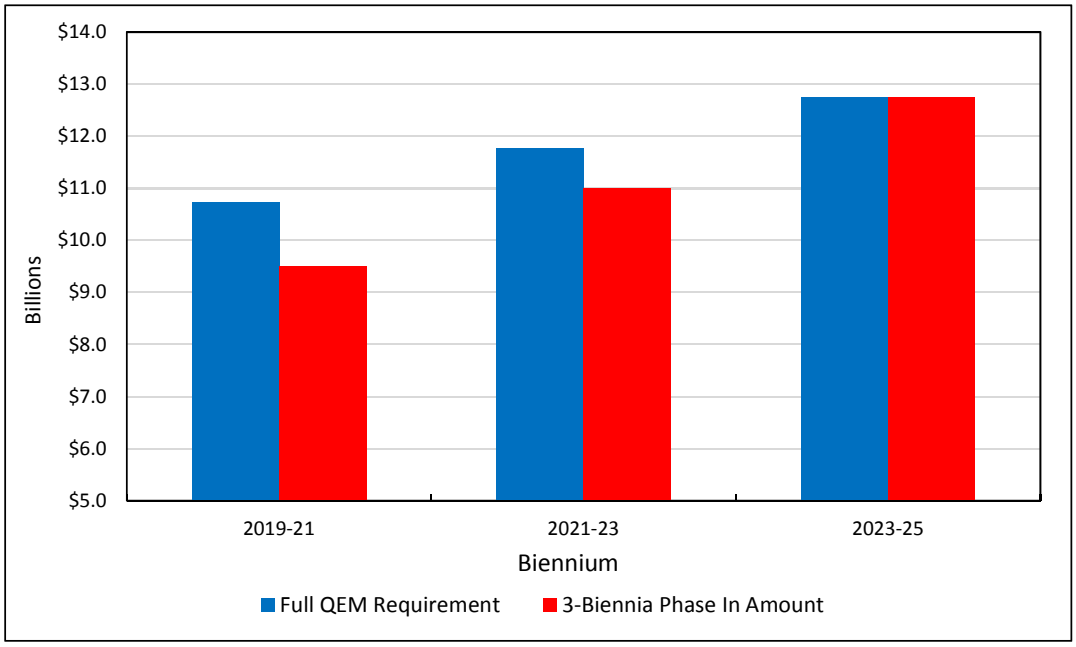


Alternative Funding Strategies

The funding shortfall estimated using the Quality Education Model is $1.96 billion for the 2019-21 biennium. Eliminating the shortfall entirely would require an increase in the State School Fund to $10.73 billion in 2019-21, an increase of more than 30% from the $8.20 billion the legislature appropriated in 2017-19. One option is for the legislature to appropriate that entire amount for 2019-21. An alternative strategy, one that would be less likely to disrupt other parts of the state budget and would give school districts more time to adjust to higher revenues, is to phase in the fully-implemented level of QEM funding over a longer period.

Exhibit 26 provides a comparison of the State School Fund appropriations required to fully fund the QEM immediately (the blue bars) to a phase-in over a 3-biennia period (the red bars). The phase-in example reduces the funding gap gradually and fully eliminates it by the 2023-25 biennium.

EXHIBIT 26: State School Fund Required to Fund the QEM With Phase-in Example



Ongoing Challenges

Despite encouraging trends in high school graduation rates, particularly for historically underserved student groups, Oregon still faces a number of challenges in meeting its educational goals.

- **Adequate funding**. Inflation-adjusted funding per student has been stagnant for more than 25 years, and increasing PERS rates resulted in significant increase in labor costs. Other states have increased their funding faster than Oregon has over the past 25 years, and Oregon risks falling further behind the rest of the country in our educational and economic outcomes.
- **School improvement**. Implementing effective practices and processes into the daily routine of every school in the state has the potential to dramatically improve student outcomes. Much more work needs to be done.
- **Student engagement/attendance.** Research shows that student engagement matters a great deal, and student attendance—one key measure of student engagement—is highly correlated with success in school and with high school graduation. Nearly 20 percent of Oregon students are considered "chronically absent", meaning that they missed school 10 percent or more of the time.
- **Equity.** Oregon still has large achievement gaps across student groups, both in standardized test scores and in high school graduation rates. If Oregon is to meet its educational goals, it needs to dramatically increase the success rate of historically underserved students, particularly students of color and students from economically disadvantaged families. The state needs to make sure that its funding formula gets funding to districts in proportion to their needs, and districts need to do the same for each of their schools.
- **Pre-K availability and quality**. Research shows that high-quality Pre-K programs have a dramatic impact on later success, both in school and in life.[30] In particular, non-cognitive skills such as persistence and cooperation play a key role in raising high school graduation rates, college-going and completion, and labor market success. Oregon is embarking on an effort to dramatically improve the quality of Pre-K programs and access for middle and lower income families. The payoff to this effort will be large if done well.
- **Cooperation across education sectors.** As we have learned more about the difficulties that many students have making transitions—from Pre-K to elementary school, from elementary to middle, from middle to high school, and from high school into college or other post-secondary training—the more it becomes clear that the different sectors in the education system need to cooperate to help more students successfully navigate those transitions.

30 Heckman, James J. et.al., Fostering and Measuring Skills: Improving Cognitive and Non-Cognitive Skills to Promote Lifetime Success, NBER Working Paper 20749, December 2014; and Robert Lynch and Kavya Vaghul, The Benefits and Costs of Investing in Early Childhood Education, Washington Center for Equitable Growth, December 2015. http://equitablegrowth.org/report/the-benefits-and-costs-of-investing-in-early-childhood-education/

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Appendix A: The Quality Education Model Details

The Quality Education Model (QEM), as initially developed in 1999, was a type of "professional judgment model" that developed a set of inputs required to run a highly effective system of schools, then estimated what it would cost to provide that set of inputs. Today's version of the QEM has a more detailed "Costing Model" component that takes advantage of the more detailed financial and other data collected by the Oregon Department of Education over the past 18 years. In addition, the QEM now also has a "Student Achievement Model" component that estimates the impact on student outcomes of various initiatives and programs that schools implement. Together, the costing model and the student achievement model can estimate both the costs and student outcomes of proposed education initiatives.

Quality Indicators

Schools

- Leadership that facilitates student learning
- Parental/community involvement
- Organizational adaptability
- Safe and orderly learning environment
- District policies to support learning
- School climate supporting all ethnic groups

Teachers

- Teacher and teaching quality
- Teacher collaboration
- Professional development program
- Teacher efficacy

Classrooms

- Effective instructional programs and methods
- School database collection and analysis to improve instructional programs

Students

- Readiness to learn
- Connectedness to school and engagement in academics and extra-curricular programs

The Costing Model

In the costing component of the Quality Education Model, the school serves as the unit of analysis for evaluating costs. To estimate the cost impact of policy proposals, it is necessary to understand the effects those proposals will have on an individual school's operations—that is, what programs will be the most effective at implementing the proposal, and what will be the impact on staffing levels and other school resources required to implement the programs. With its focus on schools as the unit of analysis, the Quality Education Model has prototype elementary, middle, and high schools, each designed to help students meet Oregon's high academic standards and performance goals. Each prototype school reflects the resources needed to implement best practices associated with high-performing schools and serves as a mechanism to evaluate the resource and cost implications of proposed education programs, policies, and strategies. While the prototype schools are not intended to be prescriptive, they may help policymakers, educators, and citizens to understand and make informed decisions about school resources and funding.

Quality Indicators are factors that indicate organizational functioning and efficiency, which the prototype schools are assumed to possess. These fourteen indicators are based on research about effective schools and serve as measures of whether a school employs effective practices and uses resources efficiently. The Quality Indicators fall into four broad categories: school-level, teacher-related, classroom-focused, and student-centered factors.

Best Practices are strategies and programs that have been demonstrated by research and experience to be effective in promoting high levels of student achievement. The prototypes demonstrate how schools of certain sizes and characteristics may be designed to implement the best practices. The Quality Education Commission identified the following essential characteristics that support best practices:

- Each student has a personalized education program.
- Instructional programs and opportunities are focused on individual student achievement of high standards.
- Curriculum and instructional activities are relevant to students' lives and culture.
- Each student has access to a rich and varied elective co-curricular and extra-curricular program.
- The school creates small learning environments that foster student connection.
- The school provides and encourages connections with significant adults, including parents, mentors, and other advisors to ensure that each student develops a connection to the greater community, along with a strong sense of self.
- The school makes data-informed decisions about the capability of programs to foster individual student achievement.
- The school at upper grade levels uses community-based and worksite learning as integral components of its instructional program.
- The school has a comprehensive staff induction program that guides recruitment and employment and provides ongoing professional development programs.
- Cost-effective management of resources allows school districts to meet the needs of the greatest number of students.

The **Individual Prototype Schools** incorporate what research and best practices have shown to be most important in improving student achievement and provide a level of resources that adequately promotes and sustains that goal. Each prototype school includes:

- Adequate staffing
- Added instructional time and activities for students having trouble meeting standards
- Curriculum development and technology support
- On-site instructional improvement
- Professional development for teachers and administrators
- Collaboration time for teachers
- Adequate classroom supplies
- Adequate funds for building maintenance

Prototype Resource Assumptions are incorporated into each prototype school in the Quality Education Model. The basic assumptions include:

- The size of each school is within a range that research literature recognizes as efficient.
- The assumed level of teacher experience is about average for schools in Oregon.

Prototype Schools

Elementary School—340 Students

- All-day kindergarten
- Class size average of 20 in kindergarten and grade 1 and 23 in grades 2-3
- Class size of 24 in grades 4-5
- 4.5 FTE for specialists in areas such as art, music, PE, reading, math, TAG, library, ESL, child development/counselor

Middle School—500 Students

- Class size average of 22, with a maximum of 29 in core classes
- 1.5 additional teachers for math, English, and science
- Alternative programs for special needs and at-risk students
- Volunteer coordinator and community outreach worker
- One counselor for every 250 students
- Adequate campus security

High School—1,000 Students

- Class size average of 21, with a maximum of 29 in core classes
- 3.0 additional teachers for math, English, and science
- Alternative programs for special needs and at-risk students
- Volunteer coordinator and community outreach worker
- One counselor for every 250 students
- Adequate campus security
- School-to-work coordinator

- Each school has fast Internet access with adequate bandwidth.
- Students have access to technology.
- Teachers are using technology effectively in the design and delivery of instruction.
- The schools accurately reflect the socioeconomic status of Oregon students.
- The schools have approximately 13 percent of their students identified for special education.
- The schools have approximately 11 percent of the students who speak English as a second language.
- The principal is knowledgeable about education requirements and is supportive of state and district goals.
- The principal is skilled as a leader and a manager.
- Teachers are supportive of state and district education goals and the training necessary to support them.
- Teachers possess content knowledge necessary to teach to applicable state standards.

The Student Achievement Model

This type of model, when combined with the costing component of the QEM, represents a powerful tool for evaluating the tradeoffs inherent when resources are limited. Before describing the new achievement model, we provide a description of the evolution of the Quality Education Commission's efforts to link resources to student achievement.

Over the past two decades, the Quality Education Commission and the Department of Education have made considerable progress in estimating the relationship between resources and student achievement using the more detailed data collected by the Department. These models have the advantages of using Oregon-specific data and of being able to estimate an explicit and quantifiable link between school spending and student achievement as measured by standardized tests scores and high school graduation rates. These models estimate student performance as a function of per-student spending and other variables that capture the cost differences of educating students with different needs.

In the current version of the Student Achievement Model, we utilize student-level data to identify and isolate the quantitative impacts of various factors on high school graduation. Using data for a cohort of students starting as early as third grade, the model can isolate the impact on high school graduation of factors such as prior student achievement, gender, ethnicity, attendance, English Language Learner status, special education status, economic disadvantage status, and others. The key findings of the model are the following:

- For students with the same level of academic performance, Asian and Hispanic students graduate from high school at higher rates than White students (White students represent the baseline ethnic category in the model), while American Indian/ Alaska Native students graduate at lower rates.
- For students with the same level of academic performance, Black and Pacific Islander students graduate at the same rate as White students.
- For students with the same level of academic performance, males, economically disadvantaged students, Talented and Gifted students, and Pregnant and Parenting students graduate at lower rates than other students who are not part of those groups.
- For students with the same level of academic performance, those with higher attendance rates graduate at higher rates.
- For students with the same level of academic performance, English Language Learners (ELLs) graduate from high school at the same rate as students who were never ELLs. However, ELLs who exit ELL status prior to entering high school—"former ELLs"—graduate at higher rates than students where were never ELL.

The approach used in the student achievement model has four distinct advantages. First, it fully utilizes the variation in school experiences we observe for Oregon students because it uses student-level data for multiple grades over multiple years. This allows us to follow students over time as well as compare different cohorts of students to one another. Second, by using large sample sizes (roughly 30,000 students in each intact cohort), the statistical power of our results is typically very high—that is, we have more confidence in our results. Third, by isolating the factors that influence high school graduation as early as third grade, the model suggests areas for policy attention that can be addressed early when success may be more likely. Finally, the student achievement model, when combined with the QEM's costing model, can identify tradeoffs among policy proposals—a critical exercise when resources are limited.

Model Update

The Quality Education Model is updated on a two-year cycle, with the model report being released in even-number years before the regular legislative session that starts in January of odd-numbered years. In each cycle, the model is updated to reflect the most recent data available and to incorporate new research and information into the model to make it more accurate and useful.

All of the data in the costing model were updated to include the most recent data available. For the financial data, the most recent data is for the 2016-17. For the other data in the model, most is for the 2017-18 school year, including student and staff data. The financial data lag behind the other data by a year because the financial data come from the audited financial reports of school districts and education service districts, and those audits are not completed until a few months after the school year ends. Highlights of trends in key data are described below:

- **Enrollment** grew by 0.44 percent in 2016-17 and 0.30 percent in 2017-18. These rates are closer to historical averages after 2 years of much higher growth.
- **Teacher salaries** grew by an average of 2.4 percent in 2016-17 and 2.0 percent in 2017-18. These growth rates are up from the relatively low rates starting in 2010-11 as a result of the recession.
- **Administrator salaries** also rebounded, with principal average salaries rising by 2.2 percent in 2016-17 and by 2.8 percent in 2017-18.
- **Classified staff wages** grew an average of 1.1 percent in 2016-17 and 2.4 percent in 2017-18.
- **The PERS rate** rose to 23.69 percent for the 2017-19 biennium and is expected to be 28.32 percent in 2019-21 and approximately 31 percent for 2021-23.
- **Health Insurance cost** increases, which historically have averaged in the 8-10 percent range, have been substantially lower for the past 5 years; they were about 3 percent in both 2014-15 and 2015-16. They are expected to rise at 3.4 percent per year in the 2019-21 and 2021-23 biennia.
- **Inflation remained low**, with the Portland consumer price index increasing 2.2 percent in 2016 and 3.0 percent in 2017. The implicit price deflator rose even more slowly, up 1.3 percent in 2016 and 1.8 percent in 2017.

Using the QEM to Evaluate Policy Proposals

The Quality Education Model can help in evaluating the impacts of policy proposals. By evaluating both the costs of proposed programs and the impacts on student outcomes, the model can give policymakers objective information to help inform policy discussions. In this section of the report we use the QEM to evaluate some proposed investments and policy interventions that have the potential to significantly improve student outcomes, both in terms of academic achievement and high school graduation.

The Cost of Full QEM Implementation

Under the Quality Education Commission's charge, the commission estimates the level of funding required to meet the quality goals established in statute for Oregon's schools. Exhibit 27 shows the estimated costs of fully implementing the Quality Education Model for the 2019-21 biennium compared to the Current Service Level. The Current Service level is the estimated cost of continuing the level of education services in Oregon's K-12 schools that was actually provided in the prior biennium (2017-19). As the table shows, the gap between the Current Service Level and the full QEM model is $1.963 billion. To eliminate the gap, total funding would need to increase by 12.4 percent. If all of the funds required to close the gap were to come from the State School Fund, it would need to increase by 22.4 percent.

Prior to the 2017 legislative session, the gap estimated with the QEM for the 2017-19 biennium was $1.992 billion, but because the legislature appropriated more to K-12 schools in the 2017 legislative session than was initially anticipated, the actual gap ended at $1.771 billion. For this coming biennium—2019-21—the gap between the QEM and the amount needed to keep up with inflation (the Current Service Level) is an estimated $1.963 billion, so the estimated gap has increased by $192 million from 2017-19 to 2019-21. The gap as a share of the Current Service Level rose from 21.6 percent in 2017-19 to 22.4 percent in 2019-21.

EXHIBIT 27: Quality Education Model Estimates—2019-21 Biennium

Current Service Level Compared to Fully-Implemented Model				
	Current Service Level	**Fully-Implemented QEM**	**Difference**	**Percent Difference**
Estimated Prototype School Operating Expenditures for 2019-20	$7,404,402,656	$8,322,414,948	$918,012,292	12.4%
Estimated Prototype School Operating Expenditures for 2020-21	$7,621,003,478	$8,565,014,191	$944,010,712	12.4%
2019-21 Biennium Total for Prototype Schools	$15,025,406,134	$16,887,429,139	$1,862,023,004	12.4%
Plus: ESD Expenditures	$722,506,102	$783,057,452	$60,551,350	8.4%
Plus: High-Cost Disabilities Fund for Special Education Students	$70,000,000	$110,000,000	$40,000,000	57.1%
Equals: Total 2017-19 School Funding Requirement	$15,817,912,236	$17,780,486,591	$1,962,574,354	12.4%
Less: Local Revenue not in Formula (local option taxes, grants, etc.)	$1,319,829,897	$1,319,829,897	$0	0.0%
Less: Federal Revenue To School Districts and ESDs	$1,167,003,885	$1,167,003,885	$0	0.0%
Less: Food Service Enterprise Revenue	$83,535,194	$83,535,194	$0	0.0%
Less: PERS Side Account Earnings Net of Debt Service Costs	$176,699,523	$176,699,523	$0	0.0%
Equals: Total Equalization Formula Funding Requirement	$13,070,843,737	$15,033,418,091	$1,962,574,354	15.0%
Less: Property Taxes and other Local Revenues in Formula	$4,299,477,685	$4,299,477,685	$0	0.0%
Equals: 2019-21 State School Fund Requirement	$8,771,366,052	$10,733,940,406	$1,962,574,354	22.4%

Cost Impacts of Specific QEM Recommended Resource Levels

The fully implemented QEM reflects the Quality Education Commission's estimate of the funding level required to reach Oregon's goals for the K-12 system—high school graduation for all students in the system. The "funding gap" of $1.963 billion reflects recommended resources that Oregon's current system does not provide. The recommendations that contribute most to the funding gap in the 2019-21 biennium are the following:

- Lower class sizes in elementary schools $454 million
- Instructional improvement in all schools (e.g., mentoring, peer review) $304 million
- More teachers (smaller classes) in middle and high schools $273 million
- Additional resources for special education and alternative education $242 million
- More time for teacher collaboration $107 million
- Increased maintenance to better maintain buildings $69 million
- Additional counselors in all schools $72 million
- Added professional development for teachers and building leaders $51 million
- Additional summer school for struggling students $33 million

Appendix B: The Quality Education Commission's Equity Stance

The Case for an Equity Stance

Through the efforts of the Oregon Education Investment Board (OEIB), the state has developed a vision of educational equity and excellence for each and every child and learner in Oregon. The Quality Education Commission (QEC) must ensure that sufficient resource is quantified to guarantee student success. The QEC understands that the success of every child and learner in Oregon is directly tied to the prosperity of all Oregonians. The attainment of a quality education strengthens all Oregon communities and promotes prosperity, to the benefit of all. It is through educational equity that Oregon will make progress towards becoming a place of economic, technologic, and cultural innovation.

Oregon faces two growing disparities that threaten our economic competitiveness and our capacity to innovate. The first is the persistent achievement gap between our growing populations of communities of color, immigrants, migrants, and low income students with our more affluent white students. While students of color make up over 30 percent of our state- and are growing at a significant rate- our achievement gap has continued to persist. As our diversity grows, it is critical that we embrace the strength of our new communities, promote outreach and dialogue, and adjust systems to appropriately serve all students. Our growth in this area increases opportunity for everyone in Oregon.

The second growing disparity is an increasing performance gap between Oregon and the rest of the United States. Our achievement in state benchmarks has remained stagnant and in some communities of color has declined while other states have begun to, or have already significantly surpassed, our statewide rankings. If this trend continues, it will translate into economic decline and a loss of competitive and creative capacity for our state. We believe that one of our most critical responsibilities going forward is to quantify resources and note best practices and policies that may be implemented in order to reverse this trend and deliver the best educational continuum and educational outcomes to Oregon's Children.

By adopting this Equity Stance, the QEC is committing to explicitly identifying disparities in Oregon's education systems for the purpose of targeting areas for action, intervention and investment.

The QEC Believes:

- Everyone has the ability to learn and that we have an ethical responsibility and a moral responsibility to ensure an education system that provides optimal learning environments that lead students to be prepared for their desired individual futures and a prosperous future for the collective Oregon community.
- Speaking a language other than English is an asset and that our education system must celebrate and enhance this ability alongside appropriate and culturally responsive support for English as a second language.
- Students receiving special education services are an integral part of our educational community and we must welcome the opportunity to be inclusive, make appropriate accommodations, and celebrate their assets. We must directly address the over-representation of children of color in special education and the under-representation in talented and gifted and college-prep programs.
- Students who have previously been described as "at risk," "underperforming," "under-represented," "under-served," or "minority" actually represent Oregon's best opportunity to improve overall educational outcomes. We have many counties in rural and urban communities that already have populations of color that make up the majority. Our ability to create an equitable education system is critical for us to successfully reach our state's 40-40-20 goals.
- Intentional and proven practices must be implemented to return out-of-school youth to the appropriate educational setting. We recognize that this will require us to challenge and change our current educational setting to be more culturally

responsive, safe, welcoming, receptive, and responsive to the significant number of elementary, middle, and high school students who are currently out of school.

- We must make our schools safe for every learner. When students are alienated from their school communities they are inherently less safe emotionally and, potentially, physically.
- Ending disparities and gaps in achievement begin in the delivery of quality Early Learner programs and appropriate parent engagement and support. This is not simply an expansion of services -- it is a recognition that we need to provide services in a way that engages and has value to our most diverse segment of the population, 0-5 year olds and their families.
- Resource allocation demonstrates our priorities and our values and that we demonstrate our priorities and our commitment to rural communities, communities of color, English language learners, students with special needs, and out of school youth in the ways we allocate resources and make educational investments.
- Communities, parents, teachers, and community-based organizations have unique and important solutions to improving outcomes for our students and educational systems. Our work will only be successful if we are able to truly partner with the community, engage with respect, authentically listen--and have the courage to share decision making, control, and resources.
- Every learner should have access to information about a broad array of career/job opportunities and apprenticeships that will show them multiple paths to employment yielding family-wage incomes, without diminishing the responsibility to ensure that each learner is prepared with the requisite skills to make choices for their future.
- Our community colleges and university systems have a critical role in serving our diverse populations, rural communities, English language learners and students with disabilities. Our institutions of higher education, and the P-20 system, will truly offer the best educational experience when their campus faculty, staff and students reflect this state, its growing diversity and the ability for all of these populations to be educationally successful and ultimately employed.
- The rich history and culture of learners is a source of pride and an asset to embrace, celebrate, and be included in the culture of Oregon's educational settings; even as our diverse histories and cultures sometimes challenge the assumptions of the state's dominant culture.
- Supporting great teaching is essential. Teachers are among the most powerful influences in student learning. An equitable education system requires providing teachers with the tools and support to be highly effective instructors for each and every student.
- Equity requires the intentional examination of systemic policies and practices that, even if they have the appearance of fairness, may in effect serve to marginalize some and perpetuate disparities.
- Data are clear that Oregon demographics are changing to provide rich diversity in race, ethnicity, and language.
- Working toward equity requires an understanding of historical contexts and the active investment in changing social structures and changing practice over time to ensure that all communities can reach the goal and the vision of 40-40-20.

Implications of Taking an Equity Stance on the QEC's Work:

This Equity Stance will confirm the importance of recognizing institutional and systemic barriers and discriminatory practices that have limited access for many students in the Oregon education system. The Equity Stance emphasizes underserved students, such as out-of-school youth, English Language Learners, and students in some communities of color, low income students, and some rural geographical locations, with a particular focus on racial equity. The result of creating a culture of equity will focus on the outcomes of academic proficiency and educational attainment, civic awareness, workplace literacy, and personal integrity.

The commission will focus on resource allocation, overall investments, practices, and policies. By utilizing this Equity Stance, the QEC aims to align to a common Oregon vocabulary and protocol regarding issues of educational equity; and consider each of the following matters in the evolving development of the Quality Education Model, related reports, and other items that come before the commission:

1. Review and publish data on current and potential future impact of resource allocation and practices or policies on Oregon's student populations at all levels 0-5, K-12, and higher education.
2. Explicitly describe the impact recommended resource allocation levels and suggested practices or policies have on eliminating the opportunity gap.
3. Enumerate, explain, and develop possible strategies to overcome ideological, institutional, and other challenges to more equitable outcomes.
4. Create and implement a plan to intentionally involve members of affected communities in the consideration of data as well as suggested evidence-based practices or policies.
5. Consider resource allocation levels and practices or policies that focus on transition knowledge and skills (postsecondary and career awareness, self-advocacy, college and workforce norms, admission requirements, and financial aid options and procedures). Incorporate an appreciation for diversity and a culturally appropriate development of educational and career transition knowledge.
6. Compare Oregon's performance, practices, and policies with those of other states to better define recommended resource allocation levels and suggested practices or policies to advance the 40-40-20 goal for *all* learners. Further, the QEC will be developing a Quality Education Model (QEM) report that is more inclusive of Oregon's diverse population. The QEM will also provide a more complete and accurate path to Oregon's 40-40-20 goal than in the past by acknowledging the barriers that exist for many learners and offering recommended resource allocation levels and suggested practices or policies that provide an equitable path to college and career for every Oregon learner.

Definitions

ACHIEVEMENT GAP: Achievement gap refers to the observed and persistent disparity on a number of educational measures between the performance of groups of students, especially groups defined by gender, race/ethnicity, and socioeconomic status.

CULTURALLY RESPONSIVE: Recognize the diverse cultural characteristics of learners as assets. Culturally responsive teaching empowers students intellectually, socially, emotionally and politically by using cultural referents to impart knowledge, skills and attitudes.

DISPROPORTIONALITY: Over-representation of students of color in areas that impact their access to educational attainment. This term is a statistical concept that actualizes the disparities across student groups.

EMBEDDED RACIAL INEQUALITY: Embedded racial inequalities are also easily produced and reproduced – usually without the intention of doing so and without even a reference to race. These can be policies and practices that intentionally and unintentionally enable white privilege to be reinforced.

EQUITY: In education, equity is the notion that EACH and EVERY learner will receive the necessary resources they need individually to thrive in Oregon's schools no matter what their national origin, race, gender, sexual orientation, differently abled, first language, or other distinguishing characteristic.

OPPORTUNITY GAP: The lack of opportunity that many social groups face in our common quest for educational attainment and the shift of attention from the current overwhelming emphasis on schools in discussions of the achievement gap to more fundamental questions about social and educational opportunity.

RACE: Race is a social – not biological – construct. We understand the term "race" to mean a racial or ethnic group that is generally recognized in society and often, by government. When referring to those groups, we often use the terminology "people of color" or "communities of color" (or a name of the specific racial and/or ethnic group) and "white." We also understand that racial and ethnic categories differ internationally, and that many of local communities are international communities. In some societies, ethnic, religious and caste groups are oppressed and racialized. These dynamics can occur even when the oppressed group is numerically in the majority.

UNDERSERVED STUDENTS: Students whom systems have placed at risk because of their race, ethnicity, English language proficiency, socioeconomic status, gender, sexual orientation, differently abled, and geographic location. Many students are not served well in our education system because of the conscious and unconscious bias, stereotyping, and racism that is embedded within our current inequitable education system.

WHITE PRIVILEGE: A term used to identify the privileges, opportunities, and gratuities offered by society to those who are white.

40-40-20: Senate Bill 253, passed in 2011, stated that by 2025 all adult Oregonians will hold a high school diploma or the equivalent, 40 percent of them will have an associate's degree or a meaningful postsecondary certificate, and 40 percent will hold a bachelor's degree or advanced degree. In 2017, the legislature amended the law with House Bill 2311 so that the 40-40-20 goal applies to adult Oregonians currently completing their educations, not to all adult Oregonians.

Appendix C: The Quality Education Commission Authorizing Legislation

327.497 Legislative findings.
The Legislative Assembly finds that:

(1) Within the Oregon Educational Act for the 21st Century in ORS chapter 329 there are established goals for high academic excellence, the application of knowledge and skills to demonstrate achievement and the development of lifelong learning skills to prepare students for the ever-changing world.

(2) Education is increasingly linked to economic and social issues.

(3) The people of Oregon, through section 8, Article VIII of the Oregon Constitution, have established that the Legislative Assembly shall appropriate in each biennium a sum of money sufficient to ensure that the state's system of public education meets the quality goals established by law. Furthermore, the people of Oregon require that the Legislative Assembly publish a report that either demonstrates that the appropriation is sufficient or identifies the reasons for the insufficiency, its extent and its impact on the ability of the state's system of public education to meet those goals.

(4) The Quality Education Commission should be established to define the costs sufficient to meet the established quality goals for kindergarten through grade 12 public education. [2001 c.895 §1]

327.500 Establishment; membership; staff. (1) There is established a Quality Education Commission consisting of 11 members appointed by the Governor. The Governor may not appoint more than five members of the commission who are employed by a school district at the time of appointment.

(2) The term of office of each member is four years, but a member serves at the pleasure of the Governor. Before the expiration of the term of a member, the Governor shall appoint a successor whose term begins on August 1 next following. A member is eligible for reappointment. If there is a vacancy for any cause, the Governor shall make an appointment to become immediately effective for the remainder of the unexpired term.

(3) The appointment of members of the commission is subject to confirmation by the Senate in the manner prescribed in ORS 171.562 and 171.565.

(4) A member of the commission is entitled to compensation and expenses as provided in ORS 292.495.

(5) The Department of Education shall provide staff to the commission. [2001 c.895 §2; 2005 c.209 §8]

327.502 Officers; quorum; meetings. (1) The Governor shall select one of the members of the Quality Education Commission as chairperson and another as vice chairperson, for such terms and with duties and powers necessary for the performance of the functions of those offices as the Governor determines.

(2) A majority of the members of the commission constitutes a quorum for the transaction of business.

(3) The commission shall meet at times and places specified by the call of the chairperson or of a majority of the members of the commission. [2001 c.895 §4]

327.506 Quality education goals; duties; report. (1) The quality goals for the state's system of kindergarten through grade 12 public education include those established under ORS 329.007, 329.015, 329.025, 329.045 and 329.065.

(2) Each biennium the Quality Education Commission shall determine the amount of moneys sufficient to ensure that the state's system of kindergarten through grade 12 public education meets the quality goals.

(3) In determining the amount of moneys sufficient to meet the quality goals, the commission shall identify best practices that lead to high student performance and the costs of implementing those best practices in the state's kindergarten through grade 12 public schools. Those best practices shall be based on research, data, professional judgment and public values.

(4) Prior to August 1 of each even-numbered year, the commission shall issue a report to the Governor and the Legislative Assembly that identifies:

(a) Current practices in the state's system of kindergarten through grade 12 public education, the costs of continuing those practices and the expected student performance under those practices; and

(b) The best practices for meeting the quality goals, the costs of implementing the best practices and the expected student performance under the best practices.

(5) In addition, the commission shall provide in the report issued under subsection (4) of this section at least two alternatives for meeting the quality goals. The alternatives may use different approaches for meeting the quality goals or use a phased implementation of best practices for meeting the quality goals. [2001 c.895 §5; 2003 c.303 §14; 2007 c.858 §31]

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