K–12 Finance and Student Outcomes:

A 5000' Flyover and Proposed Research Approach

Joint Task Force on Basic Education Finance
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Road Map:
Three Topics for Today's 5000' Flyover

1. **Key Student Outcomes Affected by K–12 Finance Policy Decisions**
   - ✓ **E2SSB 5627: *"the funding structure should be linked to accountability for student outcomes and performance."***
2. **First Research Result: Teacher Effectiveness & Student Outcomes**
3. **K–12 Finance Topics in E2SSB 5627: the Institute's Proposed Research Approach**

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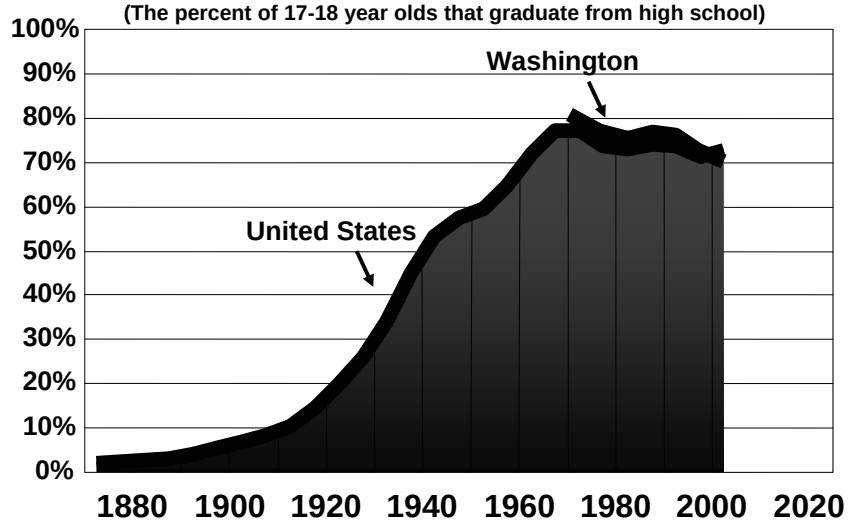
Student Outcomes: Graduation

"On Time" High School Graduation Rates

United States: 1870 to 2004, Washington: 1970 to 2004

(The percent of 17-18 year olds that graduate from high school)



Source: United States Department of Education, National Center for Education Statistics. WSIPP adjusted pre-1970 US estimates. All rates calculated with NCES method. The rates shown are five-year averages.

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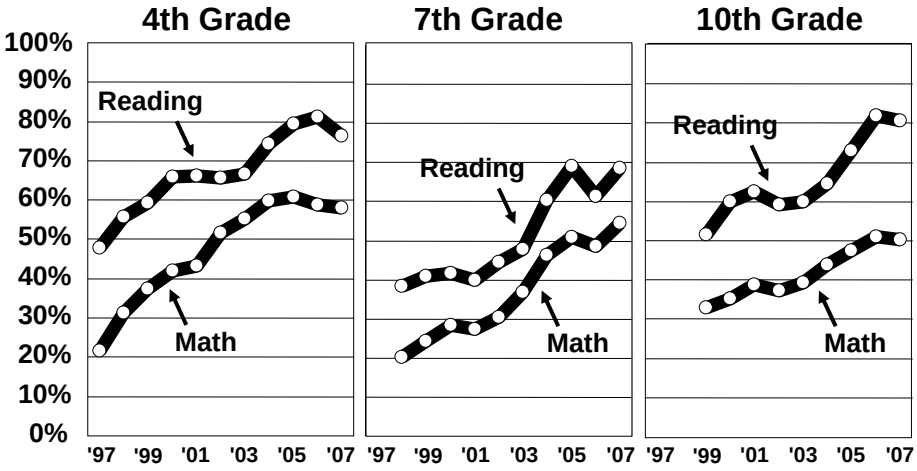
Student Outcomes: Test Scores I

WASL "Met-Standard" Rates on Reading and Math Tests



(School Years 1996-1997 to 2006-2007)

Source: Office of Superintendent of Public Instruction.

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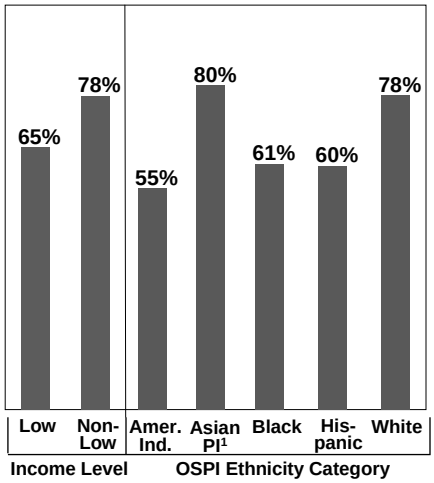
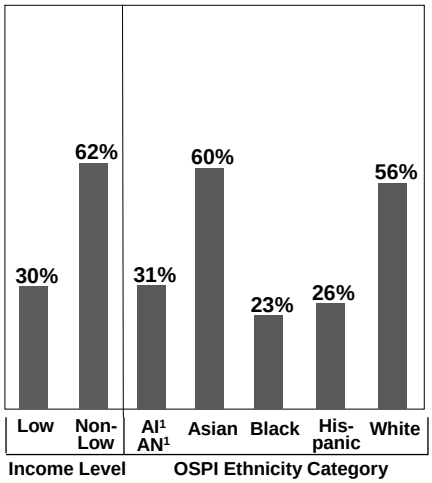
Student Outcomes by Sub-Groups

High School Graduation Rates, 2005



WASL "Met-Standard" Rates, 10th Grade Math, 2007



Source: OSPI

[1] Note: PI, AI, and AN are OSPI ethnic groupings for Pacific Islanders, American Indians and Alaskan Natives.

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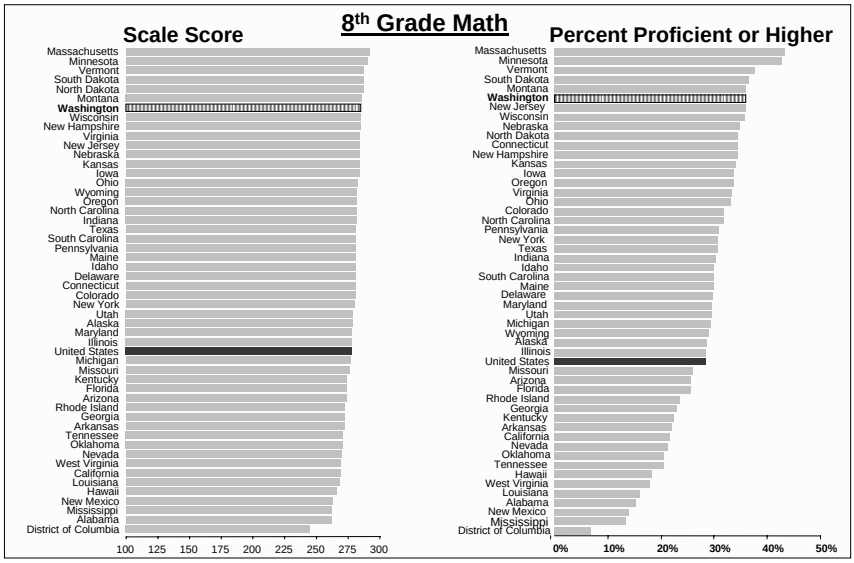
Student Outcomes: Test Scores II

Washington Compared to Other States

National Assessment of Educational Progress Scores (Unadjusted), 2005



Source: United States Department of Education, National Center for Education Statistics.

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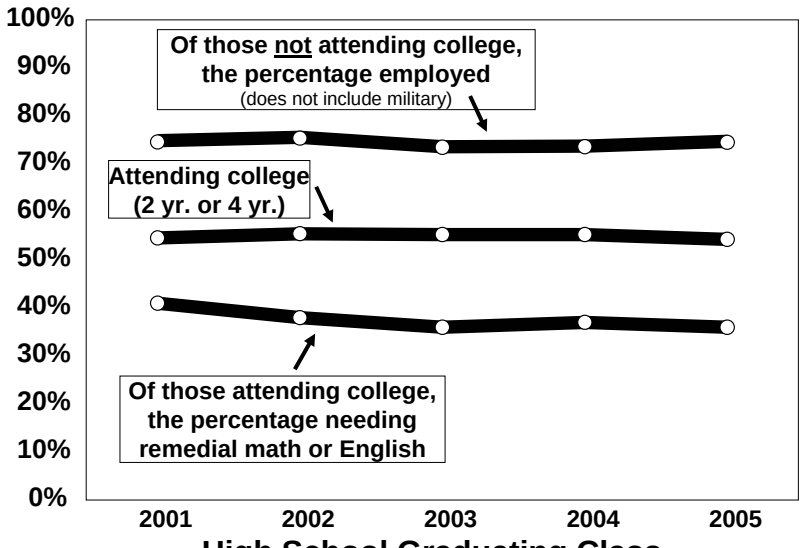
Student Outcomes: College & Work

High School Graduates During the First Year Following Graduation



Source: OSPI, from administrative data merges conducted by Washington State University's Social and Economic Sciences Research Center.

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Topic 2: first research finding for the study

Teacher Effectiveness & Student Outcomes

A clear finding from our review (to date) of educational research:

Effective Teachers Raise Student Outcomes

Studies Estimating the Magnitude of Teacher Effects on Student Test Scores

Aaronson, D., Barrow L., and Sander, W. (2003). Teachers and student achievement in the Chicago public high schools." Working Paper 2002-28, Federal Reserve Bank of Chicago: Chicago, IL.

Armour, D. T. (1976). Analysis of the school preferred reading program in selected Los Angeles minority schools. R-2007-LAUSD. Santa Monica, CA: Rand Corporation.

Goldhaber, D. D. & Brewer, D. J. (1997). Why don't schools and teachers seem to matter?: Assessing the impact of unobservables on educational productivity. The Journal of Human Resources, 32, 505-523.

Hanushek, E. A. (1971). Teacher characteristics and gains in student achievement: estimation using micro data. American Economic Review, 61, 280-288.

Hanushek, E. A. (1992). The tradeoff between child quantity and quality: Some empirical evidence. Journal of Political Economy, 100, 84-117.

Koedel, C. & Betts, J. R. (2007). Re-examining the role of teacher quality in the educational production function (working paper).

Koedel, C. (2007). Teacher quality and educational production in secondary school (working paper).

Murnane, R. J. & Phillips, B. R. (1981). What do effective teachers of inner-city children have in common? Social Science Research, 10, 83-100.

Nye, B., Konstantopoulos, S, & Hedges, L.V. (2004). How large are teacher effects? Educational Evaluation and Policy Analysis, 26, 237-257.

Rivkin, S.G., Hanushek, E.A., and Kain, J.F. (2005) "Teachers, schools, and academic cchievement", Econometrica 73(2): 417-458.

Rockoff, J.E. (2004) "The impact of individual teachers on student achievement: evidence from panel data", American Economic Review, 94(2): 247-252.

Rowan, B., Correnti, R., & Miller, R. J. (2002). What large scale, survey research tells us about teacher effects on student achievement: Insights from the Prospects study of elementary schools. Teachers College Record, 104, 1525-1567.

"Effectiveness" in Two Labor Markets

What is gained from a one "standard deviation" boost in "effectiveness"?

Baseball Players

.270 is a typical team's batting average

↓

A one standard deviation boost in batting average produces…

↓

…a .305 team batting average.

Result: the team wins the Division and maybe the World Series.

K–12 Teachers

A clear and consistent result from K–12 research:

↓

A one standard deviation boost in teacher effectiveness produces…

↓

…significant gains in student test scores, graduation rates, and other student outcomes.

Implications for the K–12 Finance Study

Consistent finding from educational research:

Effective Teachers Raise Student Outcomes

1. ***Good News: Student outcomes can be improved.***
   K–12 financial policies that increase the effectiveness of the teacher labor force will improve some student outcomes.
2. ***Caution: Specific <u>research-based</u> strategies to increase teacher effectiveness are not as clear cut (as identifying winning strategies in baseball).***

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Topic 3: research agenda and approach

The List of Study Topics From E2SSB 5627

E2SSB 5627 directs the Task Force to consider:

- **Professional development for all staff**
- **Whether instructional staff compensation shall include:**
  - **Pay for performance, knowledge, and skill**
  - **Regional cost-of-living adjustments**
  - **Recognition of difficult assignments**
  - **Recognition of professional level of certificate**
- **Voluntary all-day kindergarten**
- **Optimum class size by grade level**
- **Focused instructional support for students and schools**
- **Extended school day and school year options**
- **Health and safety requirements**

E2SSB 5627 also directs the Task Force to "build upon" Washington Learns (and its K–12 advisory committee). Some additional topics from the advisory committee:

- **Competitive salaries to attract and retain high quality teachers**
- **Classified and certificated administrator salary allocations**
- **Incorporating prior relevant experience of educational staff associates**
- **Proposals for non-employee related costs**
- **?**

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Proposed Research Approach

1. ***For topics designed to affect student outcomes…***

   Review <u>all</u> <u>high-quality</u> empirical evidence to estimate:

   - ✓ **What works (to affect student outcomes)**
   - ✓ **What doesn't**
   - ✓ **When the research is inconclusive or non-existent**

2. ***For topics designed to affect other K–12 goals (such as transparency and simplicity)…***

   Collaborate on analyses with legislative, OFM, and OSPI staff.

3. ***Undertake other analyses on topics as directed by the Task Force (e.g. a "comparable wage" study)***

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