

# Stuck in a Rut: Oregon Student Achievement, 2003 to 2017



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## Introduction

This report examines student achievement trends in Oregon from 2003 to 2017 and compares these trends to the nation as a whole and the 50 states.<sup>1</sup> The data come from the National Assessment of Education Progress (NAEP), commonly known as “the Nation’s Report Card.” NAEP is administered every two years by the U.S. Department of Education.

Our research question was very simple: **How does student achievement in Oregon compare to the nation as a whole, and to other states, over the past 15 years?** We took this long-term view because media reports tend to compare this year’s results to last year’s results, and the long-term picture gets lost. Our understanding of student achievement in Oregon has been inadequate.

### The main findings are:

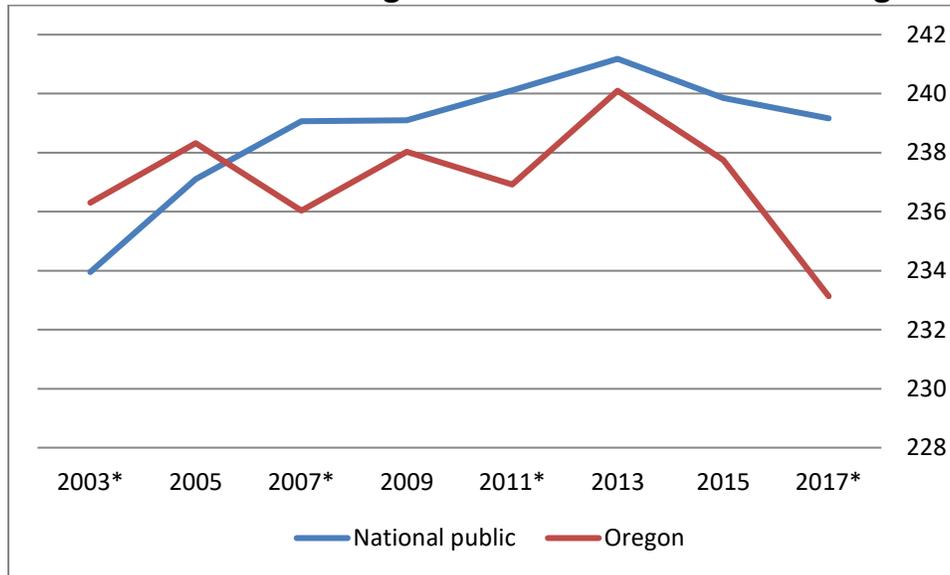
- 1) **Over the 15 year period, Oregon’s scores on NAEP have been stagnant, and in the case of 4<sup>th</sup> grade math, they have declined.**
- 2) **While Oregon’s scores have been stagnant or declining, scores have improved for the U.S. as a whole, and for many states. Many states have improved their positions relative to Oregon.**
- 3) **Therefore, Oregon student achievement has declined relative to the U.S. as a whole, and relative to many states:**
  - **Grade 4 math: Oregon scores declined; the state went from being above the national average to below the national average. National scores improved. In 2003, only 8 states had scores higher than those of Oregon. In 2017, 36 states had scores higher than Oregon.**
  - **Grade 8 math: Oregon scores were stagnant and the state went from being above the national average to being at the national average.**
  - **Grade 4 reading: Oregon scores were stagnant and the state fell from being at the national average to below average.**
  - **Grade 8 reading: Oregon scores were stagnant and the state went from being above the national average to being at the national average.**

NAEP is administered to a sample of students and there is a margin of error for state and national scores. We accounted for this - all of the differences we highlight in this report are statistically significant. To follow are findings and a section on methodology.

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<sup>1</sup> It is actually 52 states. The U.S. Department of Education, for reporting purposes, counts the District of Columbia (DC) and the Department of Defense school system (DoD) as states.

### Grade 4 Math – Average NAEP scores for U.S. and Oregon

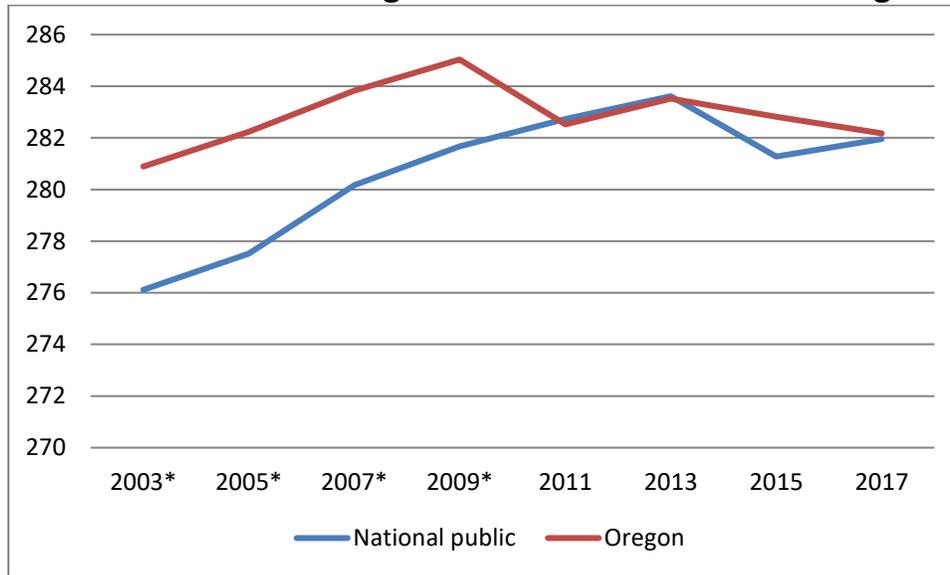


*\*difference between Oregon and U.S. is statistically significant*

#### **Findings:**

- Oregon 4<sup>th</sup> grade math scores declined from 236 in 2003 to 233 in 2017. National scores increased.
- In 2003, Oregon scores were higher than for the nation.
- By 2017, Oregon scores were lower than for the nation.
- In 2003, there were only 8 states with scores higher than Oregon – CT, WY, MA, KS, MN, VT, NC, NH.
- In 2017, there were 36 states with scores higher than Oregon – DE, TN, OK, RI, HI, IL, KY, CT, MO, ME, ID, WI, MD, CO, MT, VT, OH, TX, NC, KS, SD, PA, WA, UT, IA, ND, NH, NE, FL, IN, WY, NJ, VA, DoD, MN, MA.
- HI, TN, KY, RI, and IL had lower scores than Oregon in 2003; in 2017 their scores were higher.

### Grade 8 Math – Average NAEP scores for U.S. and Oregon

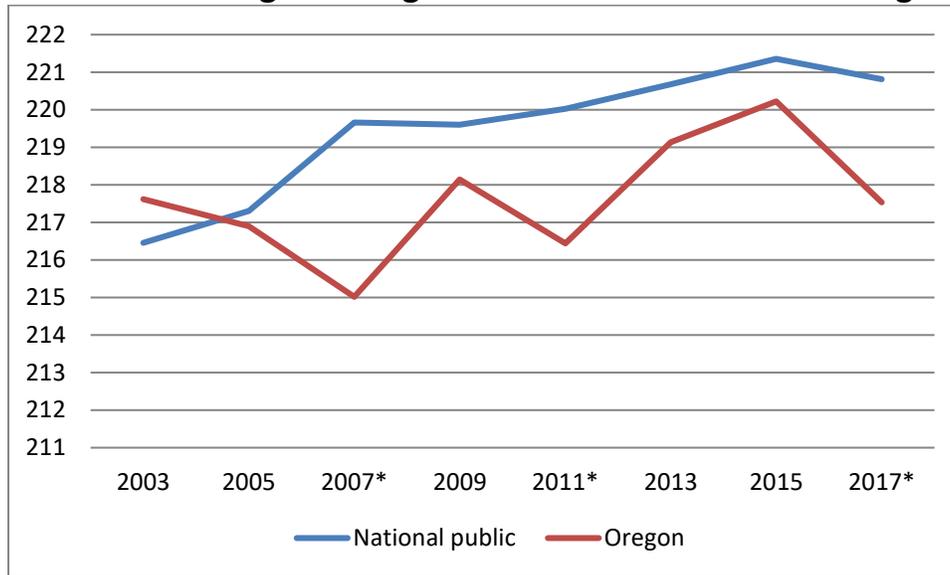


*\*difference between Oregon and U.S. is statistically significant*

#### **Findings:**

- In 2003, Oregon 8<sup>th</sup> grade math scores were at 281; in 2017 they were at 282. However, this change was not statistically significant and cannot be counted as an improvement. National scores increased.
- In 2003, Oregon scores were higher than for the nation.
- By 2017, Oregon scores were the same as for the nation.
- In 2003, there were only 8 states with scores higher than Oregon – DoD, SD, VT, MT, NH, MA, MD, MN.
- In 2017, there were 20 states with scores higher than Oregon – MT, IA, CO, SD, PA, UT, VT, IN, OH, WI, ND, NE, WY, WA, VA, NJ, DoD, NH, MN, MA.

### Grade 4 Reading – Average NAEP Scores for U.S. and Oregon

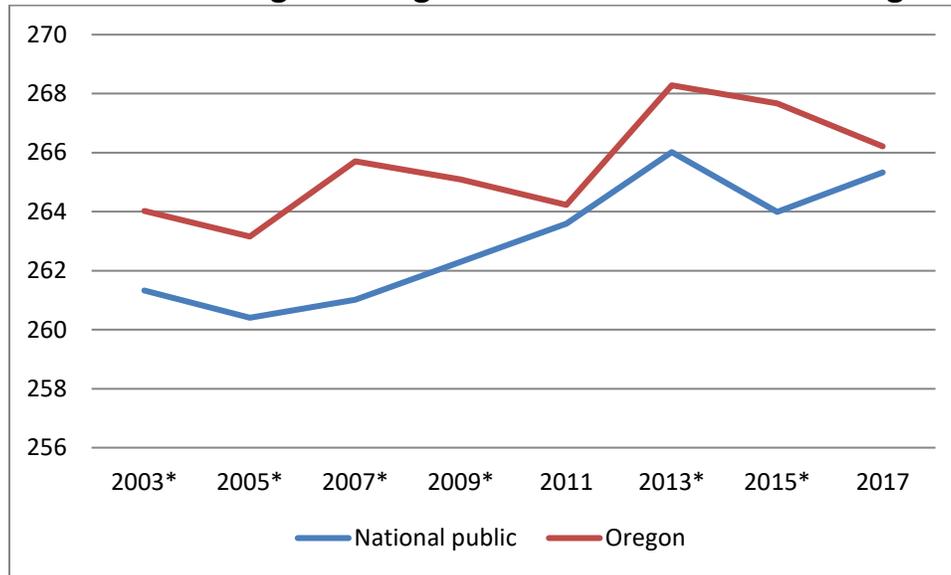


\*difference between Oregon and U.S. is statistically significant

#### **Findings:**

- Oregon 4<sup>th</sup> grade reading scores were the same in 2003 as they were in 2017. National scores increased.
- In 2003, Oregon scores were not significantly different from those of the nation.
- By 2017, Oregon scores were below those of the nation.
- In 2003, there were 20 states with scores higher than Oregon – NC, ND, OH, WY, NY, MO, SD, MN, MT, IA, VA, CO, ME, DE, DoD, NJ, VT, MA, NH, CT.
- In 2017, there were 30 states with scores higher than Oregon – DE, ND, IA, SD, NY, MT, MO, ID, WA, KS, RI, NC, KY, NE, MN, CO, PA, MD, UT, OH, IN, VT, WY, VA, FL, CT, NH, NJ, DoD, MA.

### Grade 8 Reading – Average NAEP Scores for US and Oregon



\*difference between Oregon and U.S. is statistically significant

#### **Findings:**

- In 2003, Oregon 8<sup>th</sup> grade reading scores were at 264; in 2017 they were at 266. However, this change was not statistically significant and cannot be counted as an improvement. National scores increased.
- In 2003, Oregon scores were higher than those for the nation.
- By 2017, Oregon scores were not significantly different from those of the nation.
- In 2003, there were 13 states with scores higher than Oregon – WY, IA, MN, NJ, VA, ME, ND, MT, SD, VT, NH, DoD, MA.
- In 2017, there were 10 states with scores higher than Oregon – ID, CO, WA, IN, CT, VT, NH, NJ, MA, DoD.

## Methodology

### *Why NAEP?*

NAEP is administered to a sample of students in each state and several large urban school districts. It is the only student assessment that covers 4<sup>th</sup> grade, 8<sup>th</sup> grade and high school, and allows for comparisons across states at 4<sup>th</sup> and 8<sup>th</sup> grade. It has been in place for decades, but all 52 states were required to participate in the assessment starting in 2003. That is why 2003 was chosen as the starting point for the analysis.

Oregon participates in the Smarter Balanced assessment as well, but that test could not be used for our purposes because Oregon started using it only four years ago, and only 12 other states participate. Therefore, comparisons to all other states and the nation as a whole are not possible using Smarter Balanced.

### *Margin of Error*

Because of the fact that NAEP is administered to a sample of students, there is a margin of error around each score, much like in a public opinion poll. If two average scores are far enough apart so that the margins of error do not overlap, that means we can be 95% certain that the difference in scores is not due to chance. All of the differences (between Oregon and the nation and states, and between years) in this report are “statistically significant,” meaning that the differences in scores were outside of the margin of error, and therefore the differences very unlikely due to chance.

### *High School*

High school is not included in the analysis because NAEP’s high school sample is not large enough to be broken down by state. Unlike 4<sup>th</sup> and 8<sup>th</sup> grade, state participation in high-school level NAEP is not mandatory.<sup>2</sup>

### *Data*

The U.S. Department of Education recently improved the user interface for NAEP, so downloading data is no longer necessary. Readers can easily replicate these results online.

To compare state and national averages:

1. Go to <https://www.nationsreportcard.gov/ndecore/xplore/nde>
2. Under “define criteria” choose the subject, grade level and years of interest. Under “scale” choose “composite scale.”

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<sup>2</sup> See Blagg, K., & Chingos, M. (2016). Varsity Blues: Are High School Students Being Left Behind? Washington DC: Urban Institute. <https://www.urban.org/sites/default/files/alfresco/publication-pdfs/2000773-Varsity-Blues-Are-High-School-Students-Being-Left-Behind.pdf>

3. Under “jurisdiction” choose “national” and under that, “national public.” Then go to “state” and choose a state, or all states.
4. Under “variables,” choose “major reporting groups.”
5. Under “statistic,” choose “average scale scores.”
6. “Create Report.”
7. “Show Report Data.”

To incorporate margin of error:

1. “Create Significance Test”
2. To compare state and national scores, choose “between jurisdictions.”
3. “Comparison” and “generate output.”
4. Click on the up arrow underneath “all students average scale score,” then choose the state for which you want to get comparisons. Results will be shaded into three groups – higher, lower, and no significant difference compared to your chosen state.
5. To compare scores between years, choose “across years” and repeat steps 3 and 4.

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