




STATE OF HAWAII
DEPARTMENT OF EDUCATION
KA 'OIHANA HO'ONA'AUAO
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OFFICE OF THE SUPERINTENDENT

March 23, 2023

TO: The Honorable Bruce D. Voss
Chairperson, Board of Education

FROM: Keith T. Hayashi
Superintendent 

SUBJECT: **Presentation on Measuring Student Achievement: Pandemic Impacts and Recovery**

1. EXECUTIVE SUMMARY

This presentation highlights the student academic achievement findings of the Hawaii State Department of Education's (Department) 2022 Smarter Balanced Assessment (SBA) results and the impact from the COVID-19 pandemic. Based on published SBA results, Hawaii students fared relatively well in 2022, demonstrating relatively higher levels of proficiency (Attachment A, Slide 4). The academic impact of the pandemic on English Language Arts (ELA) was mostly moderate to large; the impact on mathematics was mostly large to severe.

The pandemic's academic impact for Hawaii was comparable to that of most other states that transitioned to a distance learning model during the pandemic. However, Hawaii's recovery was exceptional, according to analysis by the Center on Assessment. These data provide positive signs that Hawaii schools attended to the learning needs of their students. However, given that the pandemic created unprecedented effects on students, more data is required to project the long-term trajectory of students' learning.

2. DESCRIPTION

To better understand the effects of the pandemic, the Department contracted the Center for Assessment (Center) for an in-depth analysis of the impact of the pandemic on academic performance and the extent to which recovery efforts are bringing about intended results.

Dr. Damian Betebenner is the Center's lead investigator and will present the preliminary results of the Center's findings (Attachment A, slides 9-18). As the Executive Director of Smarter Balanced, Tony Alpert has a deep understanding of summative assessment technical requirements and how the SBA provides common and comparable measures across schools and students, including student subgroup data.

3. PRESENTATION

Dr. Betebenner notes that the COVID-19 pandemic caused the most significant educational upheaval in the history of the United States. Even after three years, students and educators continue to experience the effects of the pandemic in various aspects, including academics, emotions, physical well-being, and finances. The Smarter Balanced and Center for Assessment's presentation will highlight critical factors associated with academic recovery following the global pandemic.

Use of Valid and Reliable Measures: 2022 SBA Results

Hawaii's statewide assessments are standardized measures that the Hawaii State Board of Education and the Department use to understand the level of learning that students demonstrated and the "rate of learning" that occurred. The assessment helps to identify schools that demonstrate higher levels of learning or accelerated rates of learning as well as the schools that may need additional assistance to better support their students. In addition, the statewide assessment can be analyzed alongside the results of the National Assessment of Educational Progress (NAEP) which provides nationwide results to better understand the trend of learning for students in grades four and eight.

In 2022, Hawaii's students' participation rates (number of students being assessed) on the SBA returned to pre-pandemic levels, and the SBA data are representative of students' proficiency on the state's ELA and Mathematics standards. While 2021 participation rates were lower and had lower levels of reliability and validity, the 2022 results are reliable and valid and can be compared with pre-pandemic levels.

Pandemic Academic Impact and Academic Recovery

"Pandemic academic impact," which is sometimes referred to as learning loss or unfinished learning, is one of the significant consequences of the pandemic.

"Academic Recovery," which is sometimes referred to as learning recovery, is the increase in student learning that is significant enough to mitigate the previous academic impacts caused by the pandemic.

The Center's analysis of 2022 SBA data reveals several positive trends in Hawaii's academic performance. In both ELA and Mathematics, the rate of learning acceleration was significant enough to be considered to be "stabilized," and in many instances, it could be viewed as a genuine recovery from the academic impact of the pandemic.

In comparison to the other 12 states analyzed by the Center, Hawaii emerged as the top-performing state in terms of academic recovery from the pandemic. However, results from 2023 data will be critical in assessing whether the excellent learning rates observed are being maintained or even exceed pre-COVID levels.

Additionally, the Center is in the process of conducting a case study to identify outlier schools in terms of impact and recovery. Outlier schools are those that experienced a significant decrease in student learning from 2019 to 2021 and then a notable increase in student learning from 2021 to 2022, relative to their pre-pandemic 2018-2019 learning levels. These schools are considered “exemplars” in terms of impact and recovery.

The Center investigated the implementation of school activities, as a potential factor responsible for the outlier status. This involved examining the strategies and interventions implemented by the schools during the pandemic to mitigate the negative impact on student learning and identifying which activities were most effective in promoting academic recovery.

The initial overall findings from the Center’s study provided important insights into the factors that contribute to academic recovery during a crisis.

- One finding suggests that while distributive leadership may work well in normal circumstances, being decisive and providing clear direction were necessary during the pandemic. This finding highlights the importance of adaptability in leadership styles based on the situation.
- Another finding indicates that funding was not a significant limitation for academic recovery during pandemic. Schools had access to federal Elementary and Secondary School Emergency Relief Funds. Also, strong leaders demonstrated resourcefulness and identified needed funds, whether from the community, school funds, or foundations. This finding highlights the importance of resourcefulness and creativity in securing funds for necessary programs and services during a crisis.

Should you have any questions, please contact Tammi Chun, Deputy Superintendent of Strategy, via email at tammi.chun@k12.hi.us or by phone at (808) 784-6175.

KTH:toc
Attachment

c: Deputy Superintendents

COVID-19 Academic Impact & Recovery Background, Results, and Next Steps

Tony Alpert



Damian Betebenner



Hawaii State Board of Education
March 23, 2023

Summative Assessment

The purpose of the summative assessments:

To provide data that is consistent statewide and over time in support of improvement in systems and resource allocation.

The critical elements of the assessment to consider are:

- 1. Alignment**
- 2. Inclusion and Accessibility**
- 3. Accuracy**



Approach to Using Summative Data

Steps for policy makers to consider:

1. Access and Awareness

- What are my questions for which I need data?
- What level of data do I need to answer my questions? (eg. individual student, grade level, school level, state level?)

2. Understanding

- What is the larger context for the data?
- What do the data describe for a single year?
- What is the trend?
- What outcome does the trend project?

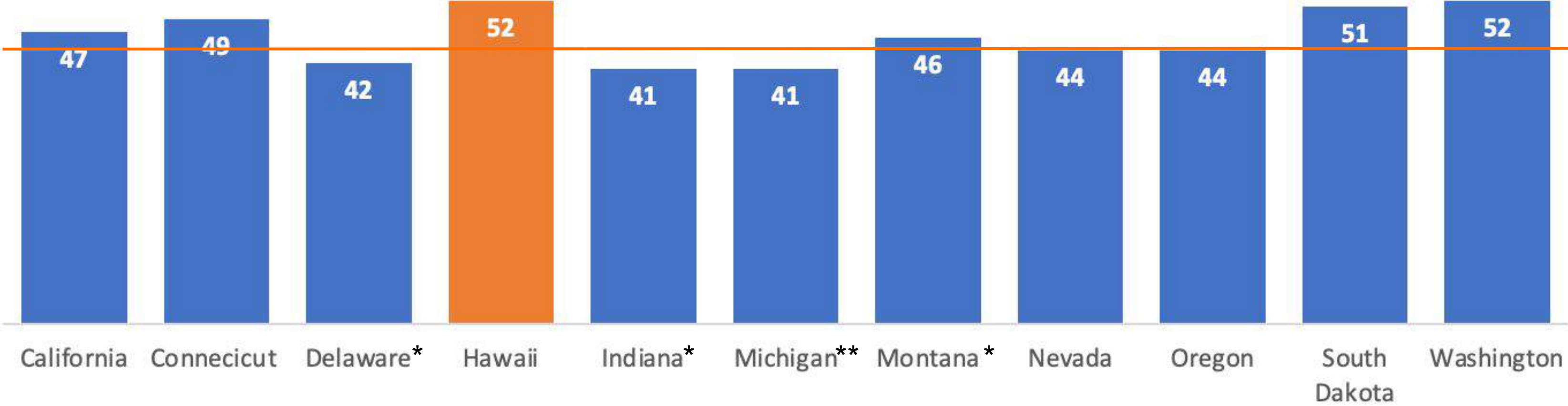
3. Action

- Keep doing what works
- Stop doing what doesn't work

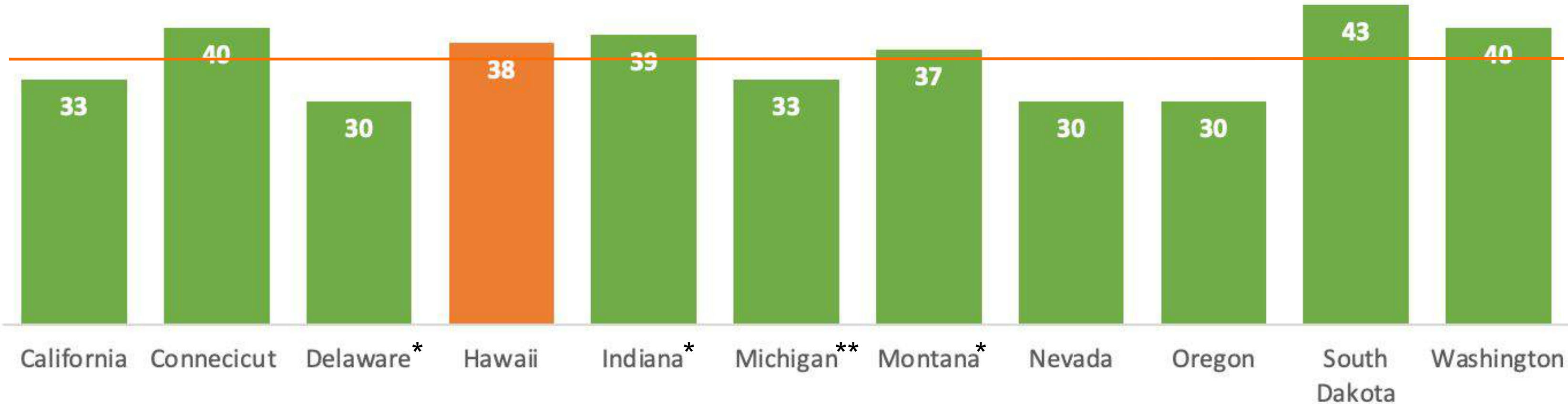


Smarter Balanced Assessment Percent of students proficient or better, 2021-22

English Language Arts



Mathematics



Based on states' published results.

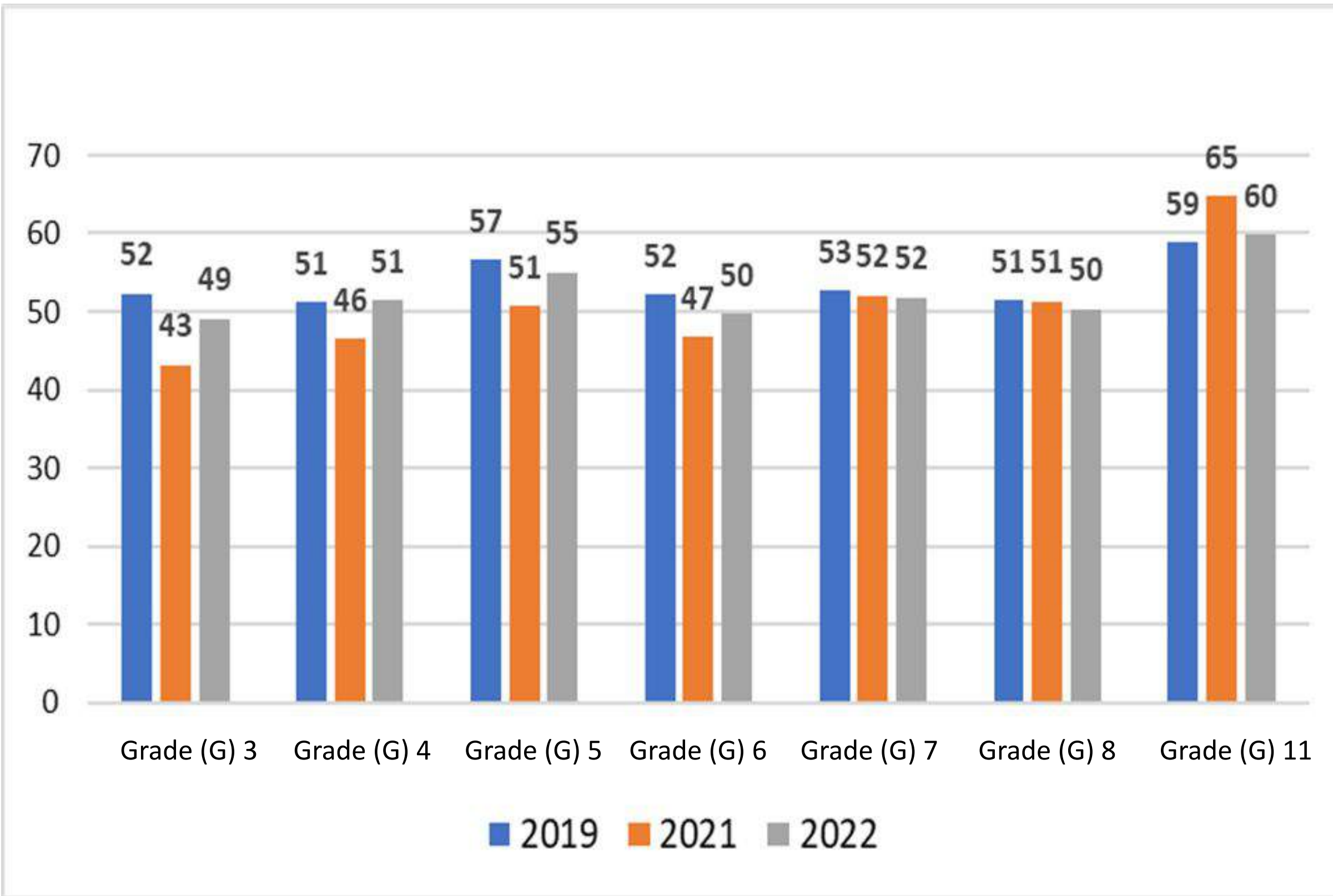
*States reporting grades 3–8 only **grades 3-7 only

1. Hawaii students learned at a faster rate post pandemic than they did before the pandemic.
2. Mathematics needs a steeper recovery than English Language Arts (ELA).

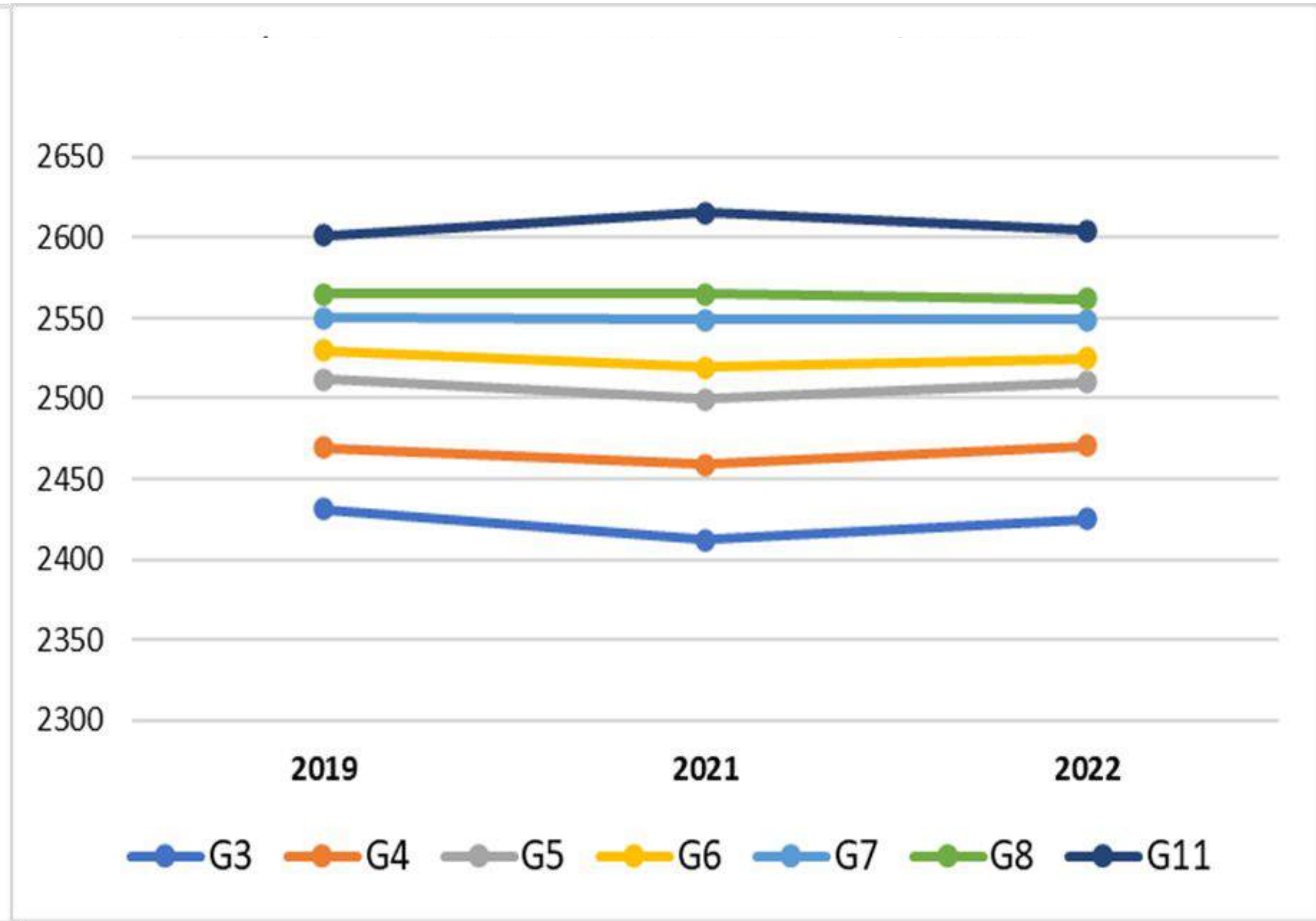


English Language Arts (ELA) - Smarter Balanced Assessment

Percent of Students Proficient in 2019, 2021, and 2022

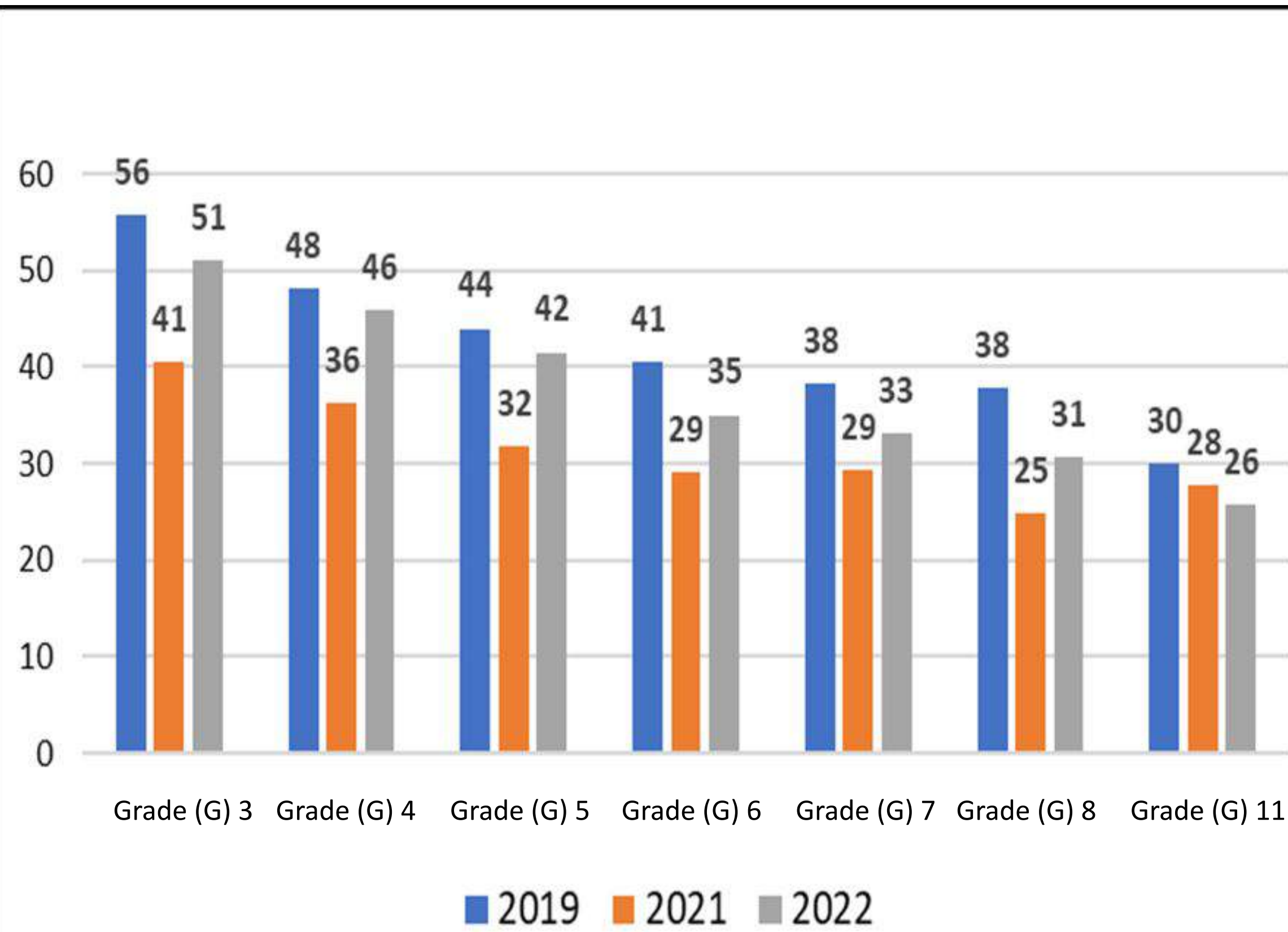


Average Scale Score in 2019, 2021, and 2022

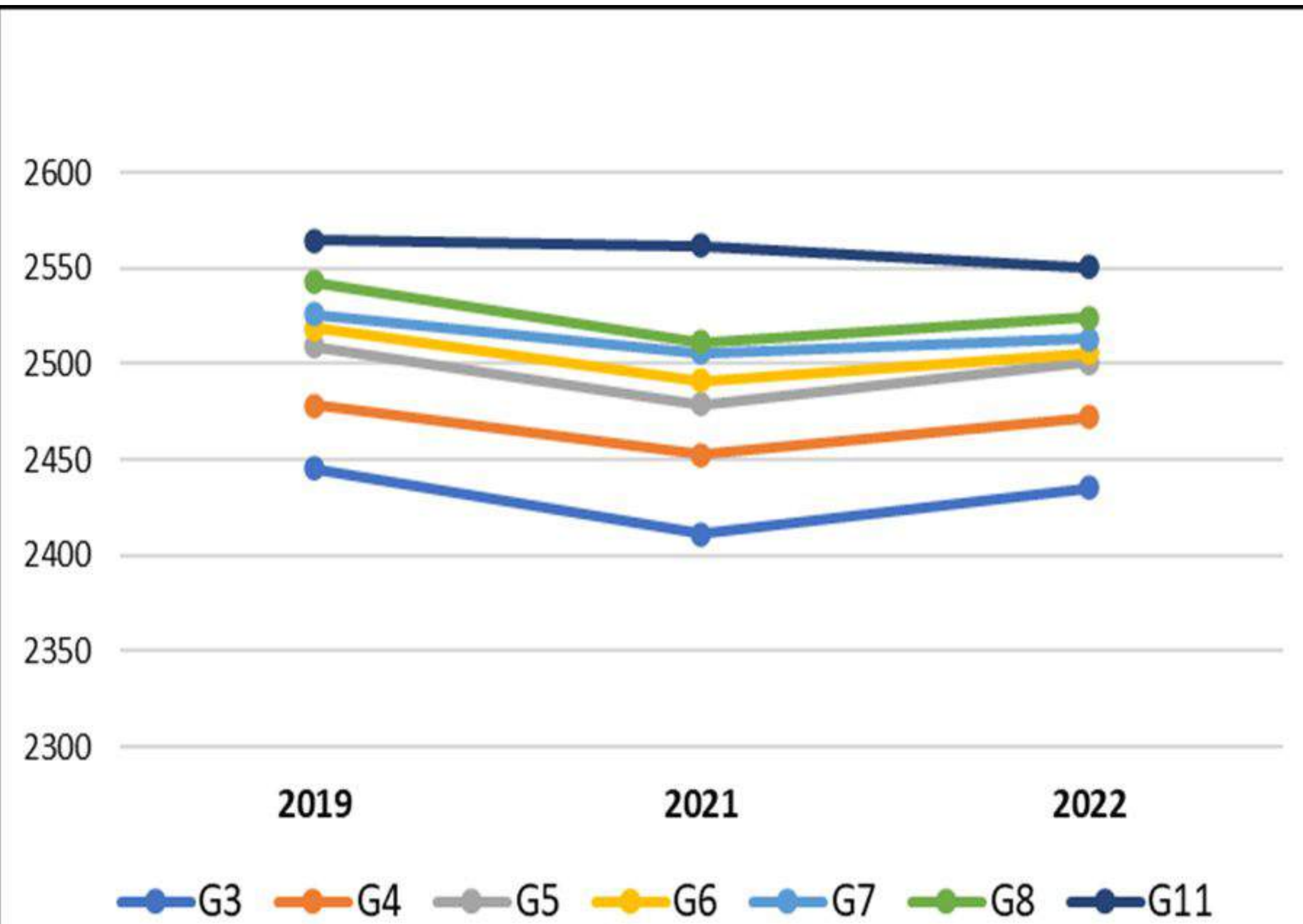


Mathematics - Smarter Balanced Assessment

Percent of Students Proficient in 2019, 2021, and 2022



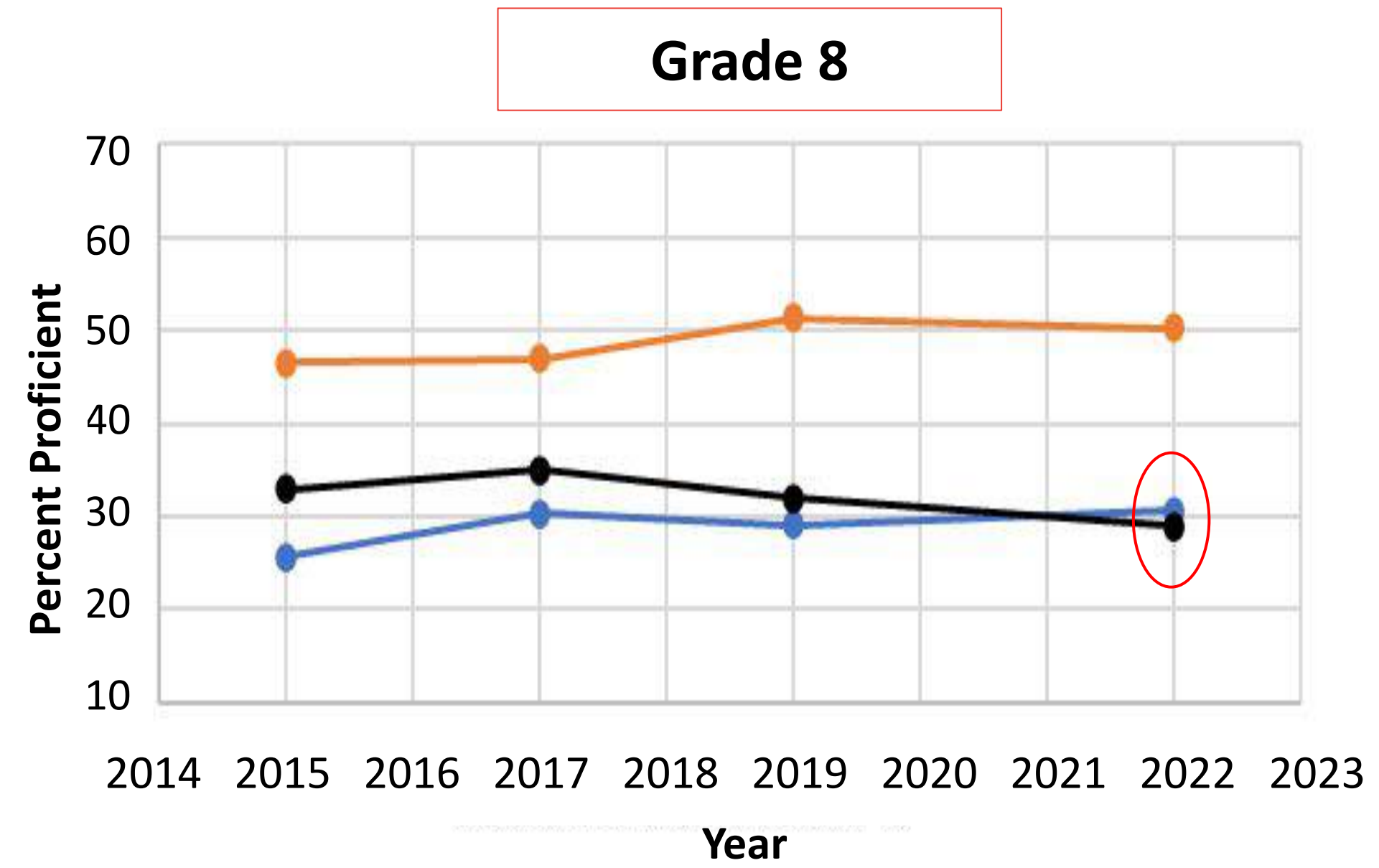
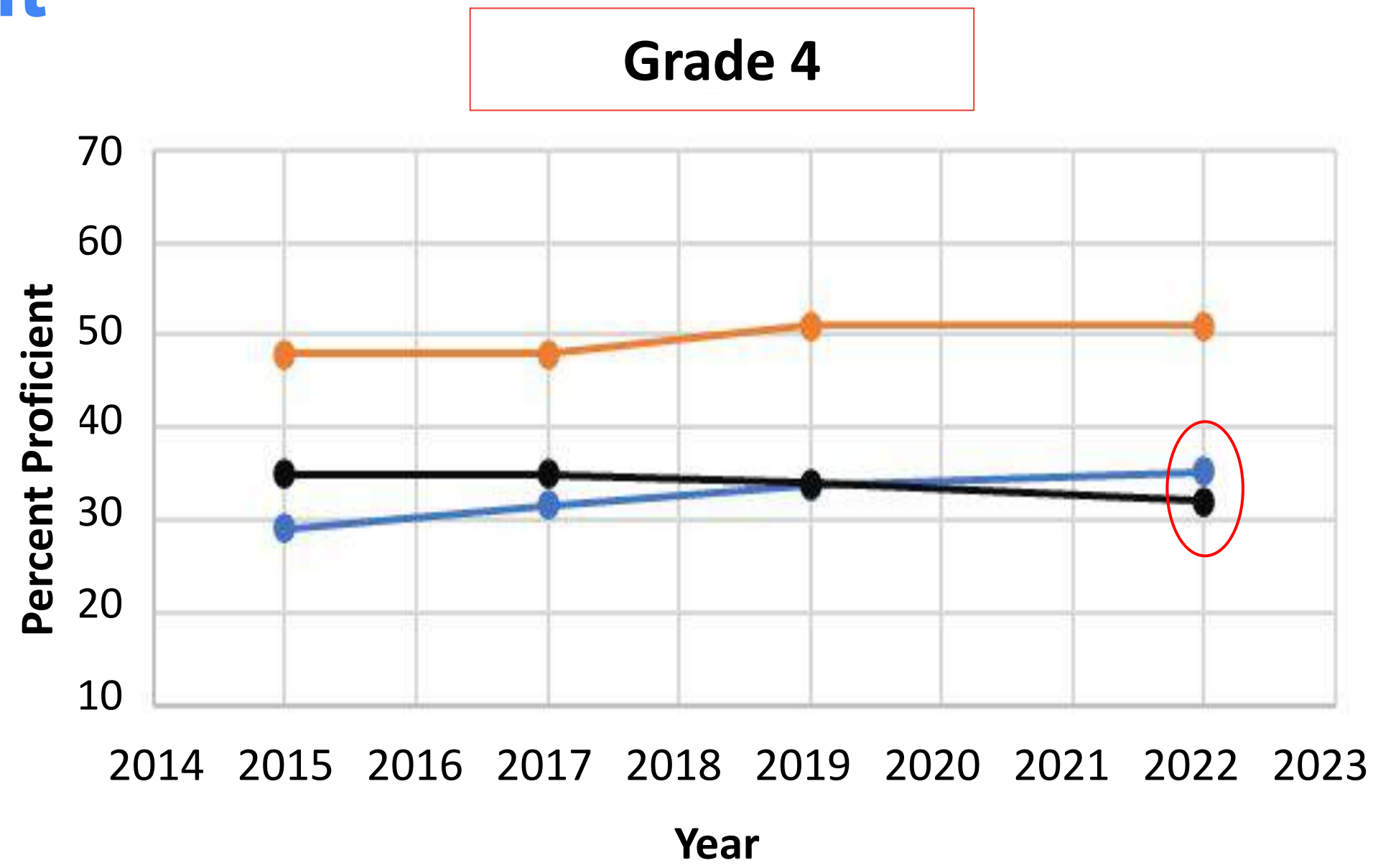
Average Scale Score in 2019, 2021, and 2022



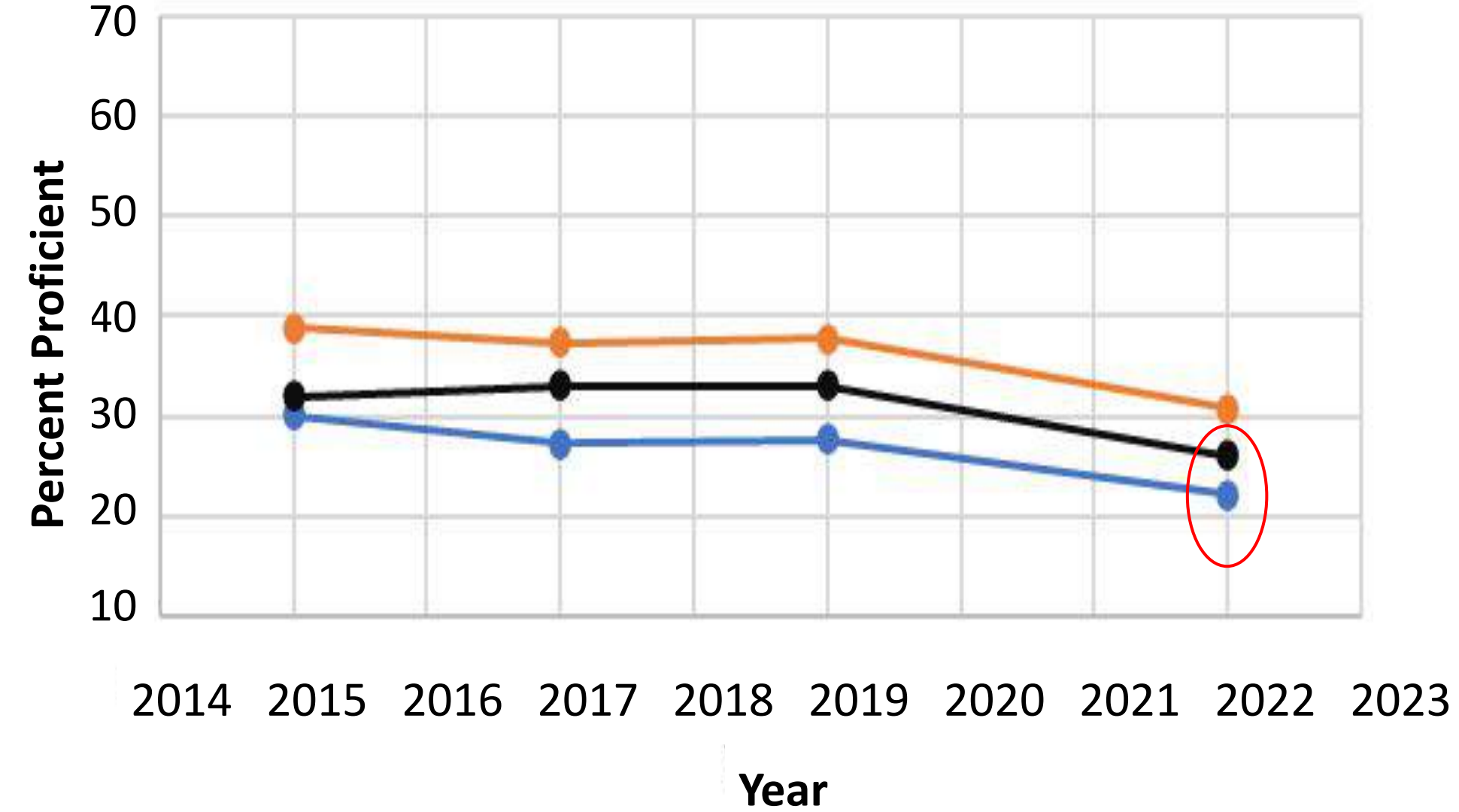
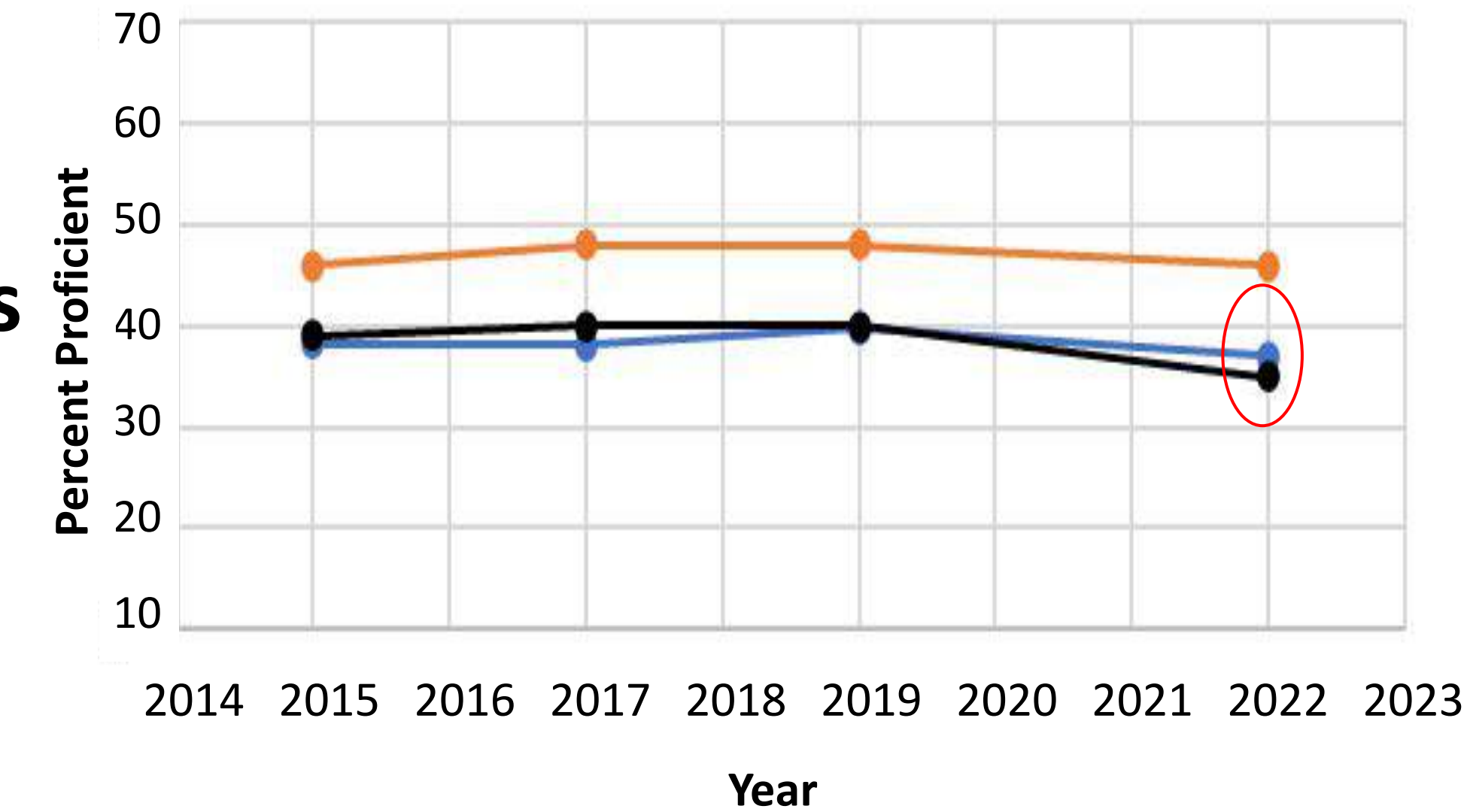
Relationship Between Hawaii's SBA and National Assessment of Educational Progress Results

% Proficient

Reading
(NAEP)/
ELA (SBA)



Mathematics



Hawaii - SBA

Hawaii - NAEP

National - NAEP

What is Academic Impact?

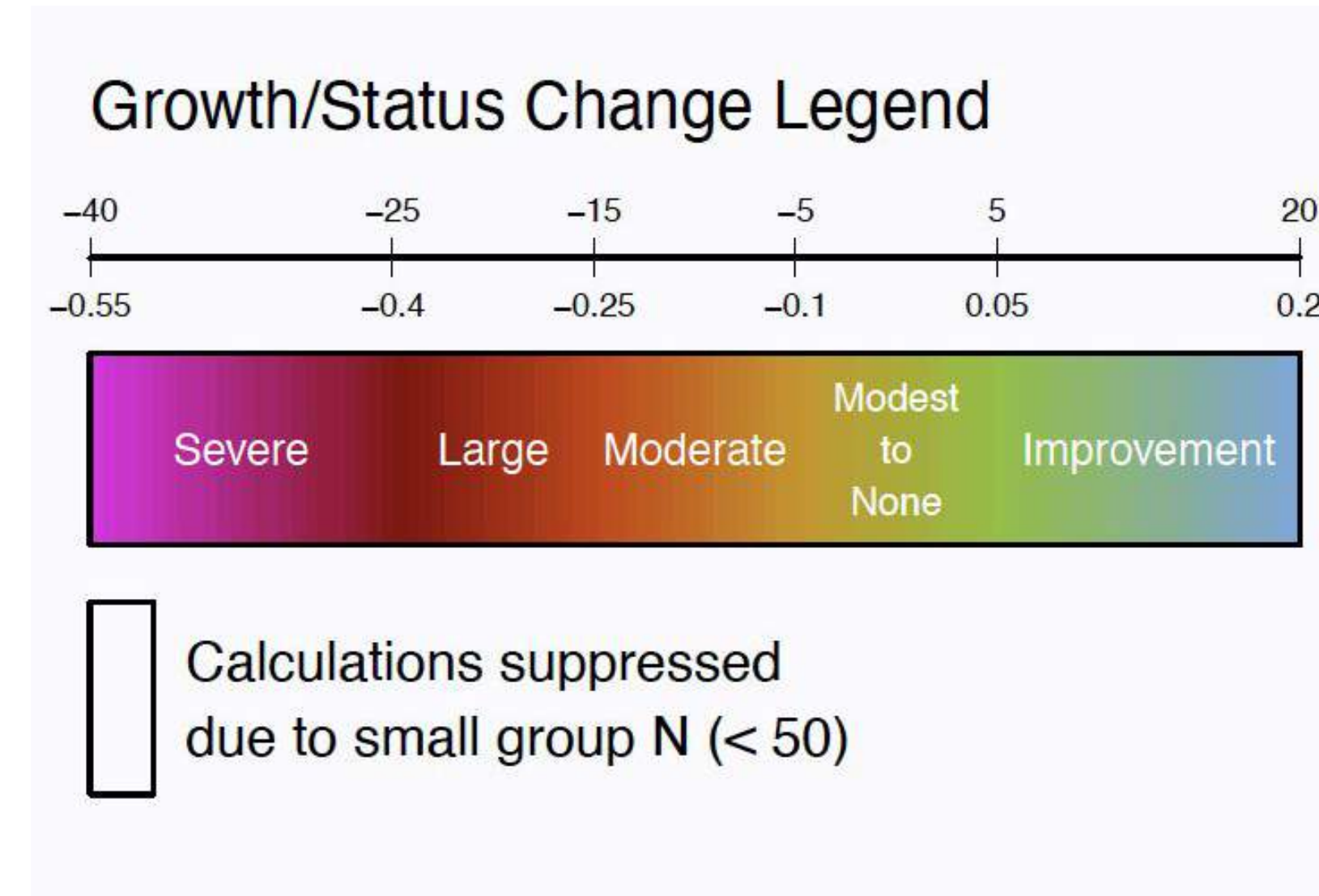
- **Academic Impact:** Also referred to as learning loss or unfinished learning.
- The pandemic and all its ensuing disruptions functioned as an “academic headwind”, impeding the academic progress (i.e., learning) of students.
- Headwinds impede progress in two ways:
 - They slow one’s rate of progress (speedometer)
 - And by slowing one’s rate of progress they lead to less distance being travelled (odometer).
- Academic impact decreases the rate of student learning (deceleration) which, in turn, leads to lower attainment.

What is Academic Recovery?

- **Academic Recovery:** Also referred to as learning recovery
- Academic recovery refers to increases in student learning sufficient to ameliorate previous academic impacts.
- Academic recovery is analogous to a tailwind, increasing the rate of student learning (acceleration) which, in turn leads to higher attainment.
- To understand whether academic recovery is occurring, one must know the extent of academic impact.

Academic Impact

- Using student attainment and growth, academic impact is categorized along a continuum ranging from severe to modest to none.
- Academic impact is examined both overall and by academic quintile.
- Academic impact was examined by each grade and content area tested for all students as well as for several demographic subgroups.
- Non-participation in 2021 assessments was larger than normal. We utilized multiple imputation techniques to understand the extent to which missing data impacted observed results.



Hawaii 2019 to 2021 COVID-19 Academic Impact



ELA

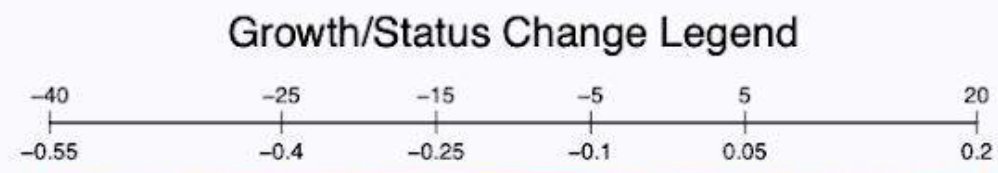
Mathematics

| | Grade 3 | Grade 4 | Grade 5 | Grade 6 | Grade 7 | Grade 8 |
|---------------------------------------|----------|----------------|----------|----------------|----------------|----------------|
| All Students | Moderate | Moderate | Large | Moderate | Moderate | Moderate |
| Economically Disadvantaged | Moderate | Moderate | Moderate | Moderate | Moderate | Moderate |
| Non-Economically Disadvantaged | Moderate | Modest to None | Large | Moderate | Moderate | Moderate |
| Special Education | Moderate | Modest to None | Moderate | Modest to None | Modest to None | Modest to None |
| Asian | Moderate | Modest to None | Moderate | Large | Moderate | Moderate |
| White | Moderate | Moderate | Large | Large | Moderate | Moderate |
| Hispanic | Moderate | Moderate | Large | Moderate | Moderate | Moderate |
| Native Hawaiian | Moderate | Moderate | Moderate | Moderate | Moderate | Modest to None |
| ELL | Moderate | Improvement | Moderate | Moderate | Moderate | Moderate |
| Female | Moderate | Moderate | Large | Moderate | Moderate | Moderate |
| Male | Large | Moderate | Moderate | Moderate | Moderate | Moderate |

| | Grade 3 | Grade 4 | Grade 5 | Grade 6 | Grade 7 | Grade 8 |
|---------------------------------------|---------|----------|----------|----------|----------------|----------------|
| All Students | Severe | Large | Severe | Large | Large | Large |
| Economically Disadvantaged | Severe | Large | Severe | Large | Moderate | Large |
| Non-Economically Disadvantaged | Large | Large | Severe | Severe | Large | Large |
| Special Education | Large | Moderate | Moderate | Moderate | Modest to None | Modest to None |
| Asian | Large | Large | Severe | Severe | Severe | Severe |
| White | Large | Moderate | Severe | Large | Large | Large |
| Hispanic | Large | Large | Large | Severe | Large | Severe |
| Native Hawaiian | Severe | Large | Severe | Large | Moderate | Large |
| ELL | Large | Moderate | Large | Large | Moderate | Large |
| Female | Severe | Large | Severe | Severe | Large | Large |
| Male | Severe | Large | Severe | Large | Moderate | Large |

Multi-State 2019 to 2021 COVID-19 Academic Impact

All Students
ELA And Mathematics by Grade

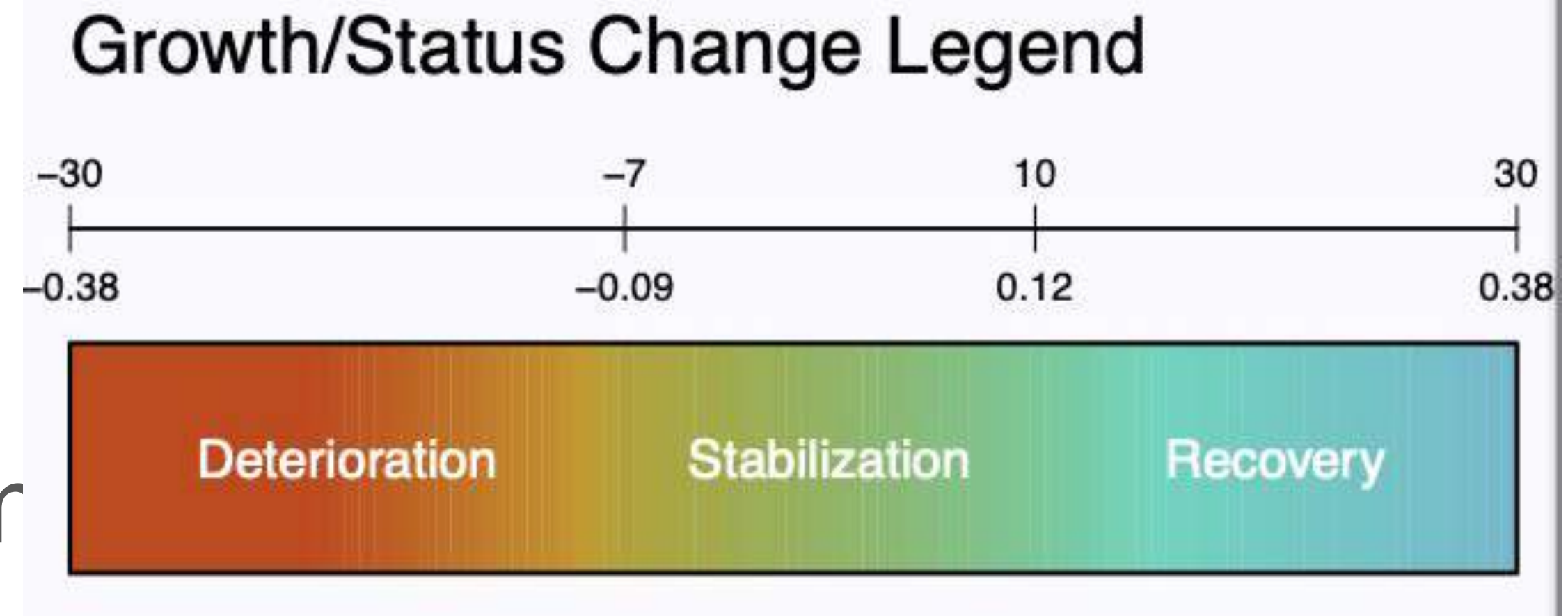


Calculations suppressed due to small group N (< 50)

| | ELA | | | | | | Mathematics | | | | | |
|---------------|----------|----------|----------------|----------|----------------|----------|-------------|----------|----------|----------|----------|----------|
| | Grade 3 | Grade 4 | Grade 5 | Grade 6 | Grade 7 | Grade 8 | Grade 3 | Grade 4 | Grade 5 | Grade 6 | Grade 7 | Grade 8 |
| Hawaii | Moderate | Moderate | Large | Moderate | Moderate | Moderate | Severe | Large | Severe | Large | Large | Large |
| State A | Moderate | Moderate | Large | Moderate | Moderate | Moderate | Large | Large | Large | Severe | Large | Severe |
| State B | Moderate | | Moderate | | Moderate | | | Moderate | | Large | | Moderate |
| State C | Moderate | Moderate | Modest to None | Moderate | Modest to None | Moderate | Large | Large | Large | Large | Large | Large |
| State D | Moderate | Moderate | Large | Large | Large | Large | Large | Moderate | Severe | Severe | Large | Severe |
| State E | Large | Moderate | Large | Moderate | Large | Moderate | Severe | Large | Large | Severe | Large | Large |
| State F | Moderate | Moderate | Large | Large | Large | Large | Severe | Severe | Severe | Severe | Large | Severe |
| State G | Large | Large | Large | Moderate | Large | Moderate | Large | Severe | Large | Large | Moderate | Moderate |
| State H | Moderate | Moderate | Moderate | Moderate | Moderate | Moderate | Moderate | Large | Large | Large | Large | Large |
| State I | Moderate | Large | Moderate | Moderate | Modest to None | Moderate | Moderate | Moderate | Moderate | Moderate | Moderate | Moderate |

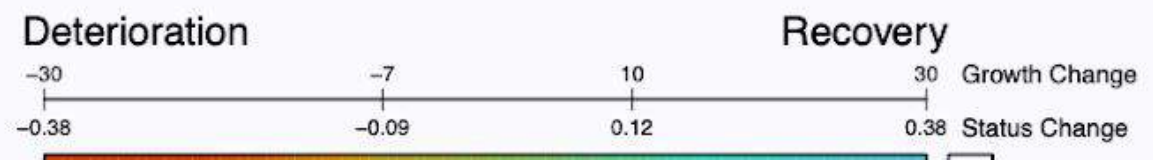
Academic Recovery

- Using student attainment and growth, academic recovery is categorized along a continuum ranging from deterioration to recovery.
- Academic impact is examined both overall and by academic quintile.
- Academic impact was examined by each grade and content area tested for all students as well as for several demographic subgroups.



Hawaii 2021 to 2022 COVID-19 Academic Recovery

SBA ELA and Mathematics Grade & Content Area



Calculations suppressed due to small group N (< 50)

| | ELA | | | | | | Mathematics | | | | | |
|--------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|-------------|---------------|---------------|---------------|---------------|---------------|
| | Grade 3 | Grade 4 | Grade 5 | Grade 6 | Grade 7 | Grade 8 | Grade 3 | Grade 4 | Grade 5 | Grade 6 | Grade 7 | Grade 8 |
| All Students | Recovery | Stabilization | Stabilization | Stabilization | Stabilization | Stabilization | Recovery | Recovery | Recovery | Stabilization | Stabilization | Stabilization |
| Economically Disadvantaged | Stabilization | Stabilization | Stabilization | Stabilization | Stabilization | Stabilization | Recovery | Recovery | Recovery | Stabilization | Stabilization | Stabilization |
| Non-Economically Disadvantaged | Recovery | Recovery | Stabilization | Stabilization | Stabilization | Stabilization | Recovery | Recovery | Recovery | Stabilization | Stabilization | Stabilization |
| Special Education | Stabilization | Stabilization | Deterioration | Deterioration | Stabilization | Deterioration | Recovery | Stabilization | Stabilization | Stabilization | Stabilization | Stabilization |
| Asian | Recovery | Recovery | Stabilization | Stabilization | Stabilization | Stabilization | Recovery | Recovery | Recovery | Stabilization | Recovery | Stabilization |
| White | Stabilization | Stabilization | Stabilization | Stabilization | Stabilization | Stabilization | Recovery | Recovery | Stabilization | Stabilization | Stabilization | Stabilization |
| Hispanic | Stabilization | Stabilization | Stabilization | Stabilization | Stabilization | Stabilization | Recovery | Recovery | Recovery | Stabilization | Stabilization | Stabilization |
| Native Hawaiian | Stabilization | Recovery | Stabilization | Stabilization | Stabilization | Stabilization | Recovery | Recovery | Stabilization | Stabilization | Stabilization | Stabilization |
| ELL | Stabilization | Stabilization | Deterioration | Stabilization | Stabilization | Deterioration | Recovery | Recovery | Stabilization | Stabilization | Stabilization | Deterioration |
| Female | Recovery | Recovery | Stabilization | Stabilization | Stabilization | Stabilization | Recovery | Recovery | Recovery | Stabilization | Stabilization | Stabilization |
| Male | Recovery | Stabilization | Stabilization | Stabilization | Stabilization | Stabilization | Recovery | Recovery | Recovery | Stabilization | Stabilization | Stabilization |

Exemplar Schools: Impact & Recovery

- Examined Return on Activities:
 - Identify outlier schools in terms of impact/recovery.
 - Investigate whether activities (or lack thereof) could potentially be responsible for the school's outlier status.
 - For schools with plausible activities leading to exemplary recovery, investigate links to relevant investment/funding.
- Step 1 was to find these outlier schools.
- We investigated schools along two dimensions:
 - Academic Impact (2019 to 2021 decrease in student learning)
 - Academic Recovery (2021 to 2022 increase in student learning relative to pre-pandemic 2018-2019 learning)

Exemplar Schools: Impact & Recovery

- We searched for exemplar schools to place into three categories
 - Large Impact/Large Recovery (9 schools)
 - Minimal Impact/Large Recovery (4 schools)
 - Large Impact/Poor Recovery (3 schools)
- 16 schools were sampled across a diverse range of socio-economic and demographic characteristics with the goal of finding replicable strategies that can be used by Hawaii schools to help students recover.

Exemplar Schools: Impact & Recovery

- Some initial findings:
 - Distributive leadership works well in normal situations, being decisive and providing clear direction was necessary during a crisis.
 - Everyone was in crisis mode from March 2020-August 2020.
 - Strong leadership adapted existing / implemented new programs quickly and effectively.
 - Strong leadership was resourceful in finding funds to meet needs (e.g., food distribution, masks, other health services).
 - Strong leadership focused on the whole school community including parents and staff.