

# Mastery Examination Committee

October 19, 2016



# Devices Used by Connecticut Students for the Smarter Balanced Assessment

Grade	Chromebook	Windows	Macintosh	iPad	Total
3	39.0%	49.7%	8.4%	2.9%	100.0%
4	44.4%	45.3%	7.5%	2.8%	100.0%
5	47.8%	42.0%	7.7%	2.5%	100.0%
6	50.8%	42.2%	6.3%	0.6%	100.0%
7	49.9%	41.9%	6.3%	1.9%	100.0%
8	50.0%	42.9%	6.6%	0.6%	100.0%
<b>Total</b>	<b>47.0%</b>	<b>44.0%</b>	<b>7.1%</b>	<b>1.9%</b>	<b>100.0%</b>

# Studying Device Effects on Student Performance

- Mixed modeling within Hierarchical Linear Modeling (HLM) using SAS
- Analyses were controlled for district effects
- Results were controlled for eligibility for free/reduced price meals
- Separate analyses were conducted for ELA and Mathematics by grade
- Significance was determined at the .01 level to counteract large  $N$  sizes
- Effect sizes were also calculated to determine the magnitude of the observed difference, if any

# Device Effects - ELA

Grade	Effect	Estimate	t Value	Significant?	Effect Size
3	Mac - Chrome	2.0	0.37	No	0
	Windows - Chrome	-4.6	-1.34	No	0.000025
4	Mac - Chrome	4.3	0.7	No	0.000009
	Windows - Chrome	-4.6	-1.59	No	0.000035
5	Mac - Chrome	-4.9	-0.67	No	0.000006
	Windows - Chrome	-10.4	-3.05	<b>Yes</b>	0.000103
6	Mac - Chrome	-0.7	-0.09	No	-0.000006
	Windows - Chrome	-4.9	-1.14	No	0.000009
7	Mac - Chrome	-12.4	-1.54	No	0.000019
	Windows - Chrome	-6.3	-1.62	No	0.000019
8	Mac - Chrome	1.6	0.23	No	-0.000008
	Windows - Chrome	-9.6	-2.35	No	0.000005

# Device Effects - Mathematics

Grade	Effect	Estimate	t Value	Significant?	Effect Size
3	Mac - Chrome	5.46	1.1	No	0.000013
	Windows - Chrome	-2.88	-0.95	No	0.000008
4	Mac - Chrome	10.47	1.98	No	0.000062
	Windows - Chrome	-1.55	-0.58	No	0
5	Mac - Chrome	-3.37	-0.49	No	0
	Windows - Chrome	-2.66	-0.89	No	0
6	Mac - Chrome	-10.97	-1.29	No	0.000031
	Windows - Chrome	-7.19	-1.83	No	0.000052
7	Mac - Chrome	6.63	0.83	No	0.00001
	Windows - Chrome	-0.39	0.08	No	0
8	Mac - Chrome	3.99	0.53	No	-0.000008
	Windows - Chrome	-9.63	-2.02	No	0.000049



# Areas Examined Per State Statute

- The impact of the statewide mastery examination on teaching, students and student learning time.
- The administration of the statewide mastery examination on computers and other devices.
- Whether the statewide mastery examination is an appropriate student assessment.
- Whether the statewide mastery examination
  - (1) responds to student needs,
  - (2) offers accommodations for students with disabilities and students who are ELs,
  - (3) informs teachers of student progress,
  - (4) aligns with current standards adopted by the State Board of Education (SBE), and
  - (5) complies with federal requirements.
- The feasibility of decreasing the amount of time required to complete the statewide mastery examination by using alternative formats or methods of delivery.
- Ways to facilitate timely communication between the SBE and local and regional boards of education regarding the statewide mastery examination.



# Lessons Learned

- Overview
- Testing Time
- Online Testing
- Meeting Student Needs
- State Standards and Federal Requirements
- Communication

# Lessons Learned – Overview

- The primary purpose of the state’s summative examination is to provide an efficient and reliable estimate of a student’s overall performance in a subject area relative to grade-appropriate standards that enable valid interpretations of student achievement and progress at the individual and aggregate levels.
- Reviews of technical information from the assessments by Connecticut’s technical advisory committee affirm that the test scores from the mastery examinations can validly be used as measures of overall proficiency and scores based on the vertical scale (where available) can be used to measure growth across grades.
- The statewide summative assessment is an important indicator of student achievement and progress, but it is not the only one. State law appropriately prohibits the use of the “mastery examination” results as the sole criterion for student promotion or graduation.
- Past practices of solely using strand-level CMT/CAPT results to drive instruction were inappropriate.
- The state standards and local curriculum, and not the state examination, should drive instruction.





# Lessons Learned – Testing Time

- The statewide mastery examination has undergone critical changes in recent years to dramatically reduce testing time and increase instructional time for students and teachers (e.g., shift to SAT in Grade 11, elimination of ELA – Performance Task).
- The time devoted to the administration of the statewide mastery examination in ELA and Math is substantially lower now than it was with CMT and CAPT.

# Lessons Learned – Online Testing

- Connecticut has successfully administered the Smarter Balanced assessment online for the past three years.
- After this experience, districts were overwhelmingly in favor of transitioning the Science assessments to online testing, away from paper-pencil testing.
- Over the past three years, the state has provided over \$35 million to support districts with their technological infrastructure for online testing and other instructional purposes. Over \$15.6 million (~45%) were received by the 30 Alliance Districts.
- Preliminary evidence indicates no effects on student performance based on the different types of devices (e.g., Windows, Chromebooks, Macintosh) used by students to access the tests. CSDE will continue to examine this in future years.



# Lessons Learned – Meeting Student Needs

- A wide variety of accommodations, designated supports, and universal tools are available to students with disabilities and English learners so that they can demonstrate their fullest potential on the statewide mastery examination.
- With the transition to online testing, the statewide mastery examination is now able to offer a substantially greater array of accommodations and supports to all students than was possible with paper-pencil testing.
- The high participation rates in the SAT (about 94 percent) as compared to the Smarter Balanced in Grade 11 (about 81 percent) is one indication that students find the statewide mastery examination to be relevant to their needs/goals.

# Lessons Learned – Standards and Federal Requirements

- All statewide mastery examinations align to standards adopted by the State Board of Education.
- The Science assessment is undergoing revision to align with the recently adopted Next Generation Science Standards; a new assessment is expected in Spring 2019.
- All statewide mastery examinations go through a formal assessment peer review process that is conducted by the U.S. Department of Education.

# Lessons Learned – Communication

- The CSDE works in close consultation with local school districts in the design and implementation of the statewide mastery examination.
- Policy memoranda, newsletters, and online resources from the CSDE Performance Office keep local educators informed in a timely manner about the statewide mastery examinations.
- Informal feedback indicates that local educators would benefit from:
  - receiving results prior to the end of the school year;
  - having aggregate results from the statewide mastery examination that provide more insight into performance on specific standards/targets;
  - training/support on the appropriate use and interpretation of all assessment results in general; and
  - training/support on how to utilize other non-standardized aspects of the assessment system (e.g., interim assessments) for more diagnostic purposes.

