

# JUST LINK IT: USING LINKED SCORES WHEN STATE SUMMATIVE ASSESSMENTS ARE NOT ADMINISTERED AND BEYOND

Davie Store  
 Central Michigan University

Joseph A. Marr  
 Central Michigan University

## Abstract

The assessment landscape has changed in the last couple of years. Most states canceled their state summative assessments because of challenges in administering tests due to the COVID-19 pandemic. The absence of these tests meant an increase in the use of interim benchmark assessments which became mandatory in some states. However, most users of state assessment data missed the opportunity to gauge the extent to which students were meeting state standards. This investigation highlights the use of interim assessments to predict performance on state summative assessments even when state summative assessments are not administered. The study uses available linking studies to emphasize the point that when there is a strong link between the state summative assessments and interim assessments, the results are very dependable.

## Objectives

»The study seeks to explore the relationship in student performance between the Michigan Student Test of Educational Progress (M-STEP) and Northwest Evaluation Association (NWEA) MAP Growth assessments

»The study also explores how educators could use interim assessment data to gauge whether students are meeting state proficiency standards, even if they did not take state summative assessments

## Methods

- »Data used was from 49 schools in Michigan for 2017-18 to 2020-21 school year
- »Grades levels used include 3-8 for 2017-18 school year and grades 3-7 for 2018-19 to 2020-21 school years
- »Actual performance on Spring M-STEP was compared against performance on Fall MAP Growth tests for the same school year

## Results

Classification Rates

School Year	Grade	Mathematics			Reading		
		Consistency Rate (%)	False Positive (%)	False Negative (%)	Consistency Rate (%)	False Positive (%)	False Negative (%)
2017-18	3	86.7	7.3	6.0	82.6	9.3	8.1
2017-18	4	84.3	10.9	4.8	82.5	11.2	6.2
2017-18	5	90.8	4.1	5.1	84.4	11.4	4.2
2017-18	6	89.8	6.3	4.0	83.9	9.0	7.2
2017-18	7	90.5	4.5	5.0	84.4	9.8	5.7
2017-18	8	91.1	3.6	5.3	84.2	10.0	5.8
2018-19	3	86.4	5.5	8.1	84.1	9.8	6.0
2018-19	4	87.1	8.9	4.0	84.2	9.8	6.0
2018-19	5	89.8	4.5	5.7	85.2	10.9	3.9
2018-19	6	90.5	4.2	5.3	84.8	8.4	6.9
2018-19	7	89.9	3.2	6.9	84.8	9.1	6.1
2018-19	8	N/A	N/A	N/A	N/A	N/A	N/A

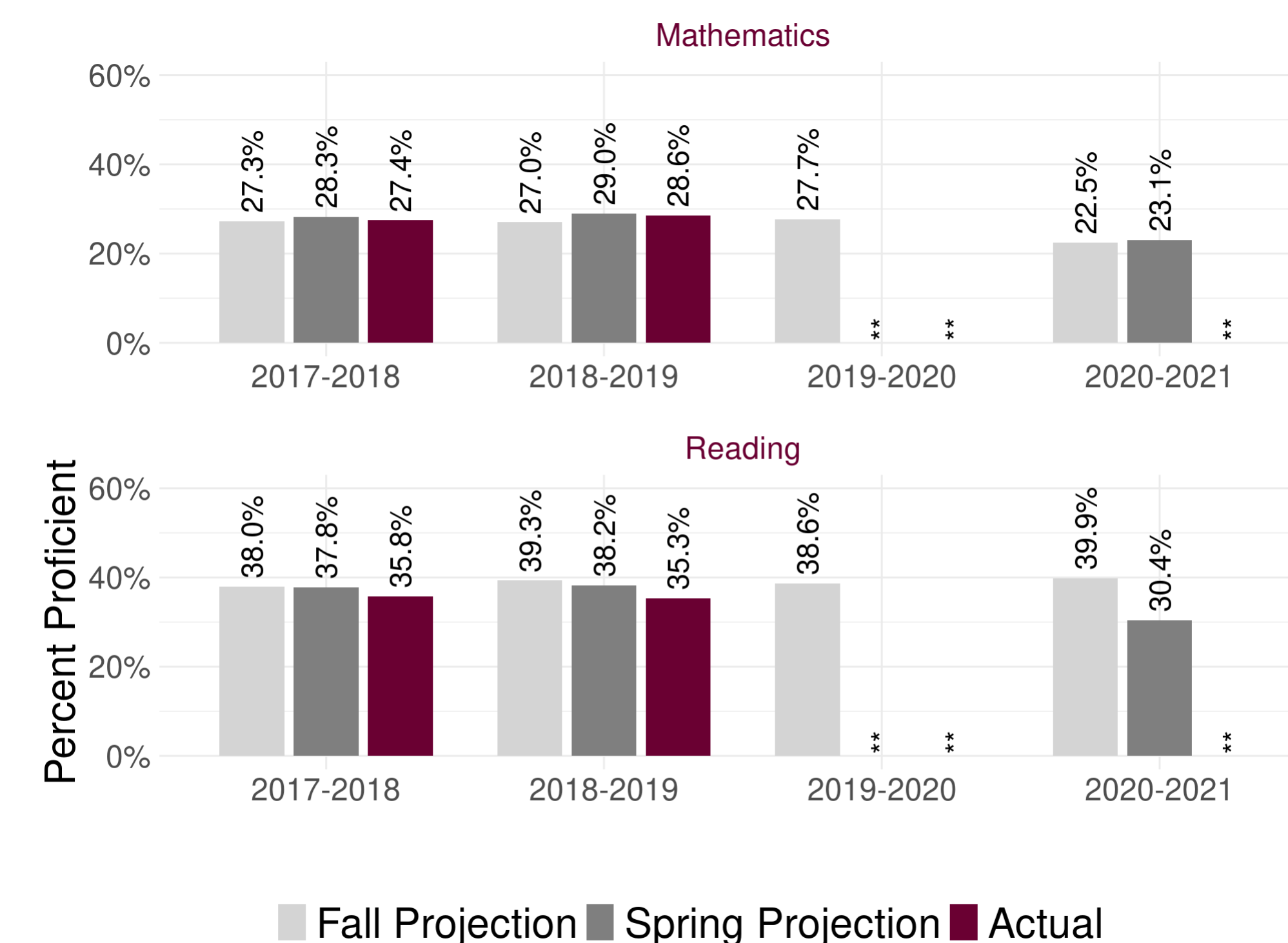
2017-18 and 2018-19 Projections - Mathematics

School Year	Grade	N	r	M-STEP		NWEA MAP Growth			
				Mean Score	SD	Actual % Prof	Projected % Prof	Mean Score	SD
2017-18	3	1826	0.82	1288.57	26.05	32.9	34.2	185.97	13.32
2017-18	4	1851	0.83	1387.54	25.01	31.3	37.4	197.55	13.91
2017-18	5	1861	0.83	1480.12	26.34	24.6	23.6	206.13	14.91
2017-18	6	1390	0.79	1580.58	25.73	20.7	23.0	209.99	14.74
2017-18	7	1343	0.79	1678.90	25.36	19.3	18.8	214.44	16.16
2017-18	8	1287	0.80	1776.53	24.00	16.7	15.0	220.16	17.09
2018-19	3	2169	0.84	1291.31	27.40	36.7	34.1	187.83	13.51
2017-19	4	2034	0.85	1387.64	25.09	30.5	35.3	198.52	13.72
2018-19	5	2083	0.86	1481.22	27.71	25.4	24.2	208.14	15.48
2018-19	6	2076	0.88	1581.98	26.07	25.9	24.8	211.68	15.44
2018-19	7	1923	0.88	1684.60	27.57	29.8	26.2	218.99	17.50

Projections When State Assessments Were Not Administered - Mathematics

School Year	Grade	N	% Prof	NWEA MAP Growth		
				Projected % Prof	Mean Score	SD
2018-19	3	2169	36.7	34.1	187.83	13.51
2018-19	4	2034	30.5	35.3	198.52	13.72
2018-19	5	2083	25.4	24.2	208.14	15.48
2018-19	6	2076	25.9	24.8	211.68	15.44
2018-19	7	1923	29.8	26.2	218.99	17.50
2019-20	3	2455	N/A	32.5	186.80	13.56
2019-20	4	2372	N/A	37.1	197.79	14.43
2019-20	5	2228	N/A	24.8	206.60	15.66
2019-20	6	2242	N/A	24.5	210.85	15.73
2019-20	7	2144	N/A	22.5	216.90	17.08
2020-21	3	2232	N/A	28.0	184.24	14.67
2020-21	4	2295	N/A	27.5	194.11	14.79
2020-21	5	2145	N/A	19.3	203.49	15.81
2020-21	6	2076	N/A	19.3	208.31	15.34
2020-21	7	2000	N/A	20.1	215.59	16.88

Actual Versus Projected Performance



## Conclusions

»There is a strong link between Northwest Evaluation Association (NWEA) MAP Growth assessments and Michigan Student Test of Educational Progress (M-STEP) for both mathematics and reading tests

»Educators can use results from NWEA growth MAP assessments administered early in the school year, to make projections on how students will perform on spring state assessments with a high degree of accuracy

»Even when M-STEP assessments are not administered, MAP Growth tests can be used to determine whether students were more likely to meet state standards, had they taken M-STEP assessments

## References

Betebenner, D. W., and R. J. Betebenner. 2021. "Understanding Pandemic Learning Loss and Learning Recovery: The Role of Student Growth & Statewide Testing." National Center for the Improvement of Educational Assessment.

Dorans, N. J., T. P. Moses, and D. R. Eignor. 2010. "Principles and Practices of Test Score Equating." ETS, Princeton, New Jersey.

Kolen, M. J., and R. L. Brennan. 2004. "Test Equating, Scaling, and Linking." Springer.

Kuhfeld, M., B. Tarasawa, A. Johnson, I. Ruzek, and K. Lewis. 2020. "Learning During COVID-19: Initial Findings on Students' Reading and Math Achievement and Growth." NWEA.

Lewis, K., M. Langi, and N. Jensen. 2021. "Learning During COVID-19: Summer 2021 Update. Achievement and Growth in the 2020-21 School Year." NWEA.

Mislevy, R. J. 1992. "Linking Educational Assessments: Concepts, Issues, Methods, and Prospects." ETS, Princeton, New Jersey.

NWEA. 2020. "Linking Study Report: Predicting Performance on the Michigan State Assessment System in Grades 3-8 Based on NWEA MAP Growth Scores."

Pommerich, M., B. Hanson, D. Harris, and J. Sconing. 2004. "Issues in Conducting Linkage Between Distinct Tests." Applied Psychological Measurement.

Renaissance Learning. 2020. "How Kids Are Performing: Tracking the Impact of COVID-19 on Reading and Mathematics Achievement." <https://www.renaissance.com/how-kids-are-performing/>.

Store, D. 2020. "Analysis of Fall 2020 NWEA Assessment Data." The Governor John Engler Center for Charter Schools at Central Michigan University.

Sullivan, W. 2021. "COVID-19 Impact on Education Outcomes." The Governor John Engler Center for Charter Schools at Central Michigan University.

Thum, Y. M., and M. Kuhfeld. 2020. "NWEA 2020 MAP Growth Achievement Status and Growth Norms for Students and Schools." NWEA.