

# The Relationship between the Wisconsin Educator Effectiveness Process and Student Achievement



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## Achievement study

- Looking at the relationship between EE implementation and student achievement does not suggest a causal relationship.
- To make more of a causal connection between EE implementation and student achievement we asked the question:  
*What happens to student achievement when a school improves their implementation of EE*
- To answer this question, we used Generalized Linear Fixed Effects Modeling with Robust Standard Errors. to look at longitudinal changes across each aspect of the feedback process and both Math and ELA results in the 121 schools participating in the survey all three years (2015-16, 2016-17, and 2017-18).
- Benjamini-Hochberg Correction was used to account for the large number of statistical tests.

## The annual Wisconsin Educator Development Support and Retention Survey (WEDSR)

- Since 2015-16, SREed has conducted a state-wide survey of teachers.
- Schools that have a 40% response rate receive their results.
- Roughly 300 met this threshold in 2015-16, 600 in 2016-17, 900 in 2017-18, and 1100 in 2018-19
- In 2018-19, 28,000 teachers completed the survey (49%).
- For the current study, we focus on the relationship of student achievement with teacher perceptions of:
  - Usefulness of feedback
  - Accuracy of feedback
  - Opportunity to Use Feedback
  - Use of Feedback

# Sample Feedback Questions

## *Feedback Usefulness*

- My evaluator's feedback was provided as frequently as I needed it.
- My evaluator's feedback was provided in time for me to use it to inform my practice.

## *Feedback Accuracy*

- The classroom observations or walkthroughs that informed the feedback I received represented a typical day in my classroom.
- In our evaluation system, different evaluators reviewing the same evidence would likely give the same ratings.

## *Opportunity to Use Feedback*

- I had access to the professional development that I needed in order to implement suggestions provided in my feedback.
- I was able to observe expert teachers modeling skills that related to my feedback.

## *Feedback Use*

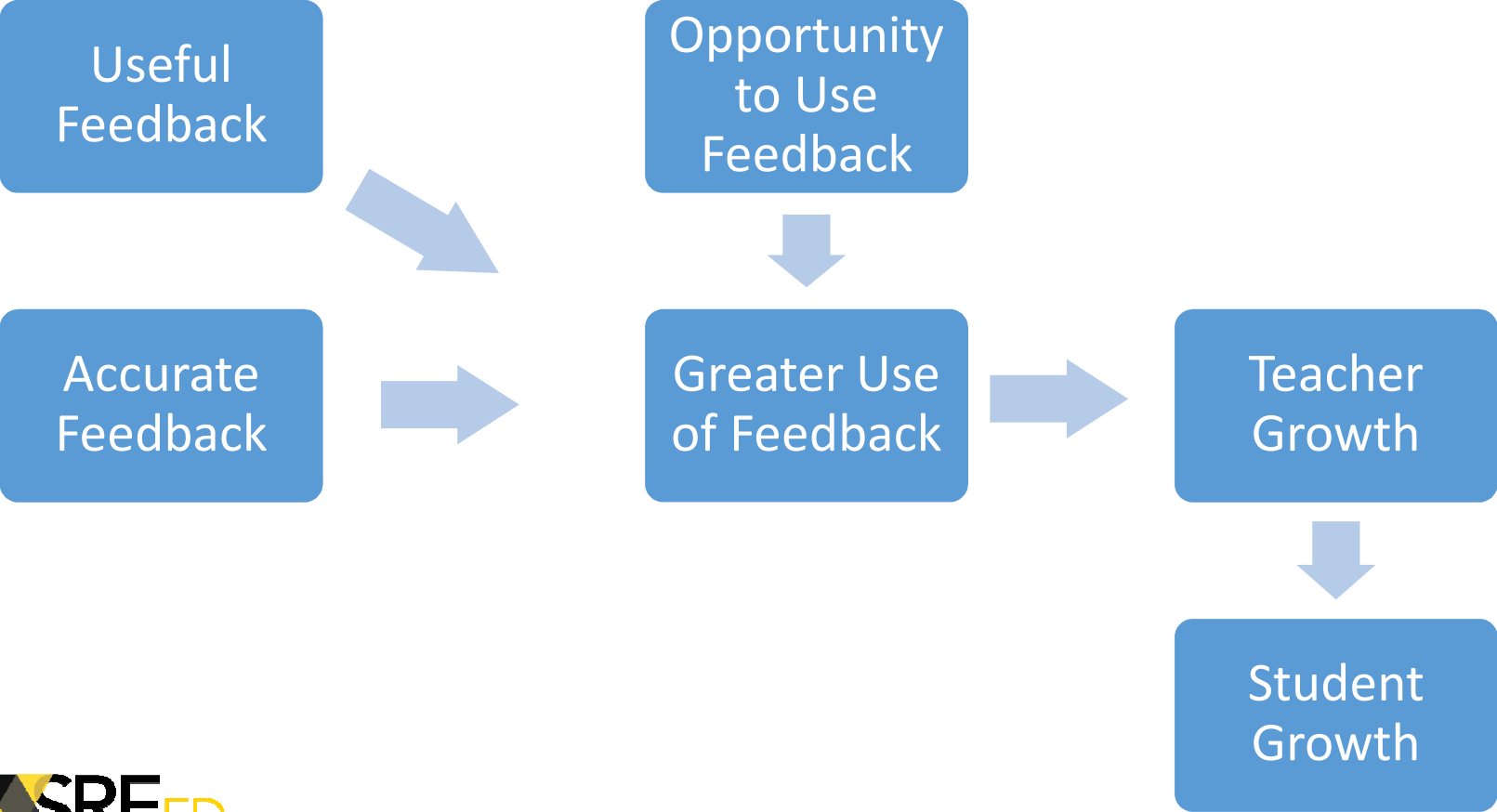
- I tried new instructional strategies in my classroom.
- I sought professional development opportunities (formal or informal).

## Measure of student achievement

All measures of student achievement were averaged at the school level and included both reading and math.

- Student Growth Percentiles (The percent of students in a school that did better than other students across the state with similar achievement results)
- Value-Added (The weighted results for a school from the past two years, controlling for previous achievement and demographics)
- Forward Exam, weighted by grade level, unadjusted results (the standardized results for a school not accounting for demographic differences or previous achievement)

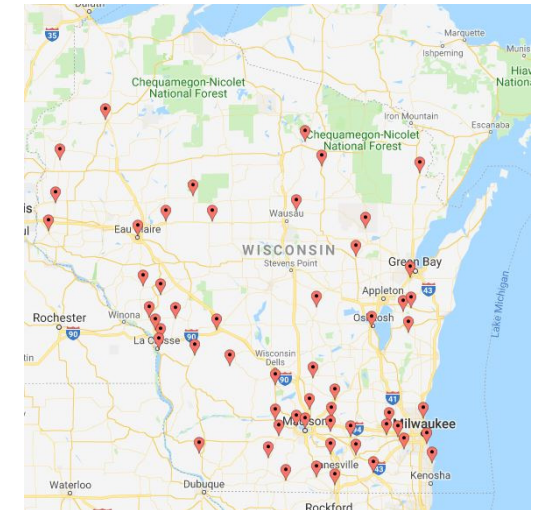
# Basic model of how EE impacts student achievement



## The schools included in analysis were representative of schools across Wisconsin

121 schools participated in the survey all three years and had achievement results (82 Elementary, 32, Middle, and 7 other)

	121 sample school averages	Statewide school averages
Percent White	69%	73%
Percent Economic Disadv	43%	42%
Enrollment	413	371
VA Math 2016	2.91	3.07
VA Reading 2016	2.76	3.07
Math Median SGP	49.47	50.12
ELA Median SGP	47.37	50.11
Math Mean SGP	49.49	50.13
ELA Mean SGP	47.89	49.93
Forward Exam Math Standard Score	-0.06	0.03
Forward Exam ELA Standard Score	0	0.04



The 121 study schools had marginally lower achievement results than schools statewide.

## Responding teachers were representative of their schools

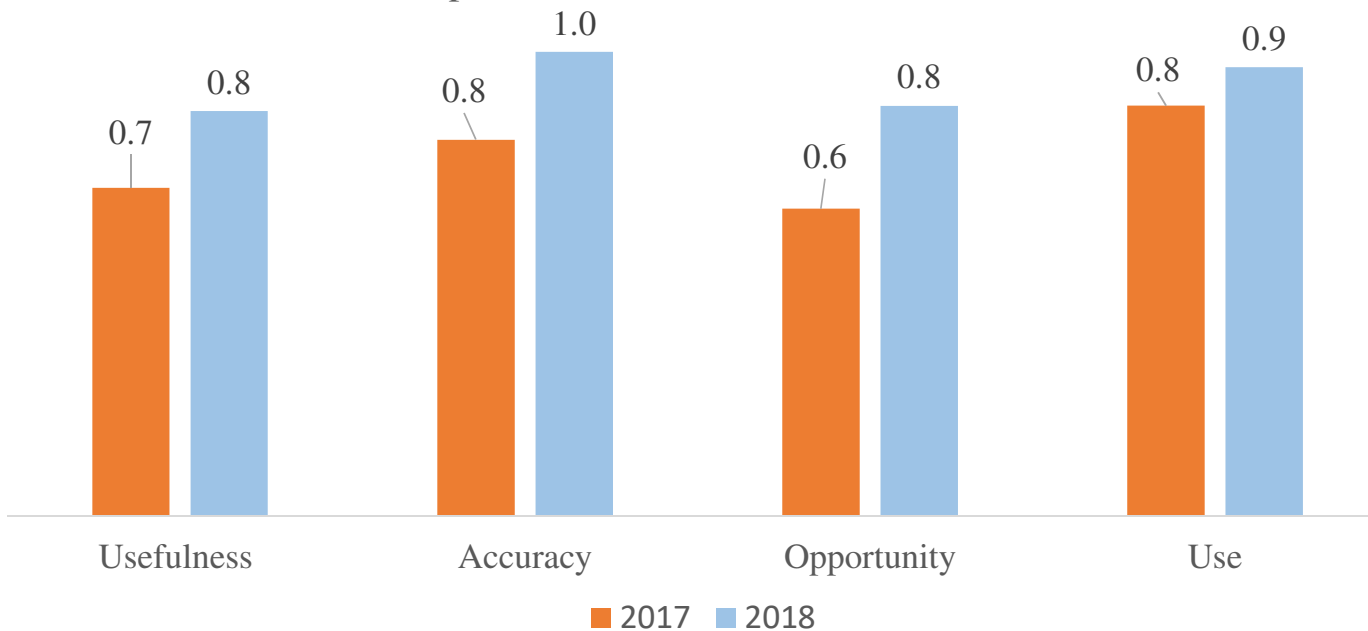
	Responding Teachers	All teachers
Female	82.4%	79.3%
Bachelor's degree	48.3%	48.6%
Master's degree	50.6%	50.3%
White	94.3%	93.5%
First year in district	11.1%	10.2%
1-5 years in district	22.1%	21.3%
Greater than 5 years in district	66.8%	68.4%
Novice teacher	5.6%	5.2%
1-5 years experience	15.1%	15.1%
Greater than 5 years	79.2%	79.7%

In the 121 schools included in this analysis, across all three study years, 6,193 out of 11,140 teachers participated in the survey, reflecting a 56% response rate.



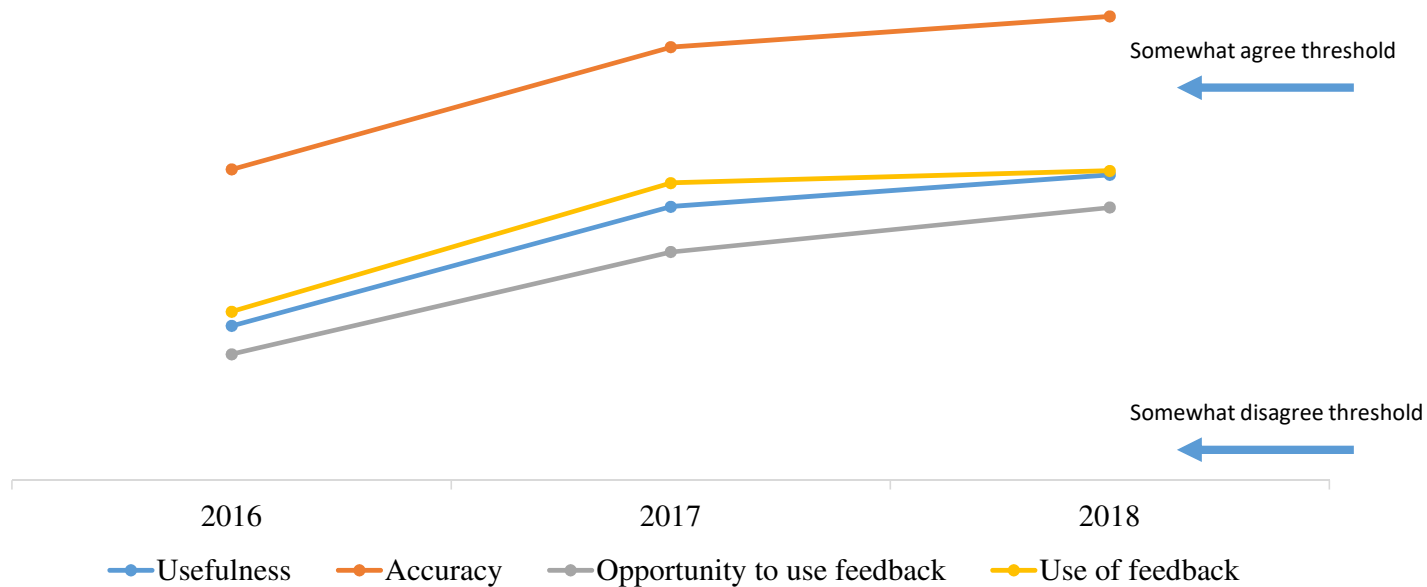
## Schools have improved their feedback processes

Standardized Improvements in the Feedback Process since 2016



The quality of feedback in the average school in 2018 was better than the feedback in 82% of schools in 2016.

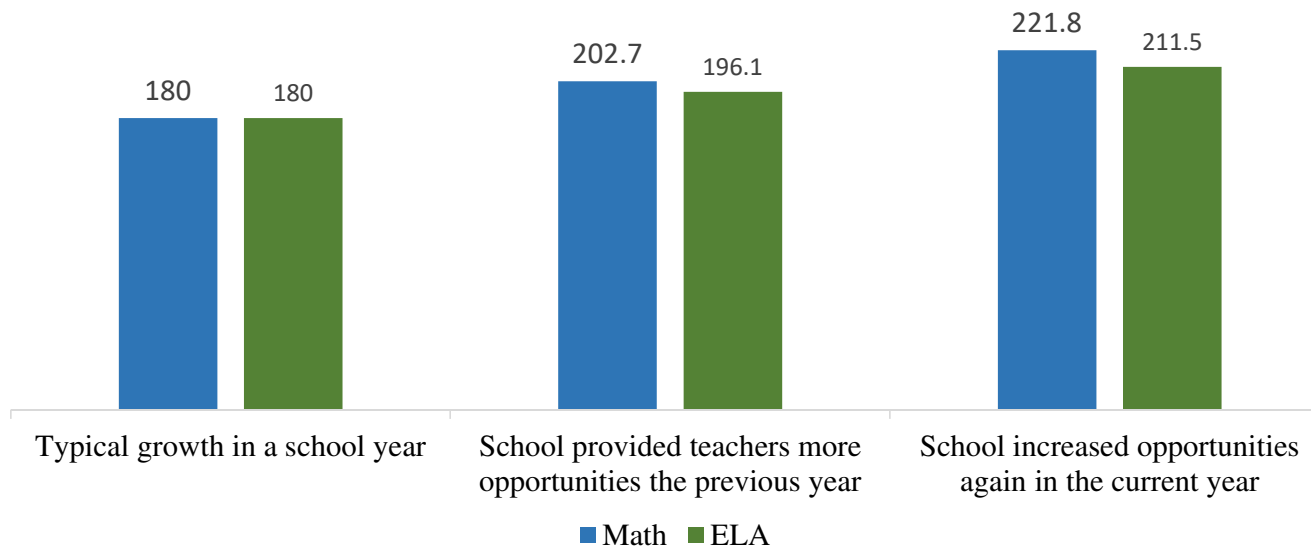
## Schools have improved their feedback processes



Although all aspects of the feedback process have improved, the Usefulness and Use of feedback lag behind its accuracy.

## School that increased the Opportunities teachers have to Use feedback realized improvements with both ELA and Math achievement

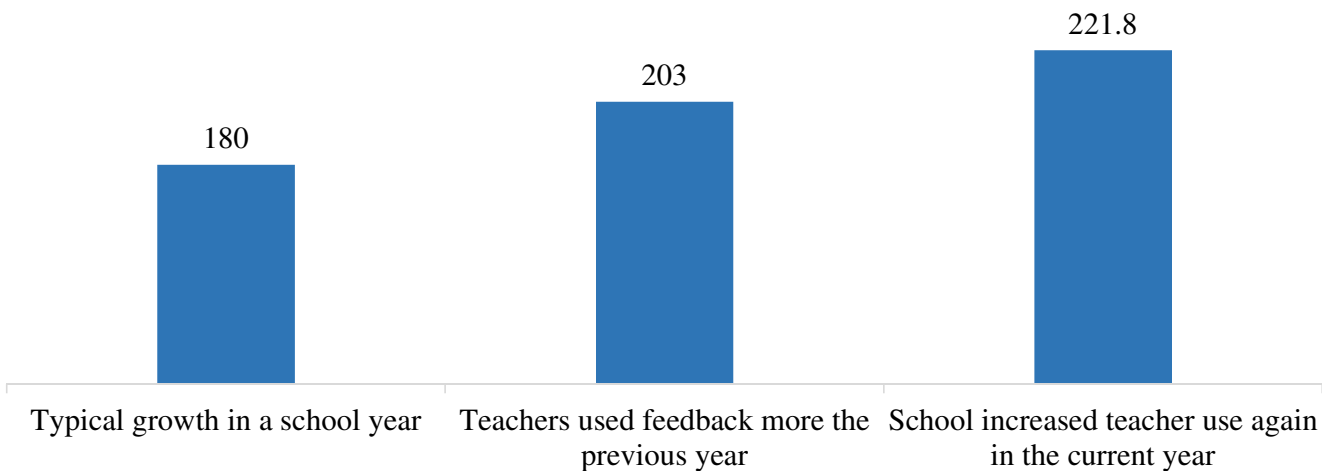
Value-Added Instructional Days for Providing Teachers more Opportunities to Use Feedback



The impact compounded over time, with 22.7 additional Math instructional days growth for one year's improvement and another 18.1 for a second year of growth.

## School that increased teachers' Use of feedback realized improvements with both ELA and Math achievement

Value-Added Math Instructional Days for Increasing Teachers' Use of Feedback



The impact compounded over time, with 23 additional Math instructional days growth for one year's improvement and another 18.8 for a second year of growth.

## School that increased teachers' Use of feedback realized improvements with both ELA and Math achievement

Schools that increased the amount teachers use feedback also demonstrated improved Math ( $B = .143, p < .001$ ) and ELA ( $B = .109, p = .004$ ) Value-Added results, Student Growth Percentile (SGP) Math ( $B = 2.6\%, p < .001$ ) and ELA ( $B = 1.7\%, p < .001$ ) Mean results, and SGP Math ( $B = 3.9\%, p < .001$ ) and ELA ( $B = 2.3\%, p < .001$ ) Median results.

The Math lagged effect of SGP Math Median results was also significant ( $B = 1.5, p = .01$ ) suggesting that the total effect of greater feedback use was 4.1%, an effect size of .45.

This effect size suggests schools moved from the 50th percentile to the 67th percentile. With 1,564 elementary and middle schools in Wisconsin, a .45 cumulative effect size would move a median school's performance ranking from 782 to 563.

## Summary

- This study may represent the most rigorous study done nationally that explores the impact of EE processes with student achievement.
- For teacher feedback to impact the quality of instruction, teachers have to be provided the opportunity to use feedback to improve.
- If teachers are provided accurate and useful feedback but no opportunity to use it they will not improve and student achievement will not change.
- Schools that find ways to encourage their teachers to use their feedback more are consolidating their school's entire EE process.
- As a next step we will replicate these finding with new data from 2019 and explore the differential impact on student subgroups.

## Limitations

- These data did not include the Milwaukee Public Schools or an CESA 6 model districts. However, robustness checks on the data did include schools from both. The checks were consistent with the findings.
- Three years of survey results are less than ideal. To account for other unmeasured factors that may influence results, four years of data are preferred. This will be possible moving forward.