

# Dissertation Summary



## **The Perceived Relationship of Leadership Behaviors to Teacher Preparedness for Implementing Connecticut's Core Standards in Mathematics and Use of Math Practices Aligned with Key Shifts in the Common Core**

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### Key Findings

This is the first study of Connecticut public school teachers who have taught mathematics aligned to the Common Core State Standards in Mathematics, and the first study in the nation that examines the relationship between perceived leadership behaviors and the extent to which teachers reported feeling prepared to teach the CCSSM and reported using instructional practices that align with the Common Core State Standards in Mathematics (CCSSM). I found:

- There are significant relationships between specific principal leadership behaviors, teachers' self-reported preparedness to teach the CCSSM, and the extent to which teachers reported using math practices that are aligned with Common Core expectations.

### Research Questions

This study sought to understand the following research questions:

1. Is there a relationship between perceived leadership behaviors (i.e. *Establishing goals and expectations; Planning, coordinating, and evaluating teaching and the curriculum; and Promoting and participating in teacher learning and development*), and the extent to which teachers report feeling prepared to teach the emphasized grade level CCSSM?
2. Is there a relationship between perceived leadership behaviors (i.e. *Establishing goals and expectations; Planning, coordinating, and evaluating teaching and the curriculum; and Promoting and participating in teacher learning and development*), and the extent to which teachers report incorporating practices that align with key CCSSM shifts into their practice?

### Data

I created a survey that included items related to perceived principal leadership behaviors, teachers' feelings of preparedness to teach the CCSSM, and teachers' self-reported use of mathematical practices aligned to the CCSSM. Questions for the survey were adopted from previous surveys including Hallinger's Principal Instructional Management Rating Scale (PIMRS), Cogan's National Survey on the

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Common Core, and the Common Core Feedback Tool from Educational Delivery Institute. My survey was sent electronically to over 11,000 Connecticut teachers. A total of 2,013 teachers in Connecticut who taught Mathematics at the K-8 level during the 2014-2015 school year fully completed the survey during the Fall of 2015. These data were used in my analysis.

## Research Methods

I used multiple linear regression analysis to test the relationship between the variables that related to the two research questions. To address the first question, teachers' self-reported preparedness to teach the CCSSM was regressed onto the three leadership behavior variables. Responses about the CCSSM shifts were regressed separately onto the three leadership behavior variables.

## Detailed Results

I studied the relationship between specific leadership behaviors (i.e. the extent to which principals establish clear goals and expectations; plan, coordinate and evaluate teaching and the curriculum; and promote and participate in teacher learning) and teachers' self-reported sense of preparedness and self-reported use of practices that align with the key shifts in the Common Core State Standards in Mathematics (CCSSM). I found:

- The extent to which teachers reported that their principal establishes clear goals and expectations that are easily understood by teachers and the school community is significantly related to the extent to which teachers reported that they felt prepared to teach their grade level CCSSM.
  - The extent to which teachers reported that their principal actively supports and participates in teacher learning and development is significantly related to the extent to which teachers reported that they felt prepared to teach their grade level CCSSM.
  - The extent to which teachers reported that their principal establishes clear goals and expectations is significantly related to teachers' reports of diminished use of math practices that do not align with the CCSSM (i.e. teaching mnemonics; teaching students discrete procedures and clues to solve math problems).
  - The extent to which teachers reported that their principal plans, coordinates, and evaluates teaching and the curriculum is significantly related to higher levels of using a math practice that aligns with the key shifts in the CCSSM (i.e. developing students' procedural skill and fluency), but is also significantly related to higher levels of using math practices that do not align with the key shifts in the CCSSM (i.e. teaching mnemonics; teaching a wide range of topics; teaching students discrete procedures and clues to solve math problems).
  - Teachers who reported that they were more likely to feel prepared to teach the CCSSM were also significantly more likely to report that they implement four instructional practices – two that align with the CCSSM (i.e. making math connections; developing procedural skill and fluency) and two that do not align with the CCSSM (i.e. teaching a wide range of topics; teaching students discrete procedures and clues to solve math problems).
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## Principal Implications

Setting goals and expectations was the only principal behavior that was significantly and positively related to both of the teacher outcomes. Therefore, principals may want to consider communicating goals and expectations that clearly align to the key Common Core shifts. Professional development should be focused on the key shifts as well as on Common Core aligned teaching resources. An emphasis should be placed on the importance of teaching and learning that is aligned with the key shifts rather than putting an overemphasis on results right away. If student results become the main emphasis, teachers may resort to old mathematical practices such as the use of mnemonics and discrete procedures in order to boost test scores. Instead, principals should emphasize using practices that allow students to develop deep understandings and connections among a narrow set of mathematical topics.

## District Implications

District leaders may want to establish clear goals and expectations regarding Common Core implementation, and encourage principals to do the same at the building level. Rather than focusing primarily on growth as measured by assessments, goals should also focus on the development of teaching practices that are aligned to the Common Core. In addition, district leaders may want to evaluate the extent and quality of Common Core professional development that is offered to teachers and school leaders. District leaders should consider investing money into professional development opportunities that will encourage teachers to learn and implement the shifts in the CCSSM with fidelity. Professional development should also be provided for principals, enabling them to develop an understanding of the Common Core standards and shifts so that they can support teachers in their professional learning.

## State Implications

The CSDE may be interested in exploring the importance of establishing clear goals and expectations regarding CCSSM implementation. Rather than emphasizing student outcomes right away, the CSDE could establish clear expectations for districts and schools to focus improvement goals on implementation of the Common Core with fidelity. For example, districts should be required to carefully evaluate curricula to ensure that the standards are covered in depth and that the key shifts in the CCSS are emphasized. In addition, the CSDE could leverage the state evaluation system to drive changes related to teaching practices aligned to the CCSS. The CSDE may also be interested in conducting further research about Common Core implementation in Connecticut school districts. Finally, as future reform efforts emerge at the state level, the CSDE could consider setting clear goals and expectations that initially prioritize professional development and fidelity of implementation over assessment outcomes. As a result, teachers may be more likely to feel prepared to implement the reform, and to implement the reform with fidelity.

## Implications for Reform Implementation in General

This study shows that although teachers may feel prepared to implement reform, they may not do so in a manner that aligns with policymakers' intentions. This research has implications for the importance of setting clear goals and expectations, as well as for providing professional development opportunities for learning new reform, and recognizing how it is different from previous initiatives. By setting clear goals and providing adequate professional learning experiences about future reform efforts, teachers may be more likely to feel prepared to implement new initiatives with fidelity.

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