

UNDERSTANDING TEACHER CONCERNS ABOUT THE
IMPLEMENTATION OF COMMON CORE STATE STANDARDS (CCSS)

BY

© 2014
LINDA MCGURN

Submitted to the graduate degree program in Curriculum and Teaching and the
Graduate Faculty of the University of Kansas in partial fulfillment of the requirements for the
degree of Doctor of Philosophy.

Chairperson: Dr. Marc Mahlios

Dr. Young-Jin Lee, minor advisor

Dr. Phil McKnight

Dr. Meagan Patterson

Dr. Donita Shaw

Date Defended: December 11, 2014

The Dissertation Committee for Author Linda McGurn
certifies that this is the approved version of the following dissertation:

UNDERSTANDING TEACHER CONCERNS ABOUT THE
IMPLEMENTATION OF COMMON CORE STATE STANDARDS (CCSS)

Chairperson Dr. Marc Mahlios

Date approved: December 11, 2014

Abstract

This study explored the concerns that K-12 teachers in five states ($N = 145$) had about implementing the Common Core State Standards (CCSS), and how those concerns differed by demographic characteristics of the teacher. Specifically, this study sought to answer two questions: (1) What are teachers' identifiable stages of concern about CCSS? (2) How do those stages of concern differ by years of teaching experience, primary teaching role, and grade level taught? Data collection consisted of a 35-item, Likert-scale survey, demographic data, two open-ended questions, and follow-up interviews with a subset of participants. Analysis of Variance revealed significant differences in the relative intensity of some stages of concern by grade taught, and category of teaching, but not for years of experience. In addition there were statistically significant differences in relative intensity of some stages of concern by state, by gender, by whether or not the respondent had received CCSS training, and by district urbanicity. Multiple regression revealed that some demographic characteristics had a statistically significant effect on the relative intensity of concerns for Stages 0 and 5. An analysis of the open-ended question responses revealed that, of those respondents who answered the questions ($n = 96$), 67% ($n = 64$) felt prepared or somewhat prepared, while 33% ($n = 32$) felt unprepared. The two resources most needed, according to the responses, were time and training. The semi-structured interviews conducted after the survey ($n = 5$) validated that the respondents were in the early stages of adoption with higher concerns in Stages 0 - 3. This study reinforced the importance of understanding and acting upon teacher concerns to optimize CCSS implementation, particularly in the area of information about the standards and what they mean for the teacher in the classroom. Future research should explore impacts of structured teacher professional development on the nature and intensity of concerns.

Dedication

This manuscript is dedicated to my husband, Larry, who inspires me with his lifelong love of learning, and whose love, support, and encouragement carried me throughout this undertaking.

Acknowledgements

I would first like to acknowledge the important role that my family played in the completion of my doctorate: to my daughter, Maureen and son-in-law Tim, thank you for accommodating my crazy schedule over these past several years, and for giving me two precious granddaughters whose curiosity and desire to learn are a constant reminder of why this all matters; to my mother, Hannelore, and stepfather, Don, thank you for your continuous support; and to my sister, Trisch, thank you for your encouragement and willingness to read my draft.

In addition to family, there are many individuals whose expertise and moral support were invaluable to me during this journey of learning. I would first like to thank my advisor, Dr. Mahlios, for his guidance and encouragement (“Press on!”). I would like to thank my dissertation committee members, Dr. Lee, Dr. McKnight, Dr. Patterson, and Dr. Shaw, for their feedback and support. My colleague, Kayla Supon-Carter, was a good “critical friend” and resource to me as I finalized my dissertation. Dr. Amy Gaumer-Erickson and Dr. Pattie Noonan provided both inspiration and valuable insights into teachers and the teaching profession. I would like to thank my colleagues John Nelson, Maria Minchew, and Ron Smits at Engility Corporation for their support over these past four years. Finally, I would like to thank two people who originally inspired me to begin this journey, Dr. Mike Prevou and Dr. Holly Baxter.

List of Tables

Table 1: The CBAM Stages of Concern Descriptions	6
Table 2: Coefficients of Internal Reliability for the SoCQ, by Stage	26
Table 3: Coefficients of Internal Reliability for the Study, by Stage	35
Table 4: Responses by State	35
Table 5: Responses by Primary Role	35
Table 6: Responses by Grade Level Taught	36
Table 7: Responses by Grouped Years of Experience.....	36
Table 8: Responses by Gender	37
Table 9: Responses by CCSS Training	37
Table 10: Responses by District Urbanicity	38
Table 11: Responses by Stages of Concerns Subscales	39
Table 12: Summary of Multiple Regression Analyses	52

List of Figures

Figure 1: Relative Intensity of Stages of Concern Overall	40
Figure 2: Relative Intensity of Stages of Concern by State	42
Figure 3: Relative Intensity of Stages of Concern by District Urbanicity	43
Figure 4: Relative Intensity of Stages of Concern by Grade Level Taught	45
Figure 5: Relative Intensity of Stages of Concern by Gender	46
Figure 6: Relative Intensity of Stages of Concern by Years of Experience	48
Figure 7: Relative Intensity of Stages of Concern by Reception of CCSS Training	49
Figure 8: Relative Intensity of Stages of Concern by Primary Role	50

TABLE OF CONTENTS

Abstract	iii
Dedication	iv
Acknowledgements	v
List of Tables	vi
List of Figures	vii
CHAPTER I: INTRODUCTION.....	1
Problem statement	1
Research Questions	4
Definitions of Variables	4
Summary	6
CHAPTER II: LITERATURE REVIEW	7
Teachers and Educational Reform	7
CBAM Framework	9
Teacher Characteristics and Impact on Concerns	16
The Evolution of CCSS	18
Teacher Concerns Specific to CCSS Implementation	20
Summary	21
CHAPTER III: METHODS	23
Participants	23
Instruments	25
Data Analysis	27
Summary	32
CHAPTER IV: RESULTS.....	33
Sample	33
Descriptive Statistics	34
What Are Teachers' Identifiable Stages of Concern About CCSS?	38
How Do Those Concerns Differ by Characteristics of the Teacher?	40
Qualitative Data	52
Summary	57

CHAPTER V: DISCUSSION.....	59
Major Findings	59
Conclusions	69
Limitations	75
Future Research	76
References	77
Appendix A: Introductory Page	90
Appendix B: Stages of Concern Questionnaire	91
Appendix C: Demographic Questions	93
Appendix D: Copyright Permission.....	94
Appendix E: Interview Questions.....	96
Appendix F: Example of Interview Writeup (redacted)	97
Appendix G: IRB Approval	99
Appendix H: Urbanicity Codes.....	100
Appendix I: Districts Sampled.....	102
Appendix J: Statements on Questionnaire by Stage	104
Appendix K: Average Raw Scores by Stage	106

CHAPTER I: INTRODUCTION

Problem statement

While there is no shortage of reporting both for and against the Common Core State Standards (CCSS), we do not yet have a comprehensive understanding of teacher concerns about implementing the Standards. CCSS—which were originally adopted by 45 states, the District of Columbia, four territories and the Department of Defense Education Activity—are the product of the National Governors Association and Council of Chief State School Officers, who formed a coalition to align states standards and testing by creating one set of standards and common criteria for grading (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010; Hacker & Dreifus, 2013). Their work is supported by private funding, including \$35 million in grants from the Bill and Melinda Gates Foundation (Hacker & Dreifus, 2013).

As implementation of the CCSS has begun across the country, there has been some resistance by educators in the states. As of August 2014, legislation to pause, review, or repeal CCSS had been introduced in 26 states (Common Core Backlash, 2014). While most of the bills failed to pass, executive orders have been signed in seven states (Arizona, Connecticut, Georgia, Iowa, Oklahoma, Mississippi, and Maine) regarding CCSS implementation. In addition, governors in five states have signed bills to repeal (Indiana, Oklahoma, and South Carolina) or pause (Illinois, Missouri) the CCSS. With the momentum and funding support currently enjoyed by the CCSS movement, however, it is unlikely that most states will reverse course; consequently, the sooner that teacher concerns are identified and understood, the earlier administrators can design and implement appropriate interventions and supports to address those concerns in order to ensure more optimal implementation.

Implementation of large-scale educational reform is complex (Clandinin & Connelly, 1998; Fullan, 2003; März & Kelchtermans, 2013) and is often unsuccessful at the level of classroom instruction. Hess and McShane (2013) suggest that teacher professional development is an important part of aligning classroom instruction to the changes introduced by CCSS, arguing that “The last half-century of school reform includes a remarkably long list of once celebrated now discarded ideas accompanied by the common lament that they were undone by implementation” (p. 62). Understanding teachers’ feelings and perceptions regarding CCSS implementation is important because it will help us understand how teachers will support the change (Hall, 2013). Most research on teacher concerns has tended to focus on innovations regarding curriculum (Christou, Eliophitou-Menon, & Philippou, 2004), the introduction of technology (Overbaugh & Lu, 2008; Donovan & Green, 2010), and instructional strategies (Hall, 1976; Dunn & Rakes, 2009). A literature search of major academic databases using the key words “Common Core,” “Common Core State Standards,” “CCSS,” “Concerns-Based Adoption Model,” “CBAM,” “teachers,” and “teacher concerns” revealed only two recent studies, both doctoral dissertations, that examined teacher concerns about CCSS using the CBAM framework. Both examined concerns in narrow contexts. The first (Wolf, 2013) examined CCSS implementation specific to mathematics curriculum in the context of teacher stages of concern. The second (Adrian, 2012) examined teacher stages of concern about standards-based grading. The literature search, however, did show that CCSS is of keen interest to educators, the business community, and politicians.

Some research conducted using the Concerns-Based Adoption Model (CBAM) has shown that the concerns will differ by years of teaching experience, with less experienced teachers more concerned about their own ability to implement a change while more experienced teachers tend

to be more concerned about the impact to students (Christou et al., 2004). Given that the type of comprehensive reform that is proposed by CCSS can take years to implement, and that the change can be an ongoing process (Hall, 2013), understanding teacher concerns and how they differ by experience can help educators identify potential obstacles to implementation and address them in a differentiated fashion.

Another area of potential teacher concern relates to the teacher's primary role, i.e., general education or special education. The CCSS implementation is anticipated to be disproportionately challenging for the population of students who have intellectual or behavioral disabilities. This is because for these students, the standardized test taking that is part of the implementation of CCSS can itself pose difficulties separate from knowing the underlying material (Hope, 2009). This, in turn, places a heavier burden on the special education teacher. There are also potential discrepancies between the needs of the student with learning disabilities and the CCSS benchmarks. For example, handwriting can be difficult for students with learning disabilities throughout their schooling, yet the CCSS handwriting benchmarks end after grade 1 (Graham & Harris, 2013). For these reasons it is also important to understand concerns specific to this population of teachers.

Finally, identifying specific teacher concerns is important to understanding how engaged teachers feel in the educational process, particularly curriculum development. Teacher involvement is important to optimize learning outcomes because teachers are most familiar with the practical realities of the classroom (Ben-Peretz, 1980). When teachers are excluded or don't remain engaged throughout curriculum decision-making, the result can be marginalization of the profession, where teachers are no longer curriculum makers, but curriculum implementers (Craig, 2012). For successful change to occur, teachers must feel engaged and their classroom

perspective respected (Craig, 2012; Fullan, 2007). Nichols and Parsons (2011) warn that the teacher's voice is being limited and the teaching profession is being "deskilled" by a system overwhelmed with testing, a top down culture of accountability, and a redefinition of teaching as a technical job rather than a professional career.

Research Questions

The purpose of this study was to explore the concerns that teachers have about implementing the Common Core State Standards, and how those concerns differ by characteristics of the teacher. We don't yet have a comprehensive understanding of those concerns, which is problematic because the implementation phase is often the point of failure for major educational reform (Fullan, 2007; Hess & McShane, 2013; Jerald, 2005; Tyack & Cuban, 1995). Understanding teacher concerns can help inform decisions about the supports and interventions teachers need for successful implementation.

The construct of "concerns" is based on the Concerns-Based Adoption Model (CBAM). In this model, concerns are defined as "the composite representation of feelings, preoccupation, thought, and consideration given to a particular issue or task" (Hall et al., 1979, p. 5). Specifically, this study sought to answer two questions: (1) What are teachers' identifiable stages of concern about CCSS? (2) How do those stages of concern differ by years of teaching experience, category of teaching, and grade level taught? (See Appendix C for the complete list of demographic data collected.) My assumption was that the intensity within the stages of concern would differ based on these characteristics.

Definitions of Variables

The theoretical framework for this investigation is the CBAM, which grew out of work by Frances Fuller in the 1960s to examine the attitudes and beliefs of student teachers (Hall, 2013).

Fuller posited three phases of teacher concern: a pre-teaching phase, where there is non-concern; an early teaching phase, where concerns are about self; and a late teaching phase, where the concerns are about pupils (Fuller, 1969). In later research, Fuller reconceptualized the stages as concerns about self, concerns about tasks, and concerns about impacts on students (Fuller, Parsons, & Watkins, 1974; Parsons & Fuller, 1974; Conway & Clark, 2003). In the 1970's, Hall and his colleagues at the Research & Development Center for Teacher Education at the University of Texas in Austin expanded the concerns-based approach to examine teacher concerns in the context of innovation adoption (Conway & Clark, 2003). The Stages of Concern (SoC) is one of three dimensions of the CBAM, each of which can be used to understand and assess educational change processes. The other two dimensions are the Levels of Use (LoU), which describe behaviors of those who have or have not embraced the change; and Innovation Configurations (IC), which examines how the change is being implemented (Hall, 2013).

The seven stages of concern served as the dependent variables. The independent variables were the teacher's demographic characteristics, including years of teaching experience, primary teaching role, and grade level taught.

According to the CBAM Stages of Concern framework, teachers can move between seven distinct stages of concern; as some concerns are addressed, others arise. The seven stages are shown in Table 1. The stages can also be combined into three subscales, namely Self (Stages 0-2), Task (Stage 3), and Impact (Stages 4-6) (Hall et al., 1979).

Table 1

The CBAM Stages of Concern Descriptions

Stage	Title	Description
0	Unconcerned	Individual indicates little concern with the innovation
1	Informational	Individual indicates a general awareness and some interest in learning more about the innovation
2	Personal	Individual is uncertain about the demands of the innovation and his/her ability to meet the demands
3	Management	Individual focuses on the processes and tasks of using the innovation
4	Consequence	Individual focuses on the innovation's impact on students
5	Collaboration	Individual is focused on working with others regarding use of the innovation
6	Refocusing	Individual focuses on ways to gain more benefits from the innovation

Adapted from *The Stages of Concern Questionnaire* (George et al., 2006, p. 8)

Summary

CCSS is a far-reaching educational reform initiative for which many states have been preparing for the past several years. To date limited research has been conducted using the established CBAM framework to identify teacher concerns in the context of the CCSS implementation. Understanding teacher concerns about CCSS is important at this stage of implementation because of the potential obstacles to fully adopting the standards represented by their population of students. As important is the opportunity to infuse the change process with the voice of the teacher, who is closest to the classroom. The results of this study will help inform the decisions being made by educators and administrators regarding the allocation of resources, including teacher professional development, to support successful implementation.

CHAPTER II: LITERATURE REVIEW

In this chapter I will discuss literature relevant to educational reform and the role of teachers, the Concerns-Based Adoption Model (CBAM) framework, teacher characteristics and their impact on concerns, and the evolution of the Common Core State Standards. I will situate the discussion of the CCSS evolution in an historical context, discussing how the concept that we should have a general education common to all students evolved over the past century.

Teachers and Educational Reform

One of the criticisms of current educational reform is that a top-down approach to curriculum change doesn't allow sufficient input from those closest to the classroom, namely teachers (Fullan, 2007). This is problematic for two reasons. First, teachers understand the practical realities of the classroom, so are often best situated to understand the gaps, needs and problems in the classroom, and how to address them (Ben-Peretz, 1980). Without their input and engagement, change is much less likely to be successful (Fullan, 2007). Second, the long-term implication of excluding teachers is the marginalization of the profession, as teachers simply implement what someone else hands them (Craig, 2012).

Educational researcher Michael Fullan (2007) suggests that most reform fails because those school-specific factors that Schwab (1969) would consider “commonplaces” (student, teacher, subject matter, and milieu—or context) are being marginalized in favor of mandates and top-down approaches. William Schubert (2010) expressed a similar concern: “I am convinced that one of the biggest questions facing our field is the marginalization of those [i.e., teachers] who have curricular knowledge and expertise by those who control major curricular policy and practice” (p. 9). The important contribution of teachers is especially at risk in an environment of

top-down reform. Reform will not work if teachers do not feel engaged and their classroom perspective is not respected (Craig, 2012; Fullan, 2007).

This perspective is echoed by educational researcher Andy Hargreaves (2004), who has studied teachers' emotional responses to educational change. He found that "in the period of large-scale educational reform that began in the 1990s legislated educational change initiatives have had largely emotionally negative and painful effects on teachers" (p. 288). Hargreaves goes on to note that "large-scale change grinds most teachers into the dust" (p. 304) because it is forced on them, and they experience "excessive pressure and weak support" (p. 304).

Many in education look to the last national educational reform initiative, No Child Left Behind (NCLB), to anticipate impacts of CCSS. One study on the effects of NCLB at the end of its fifth year of implementation in one school district identified numerous stressors and dissatisfaction for teachers (Smith & Kovacs, 2011). These included "excessive paperwork, time shortages (both instructional and planning), a shrinking curriculum, and prescribed lessons" (Smith & Kovacs, 2011, p. 218). Some researchers cite evidence that the high-stakes accountability environment of NCLB "enacted negative consequences on some teachers' sense of professional worth" (Hochberg & Desimone, 2010, p. 91). Fullan (2003) writes that "with all the emphasis on uninformed and informed prescription over the past twenty years, one of the casualties has been teachers' intrinsic motivation or sense of moral purpose" (p. 11).

In a recent report regarding CCSS implementation in California (McLaughlin, Glaab, & Carrasco, 2014), the authors noted two general implementation concerns expressed by educators across the state. The first was a lack of time; i.e., too little time to do professional development, develop new materials, and to communicate with stakeholders. The second general concern was that implementation was hampered by the "broader ambiguities and uncertainties associated with

CCSS” (p. 5). Hess and McShane (2013) noted a similar concern regarding professional development that helps teachers align their classroom instruction to CCSS, citing a 2013 survey of state education officials that showed 37 states reporting challenges in implementing quality professional development. This can be problematic in English Language Arts (ELA), where meeting the standards will require that students receive instruction from highly-qualified teachers who have received high-quality professional development (Graham & Harris, 2013).

Special education teachers face unique expectations and responsibilities, including working collaboratively with general education teachers in co-teaching scenarios that are often ill-defined and poorly supported (Newton, Kennedy, Walther-Thomas, & Cornett, 2012). The challenges associated with that role may be exacerbated with the CCSS requirement that students with special needs be held to the same benchmarks. The CCSS specify that students with learning disabilities need to achieve established benchmarks, but acknowledge that this may require extra supports (Haager & Vaughn, 2013). One study estimates that as many as 30 or 40 additional days of instruction will be required in order for students with special needs to meet the standards (Shah, 2012). The CCSS guidelines, however, offer minimal guidance on those supports or how students with learning disabilities can meet the rigorous CCSS standards.

CBAM Framework

The importance of understanding beliefs and concerns of those participating in a change process has been well-established (Dunn & Rakes, 2009). Research has found that concerns about an innovation “exert a powerful influence on the implementation of reforms and determine the type of assistance that teachers may need in the adoption of the process” (Christou et al., 2004, p. 160). Specific to education, a framework for understanding teacher concerns began with research by Frances Fuller, a counseling psychologist, in the 1960s. Fuller’s original work

focused on novice teachers and teacher development. Fuller was trying to improve teacher education programs by understanding the concerns that prospective teachers had. This was driven in part by her interest in addressing a discrepancy uncovered in research between what teachers said they needed and what was provided to them in teacher education (Fuller, 1969). Fuller saw a disconnect between teacher educators, who had different concerns relative to teaching, and undergraduate education majors. She hypothesized that when the course content addresses concerns of preservice and novice teachers, there will be more interest on the part of students.

Fuller also hypothesized that teachers with different levels of experience will have different attitudes about teaching and express different concerns (Fuller, 1969; Parsons & Fuller, 1974; Fuller, Parsons, & Watkins, 1974). She conducted a series of studies on pre-service teachers (Fuller, 1969; Dunn & Rakes, 2009) and found clusters of concerns and attitudes that changed in a distinct and predictable way as teachers gained experience (Roach, Kratochwill, & Frank, 2009). As a result, Fuller posited three phases of teacher concern: a pre-teaching phase, where there is non-concern; an early teaching phase, where concerns are about self; and a late teaching phase, where the concerns are about pupils (Fuller, 1969). Fuller and Case (1969) continued the discussion about making professional education relevant to teachers. Their theoretical framework was a three-phase model that represented three different populations. Phase 1 focused on education students who had never taught, and had no concern about teaching; phase 2 comprised pre-service teachers with a minimum of teaching experience, who were mainly concerned about their own performance; and phase 3 included experienced teachers, who were mainly concerned about their students.

For the phase 2 population, Fuller developed six stages, which emerged from transcripts of counseling sessions with teaching students. The six stages are characterized by the prevalent question in the mind of the student teacher (Fuller & Case, 1969).

- Stage 1: Orientation to teaching. Where do I stand?
- Stage 2: Control. How adequate am I?
- Stage 3: Student relationship. Why do they (students) do that?
- Stages 4 & 5: Student Gain. How are they (students) doing? Stage 4 concerned with cognitive, 5 with affective gains.
- Stage 6: Personal growth & professional issues. Who am I?

Based on the concerns model, Fuller (1970) proposed ideas and procedures that could be used by teacher educators to personalize the education of elementary teachers. The purpose was to help educators understand the concerns of prospective teachers, and to help educators apply the concerns model that Fuller developed. Fuller proposed that when student teacher concerns are understood, they take more responsibility for learning, and are more satisfied. In this model, Fuller distinguished between less mature and more mature teachers. She defined concern as “constructive frustration” and “what a person is trying to do in a particular situation” (p. 13). She held that the three phases were sequential, reflecting the teacher’s maturity, and that they overlapped. Further, she found that prospective teachers have some common concerns, and that concerns occur for many in an invariant sequence (Fuller, 1974). Fuller argued that by better understanding the concerns and then addressing them in teacher education, prospective teachers will be better prepared. She argued that for teacher education to be effective, it needs to be more than just task-based information.

Initially, the main instrument used to gather concerns data was the Teacher Concerns Statement (Fuller & Case 1972). This was a questionnaire for both pre- and in-service teachers. It consisted of one open-ended question asking what concerns the teacher has when he/she thinks about teaching. There were also five background questions. A scoring manual (Fuller & Case, 1972) provided guidance on seven concerns codes to be used for scoring; the applicable code was determined by a close reading of the open-ended responses (e.g., code 0 was used when the teacher's response contains information or concerns that are unrelated to teaching). In the manual, the descriptions of the concerns stages differ somewhat from earlier work. For example, Stages 4 and 5 were previously described broadly as "student gains." In the scoring manual, there is more delineation. Stage 4 is "Are pupils learning what I am teaching?" and Stage 5 is "Are pupils learning what they need?"; in addition, Stage 6, which previously had been described as "Who am I?" is much more specific, "How can I improve myself as a teacher?"

Fuller reconceptualized the stages as concerns about self, concerns about tasks, and concerns about impacts on students (Fuller, Parsons, & Watkins, 1974; Parsons & Fuller, 1974; Conway & Clark, 2003). This occurred as a result of further research and analysis on teacher concerns using content analysis of Teacher Concerns Statements, which uncovered the limitations of the earlier model of concerns (Fuller et al., 1974). The purpose of the later research (Fuller et al., 1974) was to determine if teacher concerns fell into only two categories, and whether teachers expressed only a single concern or rather expressed more than one concern. Fuller et al. (1974) also examined whether concerns were related to experience. A major finding of the study (Fuller et al., 1974) was that concerns did not "mature" with experience, resulting in the reconceptualization into three stages: (1) Concerns about Role + Concerns about Adequacy, (2) Concerns about Teaching, and (3) Concerns about Pupil Needs. The study concludes with a

recommendation to develop a structured instrument that has better psychometric properties. The study also noted serious psychometric limitations of the Teacher Concerns Statement.

The new instrument, the Teacher Concerns Checklist (TCCL), was introduced at the 59th annual meeting of the American Educational Research Association (Parsons & Fuller, 1974). The authors noted that they had been studying teacher concerns for over a decade, and had been frustrated by the reliability issues encountered with the older instrument, Teacher Concerns Statement. The new 56-item checklist was developed over two years, and showed improved reliability over the Teacher Concerns Statements, and was easier to score with less risk of problems with interrater reliability. The original model predicted that concerns about teaching change over time and mature with experience as teachers worry less about themselves and their ability, and more about pupil needs. In the research discussed in their AERA paper, however, the authors note that regression analysis revealed that there was “no evidence to support the proposition that increasing teaching experience was related to concern categories hypothesized to be more mature” (p.5). One exception was male in-service teachers. No significant difference was found between elementary and secondary teachers.

Fuller’s work has served as a theoretical foundation for continued research over the past 40 within the context of innovation adoption and school reform (Hall, 2013; Hall, 1976; Hall & Hord, 2011). Hall, Wallace, and Dossett (1973) extended Fuller’s work to examine teacher concerns related to change in education, looking specifically at the adoption process of an innovation. They proposed the Concerns-Based Adoption Model (CBAM), which reflected a developmental progression of concerns, and suggested that the readiness of the individual for the innovation is determined by the stages of concern that they presently experience. “The overt manifestations of the initial checking-out process, the subsequent knowledge and skill needs, and

the problems encountered in preparing for and actually using the innovation will be observed as expressed concerns” (p. 14).

The CBAM framework resulted from over three years of research on innovations in educational institutions using three primary data sources: literature on change, field-based experiences, and documentation of adoption process in teacher education (Hall, 1974). According to the CBAM authors, in the early part of an adoption process, users are more concerned with getting information, support and advice (Hall et al., 1973; Hall 1974). “As the individual has his early, more intense self-related questions resolved and as he gets more and more into using the innovation, the intensity of innovate use (task) and student (impact) related concerns increase” (Hall et al., 1973, p. 15).

George (1977) developed and psychometrically validated the Stages of Concern Questionnaire (SoCQ) as an instrument to measure individual attitudes toward innovation, based on the Concerns-Based Adoption Model. The questionnaire measured concerns of teachers about educational change, using the seven stages in the CBAM. One major change over Fuller’s original concerns model was that experience was no longer measured by years of teaching but rather by familiarity or use of an innovation. To date George’s questionnaire and the CBAM framework have been applied in numerous studies and across many different types of change, including new curriculum and the introduction of technology (Hall et al., 1979; George et al., 2006).

Van den Berg and Ros (1999) applied the Concerns-Based Adoption Model to teachers in the Netherlands to examine the conditions under which innovation will succeed. They found that teachers have different attitudes toward an innovation at different stages of the implementation process. “Concerns can be taken as an important indicator of the subjective reality that allows

teachers to organize and understand their daily work and an indicator of the subjective reality that motivates people to teach in a particular way” (p. 882). The authors found high levels of self concerns more than three years after the introduction of a large-scale project. They suggest that for implementation to be successful, change agents must be attentive to the “individual questions, needs, and opinions that arise among teachers in response to innovations” (p. 879). Further, they found that “depending on the types of concerns and their feelings of certain/uncertainty, teachers may consider themselves either qualified or unqualified to implement and institutionalize innovation” (p. 880).

Burke (2001) used Fuller’s instrument (Teacher Concerns Checklist) and work in teacher competency development as the source of instrument items for the Attitudes Toward Personal Teaching Behaviors. In administering the instrument, Burke (2001) found 11 distinct categories of influence, separated into personal environment (outside the job) and organizational environment. He found that there are stages in a teacher’s career and accompanying patterns of attitudes at various stages, which can be used to develop individualized professional development.

One of the foundational assumptions of CBAM is that change is a personal experience, and individuals won’t embrace change until they have achieved some level of personal confidence (Hall, 2013). In the context of educational reform, this framework helps explain why so many reform initiatives have not attained the desired outcomes. That is, if teacher concerns related to information about the reform or their ability to meet the demands of the reform are not addressed, then teachers will lack the confidence to engage effectively in the change initiative. Fullan (2003) tells us that for large-scale reform to succeed, it’s important “to create the

conditions and processes that will enhance the likelihood that we move down the path of increasingly greater ownership and commitment” (p. 23).

Teacher Characteristics and Impact on Concerns

The relationship of teacher characteristics like grade/subject matter taught, years of teaching experience, and gender to perceptions, attitudes, and beliefs has been widely explored in educational research. Researchers, however, have found only a limited number of teacher characteristics that relate to the concern stages in the CBAM framework.

A longitudinal study conducted by Pigge and Marso (1997) found a progression of concerns from self to task after teachers experienced the classroom, but did not find a statistically significant relationship between the teacher’s career stage and task and self concerns. There were differences in impact concerns based on the teacher’s capability, as measured by grade point average (GPA).

Reeves and Kazelskis (1985) administered the Teacher Concerns Questionnaire to 128 pre-service teachers and 90 experienced teachers. The researchers found that results only partially supported the teacher concerns theory that less experienced teachers would have concerns that were more focused on getting information (Stage 1) or meeting the demands of the change (Stage 2) and that more experienced teachers would have higher concerns about the impact of the innovation (Stage 4). Rather, the research showed that both pre-service and in-service teachers expressed their highest concern about the impact of the change on students (Stage 4).

The effect of years of experience was explored in several studies. Hargreaves (2005) interviewed 50 Canadian school teachers across grade levels and found that the teacher’s age and career stage affected their response to educational change.

In research conducted with novice teachers, Hoy and Spero (2005) note that efficacy increased significantly during student teaching, but declined significantly during the first year of teaching. The changes were related to the level of support that the first year teachers received, suggesting that understanding concerns of less experienced teachers can help inform both development and the supports needed.

Years of teaching were also found to be a factor when considering teacher productivity. In a study that involved multiple school districts Harris and Sass (2011) found that elementary and middle school teacher productivity increased with experience, which they attributed to on the job training. Formal training was found to be ineffective in terms of teachers positively impacting student achievement. The authors suggest the reason for this is that teacher productivity is context-specific, while the formal training is standardized across all contexts, making it less relevant.

In contrast, longitudinal research (Watzke, 2007) on the chronology of concerns stages for beginning teachers revealed that teaching experience was not a differentiator in the peak concern stage. The study showed that impact concerns, which typically occur later in the chronology of teacher concerns, were highest for both pre-service and in-service teachers. He also examined characteristics that included gender, race, grade taught, and school location to see whether teacher and school variables affected level of concern, and found they did not. Watzke (2007) concluded that concerns-based theory can't provide a comprehensive answer for factors impacting early teaching.

In examining the effects of different teacher characteristics on self-efficacy and job satisfaction, Klassen and Chiu (2010) found that years of experience, gender, and grade level taught were related to self-efficacy, albeit not necessarily in a linear way. The research

reinforced the importance of tailored professional development for teachers. Campbell and Thompson (2007) studied pre-service music educators and found a statistically significant difference in concerns by gender. Forlin, Loreman, Sharma and Earle (2009) found some statistically significant differences in pre-service teacher attitudes about inclusion of students with disabilities in the classroom. These differences occurred across demographic characteristics like gender, age, and teaching experience. Ghaith and Shaaban (1999), however, found that gender and level of teaching were unrelated to perception of teaching concerns.

The Evolution of CCSS

The national dialogue we are having today about a set of core standards for our public schools is not a new one. Kliebard (2004) documents the conflicting views about curriculum subject organization and the purpose of the curriculum in his aptly titled, *The Struggle for the American Curriculum*. A constant in the discourse around a core curriculum has been the influence of social, economic, political, and more recently, global trends. As those trends change, so, too, does the prevailing opinion about what students should be learning in school.

The beginnings of a core curriculum in the U.S. can be traced back to the late 19th century and the National Education Association's Committee of Ten. The Committee was headed by Charles Eliot, who was then president of Harvard University. The committee was made up of men who either ran universities or prestigious secondary schools. The specific concern that the committee was addressing was universal schooling. Given the make-up of the Committee, it is not surprising that they framed their recommendations around subjects that would prepare high school students for college. The underlying assumption by the Committee was "that the best preparation for college was the same as the best preparation for life" (Eisner, 1979, p. 5). That perspective was countered in 1918 by the recommendations of the Commission

on the Reorganization of Secondary Education, who issued a report outlining the seven aims of curriculum. The report, known as the Cardinal Principles Report, expanded the focus of curriculum beyond college to include those things necessary to lead a good life, like health and ethical character (Kliebard, 2004).

After World War II, the main driver of a core curriculum was the perceived threat from outside the borders of the U.S. For students of history or educational scholars, the language surrounding the introduction and rationale for the current Common Core State Standards will be very familiar. The benchmarking report upon which the CCSS are based (NGA, CCSSO, & Achieve, Inc., 2008) warns us that the U.S. education has not adequately responded to the challenges of the global “knowledge-fueled” (p.5) economies and that consequently we are losing our dominant position to other countries.

Compare this to the grim warnings in the summary of *A Nation at Risk* (U.S. National Commission on Excellence in Education, 1983): “Our Nation is at risk. Our once unchallenged preeminence in commerce, industry, science, and technological innovation is being overtaken by competitors throughout the world.” (p. 5). The authors of the 1983 report compared the decline in education to an act of war, warning that “If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war. As it stands, we have allowed this to happen to ourselves” (p. 5).

In 1957, less than 30 years before *A Nation at Risk*, the call to educational arms was precipitated by the Soviet Union’s successful launch of the world’s first orbiting satellite, Sputnik. In response, and on an emergency basis, Congress in 1958 approved the National Defense in Education Act (New York State Archives). Again, the concern was that the United States was losing ground on the world stage because of a deficiency in our educational system.

Twenty-five years after *A Nation at Risk* was published, the U.S. Department of Education (2008) was still sounding the alarm, concluding that “we are at even greater risk now” (p. 1) and that the warnings of the 1983 report “remain relevant and poignant” (p. 2) because of the pace of change in the global economy.

Specific to the current core curriculum movement, there were attempts in both the first Bush and the Clinton administrations to introduce top-down national standards (McDonnell & Weatherford, 2013). These set the stage for state accountability as determined by standardized state assessments (Marshall, Sears, Allen, Roberts, & Schubert, 2007). This, in turn, paved the way for growing involvement and a larger role for state governors in education. By 2010 a coalition of governors and state school officials had formed to align all state standards into the Common Core State Standards.

Teacher Concerns Specific to CCSS Implementation

Two studies were conducted over the past two years that specifically addressed teacher concerns, as measured by the SoC instrument, about CCSS implementation. The first (Wolf, 2013) was a mixed methods study that examined teacher understanding of and concerns about mathematical modeling, which is one of the eight mathematical practice standards in the CCSS. Based on data collected from 364 teachers in eight California school districts, the study found that teachers understood the mathematical modeling standard and were willing to change their practice to include the modeling. Specific to stages of concern, teachers expressed primarily concerns related to self (Stages 0-2). The only demographic characteristic that was found to be a significant predictor of the teacher’s stage of concern was gender. The study concludes with a recommendation that teacher concerns and needs be incorporated into professional development.

The second study (Adrian, 2012) also used mixed methods to explore the grading beliefs, practices, and concerns of elementary teachers in a school district that was preparing to implement grading and reporting based on CCSS. The sample was made up of self-selected teachers from a single school district ($N = 102$) who were participating in a book study in order to build a common knowledge base and common vocabulary around standards-based grading practices.. The SoC survey was administered before and after book study sessions. The highest stage of concern before the book study was informational (Stage 1), after the book study was personal (Stage 2). The author concluded that it was important to engage teachers in conversations about removing barriers and to ensure professional development and concerns addressed the concerns of the teachers.

Both studies focused on very narrow aspects of CCSS implementation, and neither study used a geographically-stratified sample.

Summary

The literature regarding educational reform and teacher involvement has consistently highlighted the importance of involving teachers in any major change. The research underlying the development of the CBAM shows that teachers have specific concerns about different things during educational change, and will not progress through a change initiative until underlying concerns have been addressed. In addition, a small number of demographic characteristics of teachers can have a statistically significant impact on their stage of concern. To date the research that has been conducted using the established CBAM framework to identify teacher concerns in the context of the CCSS implementation has focused on very narrow aspects of implementation (mathematics curriculum and grading). Getting a broader understanding of teacher concerns about CCSS, as proposed in this study, is important at this stage of implementation because of

the potential obstacles to fully adopting the standards represented by their population of students. As important is the opportunity to infuse the change process with the voice of the teacher, who is closest to the classroom. The results of this study will help inform the decisions being made by educators and administrators regarding the allocation of resources, including teacher professional development, to support successful implementation.

CHAPTER III: METHODS

In this section I will describe the methodology used for the data collection and analysis. This includes a discussion of the steps taken to strengthen both the reliability and validity of the analysis. The section describes the recruitment process, the instrument used, and the statistical tests used for the data analysis. The chapter concludes with a description of a pilot that was conducted to test the question as well as the data collection and coding processes.

Participants

Participants in this study were teachers recruited from 127 school districts in the states of Kansas, Missouri, Iowa, Vermont, and Oregon. This was a convenience sample because The University of Kansas Research Center for Research on Learning, Research Collaboration, already has established relationships with the Departments of Education in those states via grant-funded teacher development programs.

Iowa began introducing CCSS earliest, implementing ELA and Math standards for grades 9-12 in the 2012-13 school year, and plans to fully implement the standards in the 2014-15 school year (O'Hara, 2013). Kansas and Vermont introduced ELA and Math standards for grades K-12 during the 2013-14 school year; and Missouri and Oregon will implement the ELA and Math standards in the 2014-15 school year (O'Hara, 2013).

Because this research used a convenience sample and participants were not randomly assigned to groups, generalizing the results to a larger population was problematic. Consequently it was important to have a sufficient sample size to be able to generalize the results for the states represented in the survey. Also, I sought to have sufficient variability among the teachers by deliberately sampling for heterogeneity (Cook & Campbell, 1979).

In order to create a heterogeneous sample and thereby maximize external validity, I created a quasi-random, stratified sample using district urbanicity codes (National Center for Education Statistics, 2009), which classify the district as belonging to a city, a suburb, a town, or rural (see Appendix H for a complete list of urbanicity codes and definitions). For each state I first downloaded district data from the National Center for Education Statistics (NCES, 2013) School District Demographic System website, which provided the number of students and teachers by district using 2010 Census data. I then retrieved urbanicity codes for school districts by state (National Center for Education Statistics, 2006) and matched them to the states and districts in my sample. The resulting file was then modified to remove specialized schools (e.g., a school for the deaf) or school districts with known accreditation problems that would not be representative of the typical public schools in the state. My next step was to assign a random number to each district using MS Excel random number generator. I sorted the records first by random number (high to low) and then by urbanicity code. Finally, using the sorted random numbers, I selected a subset of districts for each urbanicity cluster as follows: two from cities, five from suburbs, ten from towns and ten from rural. I deliberately oversampled the town and rural districts to account for the smaller district size. The resulting districts, identified by urbanicity type, can be found in Appendix I.

The recruitment process began with an email to contacts in each state's Department of Education requesting permission to recruit participants in the state. An overview of the study objectives was provided. All contacts responded that approval would need to be provided at the district level. An email list for superintendents was compiled for each district using data from the state's education website. An initial email requesting support was sent to each state's superintendents (as a group) April 6 and April 7, 2014. This was followed by a reminder email to

the superintendents (as a group, by state) on April 18. Another reminder email was sent to individual superintendents on May 5th, and a final reminder sent to superintendents on May 22nd.

This is a descriptive study, so teachers were not randomly assigned to groups. Rather, the groups were established by the demographic data collected. For example, for years of teaching experience, four groups were used: Group 1: 1-5 years of experience; Group 2: 6-10 years of experience; Group 3: 11-20 years of experience; Group 4: > 20 years of experience. These groupings are consistent with other research that investigated how teacher concerns regarding curriculum changes differed by years of teaching experience (Christou et al., 2004). The IBM SPSS Sample Power 3 program was used to determine a targeted sample size of 200 with an alpha of .05.

Human subjects approval was received March 12, 2014 from the University of Kansas Institutional Review Board (Appendix G).

Instruments

An online version of the CBAM Stages of Concern Questionnaire (SoCQ) was used as the primary data gathering instrument. This instrument has been examined, tested, and used in many studies and is the most widely used assessment of concerns (Dunn & Rakes, 2009). The SoCQ included introductory language that explains the questionnaire and how to complete it (Appendix A); the instrument, which is a 35-item survey using a Likert scale (Appendix B); and demographic questions and two open-ended questions (Appendix C). In the original survey, the word “innovation” is used throughout. The authors of the survey recommend changing that word to something the respondents will recognize (George et al., 2006). For that reason, the wording was modified slightly to replace “innovation” with Common Core State Standards or CCSS.

Because the instrument copyright is owned by SEDL, copyright permission was requested and received. (See Appendix D for a copy of the licensing agreement.)

The services that accompany the online SoCQ include computer-based scoring, data visualization tools, the ability to easily establish subgroups, and data files that can be downloaded to MS Excel. For this study, the survey data were downloaded, and all data manipulation (e.g., recoding) was done in MS Excel.

The reliability, internal consistency, and validity of the SoCQ have been tested and established across several samples and 11 innovations (Hall et al., 1979). Factor analysis established that there were seven independent concern constructs that could be identified with the seven stages in the CBAM framework. Cronbach’s alpha reliability coefficients have ranged from a low of .50 ($N = 214$) to a high of .86 ($N = 750$). Table 2 summarizes coefficients of internal reliability across seven studies conducted between 1979 and 1991.

Table 2

Coefficients of Internal Reliability for the SoCQ, by Stage

Authors	Sample Size	Stages of Concern						
		0	1	2	3	4	5	6
Hall, George, & Rutherford, 1979	830	.64	.78	.83	.75	.76	.82	.71
Van den Berg, & Vandenberghe, 1981	1,585	.77	.79	.86	.80	.84	.80	.76
Kolb, 1983	718	.75	.87	.72	.84	.79	.81	.82
Barucky, 1984	614	.60	.74	.81	.79	.81	.79	.72
Jordan-Marsh, 1985	214	.50	.78	.77	.82	.77	.81	.65
Martin, 1989	388	.78	.78	.73	.65	.71	.83	.76
Hall, Newlove, Rutherford, & Hord, 1991	750	.63	.86	.65	.73	.74	.79	.81

(George et al., 2006, p. 21)

Using the results of the CBAM questionnaire, semi-structured interviews were conducted with a subset of the participants ($n = 5$) to further understand the concerns in order to validate the

profile results and to identify potential interventions. Because of the social sensitivity associated with CCSS implementation, I anticipated that some teachers may hesitate to be fully candid in the interview. For that reason, I did not record the interviews, and I assured participants that no comments would be directly attributable to individual teachers. Finally, I described the safeguards put in place (e.g., using record numbers, not names) to protect their privacy. I also emphasized the importance of their input in ensuring the teacher's voice is heard in this current dialogue.

Because there was no random assignment of participants to groups, there was a greater risk of false causal inferences (Cook & Campbell, 1979). Therefore, I put in place guidelines that minimized potential threats to internal validity, such as identifying potential confounding variables early in the design, and careful selection of participants and administration of the survey. For example, responses from teachers who were not teaching when the CCSS were first introduced could have a confounding effect on the data. Therefore I included a question about continuous teaching between 2009 and 2012 that allowed me to filter out teachers who did not teach during that period and therefore were presumably less involved in the CCSS planning or implementation for their school. This resulted in a final sample size of 145.

Data Analysis

As noted earlier, this study sought to answer two questions: (1) What are teachers' identifiable stages of concern about CCSS? (2) How do those stages of concern differ by years of teaching experience, primary role, and grade(s) taught? The first step in the data analysis was to run descriptive statistics to develop an overall profile of the sample. This allowed me to identify any anomalies such as small cell sizes in my sample that might invalidate my results or require that I aggregate responses.

To answer the first research question, the raw scores were compiled for each of the seven stages and then converted to percentile scores using a conversion table provided by George et al. (2006). The table consists of normed percentiles based on a stratified sample of 830 elementary and high school teachers, and university faculty who completed the survey in 1974. This sample represented a range of experiences with innovation and educational change. The percentiles were then plotted both in aggregate and by subgroups to develop profiles of concern. The resulting graphs revealed in which stage(s) the concerns were most and least intense. For example, if the highest percentile was shown in Stage 1 (informational), the respondent group was most concerned about knowing more about CCSS implementation. Conversely, if the lowest percentile was shown in Stage 4 (impact), the respondent group was least concerned about the impact of CCSS implementation.

To answer the second research question, I performed two analyses. First, I ran a series of one-way analysis of variance (ANOVA) tests to look for statistically significant differences in raw stage scores by the various demographic characteristics. I first examined whether there were any significant differences between respondents grouped by teaching experience, by primary role, and by grade level taught. I also looked at differences in raw stage scores by urbanicity, state, and gender. Where I found statistically significant differences I examined those differences more closely with post hoc analysis using the modified Least Significant Difference (LSD) test (Keppel & Wickens, 2004) where homogeneity of variance could be assumed, and the Games-Howell test where there was no homogeneity of variance (Hilton & Armstrong, 2006). To further understand differences in stages of concern by demographic variables, I examined predictive relationships between the demographic characteristics and the raw stage of concern score using multiple regression. For the independent variables that were categorical (State,

Urbanicity, Role, and Grade Level) I created dummy variables (Keith, 2006). Also, I used the bootstrap method in SPSS to increase reliability because of my small sample size (Wilcox, 2010). The statistical analysis was conducted using SPSS 22 with an assumed alpha of .05.

Qualitative analysis was used to both validate the survey and probe on specific areas of concern. First, respondents were asked to respond to two open-ended questions: “How prepared do you feel about implementing CSSS? What additional tools or training do you think would benefit you?” The first step in analyzing the qualitative data was to filter out responses from respondents who had not been teaching continuously from 2009 to 2013 and therefore may not have been exposed to training or informational opportunities. The remaining responses ($n = 132$) were then coded to identify the participant’s general feeling of preparedness (prepared, somewhat prepared, unprepared) and any specific resources (e.g., lesson plans). To establish trustworthiness, I asked another researcher to also review the responses and code them. I then established interrater reliability for the preparedness coding by computing a Pearson product moment correlation coefficient (LeBreton & Senter, 2008). For the resources needed, where the choices were dichotomous (either resource needed or not), I computed a Cohen’s kappa (Cohen, 1960; McHugh, 2012) that accounted for the amount of disagreement that would occur by chance. In both cases, the frequencies used for analysis were an average of the two raters’ coding. This helped ensure that any bias either for or against CCSS would not impact the interpretation of the response.

To probe on specific areas of concern that were articulated in the answers to open-ended questions, I conducted five semi-structured interviews by telephone between June 11 and June 18, 2014. This mixed methods approach has been used both in the early development of the SoCQ instrument as well as in teacher concern research (Hall et al., 1979; Overbaugh & Lu,

2008; Donovan & Green, 2010). I recruited interviewees via email using information provided at the end of the demographic questions, where participants could express a willingness to be contacted for a follow-up interview. An email was sent to the 30 participants who provided email addresses. Of those, eight responded back, and five interviews were scheduled and conducted. I ensured that the teachers who were interviewed remained anonymous, and did not identify their specific school districts. In preparation for the interviews, I created a profile for each participant using stages of concern and demographic data. Each participant was provided with an individualized Stages of Concern profile, which I discussed at their request after the interview. See Appendix F for a sample write up of an interview.

Originally I was planning to use a narrative analysis technique based on the *Listening Guide*, as first introduced by Gilligan et al. (Gilligan, Spencer, Weinberg, & Bertsch, 2003) and later applied by Doucet and Mauthner (Doucet & Mauthner, 2008). This technique involves recording and then transcribing the interviews, and then analyzing the text for themes. I determined, however, that because of the sensitive nature of the teacher concerns about CCSS implementation as articulated in the answers to the open-ended question, I would get more candid responses if I did not record the interviews, but rather took notes. The notes were subsequently analyzed for general themes, and to identify any discrepancies between the answers and the intensity of concerns represented in the individualized profile.

These general questions were asked of all interviewees:

1. How did you receive information regarding CCSS implementation at your school?
How would you prefer to get that information?
2. How do you think the CCSS implementation will impact your students?

3. How have you worked with other teachers in your school to adapt your curriculum for CCSS?
4. How do you think CCSS implementation is progressing in other school districts/other states?

In addition, if the participant indicated they had had CCSS training, I probed to find more information about the nature of the training.

Pilot Data Collection

The SoC Questionnaire and data collection and coding processes were tested between December 27, 2013, and January 15, 2014, with a convenience sample of Vermont educators ($N = 22$) who were participating in the Secondary vtMTSS Academy, an online community of secondary-level educators in Vermont. The program is administered by the KU Center for Research on Learning, Research Collaboration. Human subjects approval for this pilot was received from the University of Kansas on December 23, 2013. The educators were invited to participate in the survey via a message on the vtMTSS Academy website that explained the purpose of the study and included a link to the online questionnaire. As of January 15, 2014, 22 educators had completed the survey, the demographic information, and the open-ended question.

Based on the results of this pilot, the demographic questions were revised slightly to make the choices less confusing for the participants. For example, when asked to specify primary content area taught, most special education teachers put “other” or listed all areas. This question was eliminated in favor of focusing on the primary role of the participant (general education, special education, administration, counseling, other).

The responses to the open-ended questions (“How prepared do you feel about implementing CSSS?” “What additional tools or training do you think would benefit you?”)

were used to validate the survey results by identifying any obvious discrepancies between the Stages of Concern profile and the participant's feeling of preparedness. The responses supported what the overall profile indicated, namely that respondents were not fully aware of the changes, would like more information, and had some concerns about what the CCSS implementation meant for them.

While some statistical analyses were run, the small sample size precluded any meaningful analyses of differences between groups or the relationships between the demographic variables and the stages of concern. From an exploratory standpoint, however, the results did reveal that there are identifiable stages of concern, and that those concern profiles do vary among the teachers. For example, those who had not had formal CCSS training expressed more intense concerns about what the implementation meant for them than those who had training. Special education teachers were more concerned about getting information on CCSS than general education teachers.

Summary

This exploratory study used both quantitative and qualitative analysis to probe on teacher concerns regarding CCSS implementation. Participants were recruited from 127 school districts in Kansas, Missouri, Iowa, Vermont, and Oregon. The primary data gathering instrument was the CBAM Stages of Concerns Questionnaire (SoCQ), which has been widely used and whose reliability, internal consistency, and validity have been tested and established. A pilot study conducted with a small convenience sample of Vermont educators was used to refine both the data collection and coding processes, and the demographic questions.

CHAPTER IV: RESULTS

In this section I will discuss the results of the research in the context of the two research questions that this study sought to answer: 1) what are teachers' identifiable stages of concern about CCSS; and 2) how do those concerns differ by characteristics of the teacher. I will begin with a discussion of the descriptive statistics. I will then discuss the relative intensity of concerns, first overall and then discuss differences in concern intensity by geographic and teacher characteristics. Next I will discuss the factors that impact the stages of concern. Finally, I conclude with a discussion of the qualitative data collection and analysis.

Sample

According to the National Center for Education Statistics (NCES, 2013), there were a total of 25,982 teachers in public schools in the sample districts in 2007-08, broken down as follows: Kansas 8,382; Missouri 6,997; Iowa 4,067; Vermont 1,999; and Oregon 4,537. A total of 177 responses were received, representing an overall response rate of only 1%. Teachers who had not been teaching continuously from 2009 to 2013 ($n = 32$), and consequently may not have had as much knowledge of or exposure to CCSS implementation in their respective districts, were removed from the sample. This resulted in a final sample of 145, which represented a response rate of less than 1%.

There are several factors that could have influenced the small response rate from teachers. First, only a small number of superintendents from each state responded to any of my emails, so it was not clear if they forwarded my request to schools, and how many teachers actually received the survey request and link. Of the superintendents who did respond, several said that the teachers in their districts had been heavily surveyed and declined to participate. Also, the Common Core State Standards discussion has been politicized in the states of Kansas

and Missouri, which may have made superintendents hesitant to involve their teachers in a study that examined teacher concerns about CCSS. Finally, my request went to districts at the end of their school year (2013), so the superintendents and teachers may have perceived they had too many end-of-year tasks to complete and thus were too constrained in order to respond.

Cronbach’s alpha reliability coefficients for this study ranged from a low of .57 to a high of .77. Table 3 summarizes the coefficients of internal reliability for each stage (five items each).

Table 3

Coefficients of Internal Reliability for the Study, by Stage

Stage	α
Stage 0	.57
Stage 1	.66
Stage 2	.77
Stage 3	.74
Stage 4	.72
Stage 5	.75
Stage 6	.77

Descriptive Statistics

As shown in Table 4, Iowa accounted for the largest group of respondents, 32% of the sample ($n = 47$). This was followed by Oregon, which made up 28% of the sample ($n = 40$). Kansas accounted for 17% of the sample ($n = 25$), Vermont 13% of the sample ($n = 20$), and Missouri 9% of the sample ($n = 13$). To increase cell size for more reliable analysis, I combined the responses from Kansas, and Missouri into a new variable, KsMo ($n = 38$), which accounted for 26% of the sample.

Table 4

Responses by State

	State	Frequency	Percent
	Iowa	47	32.4
	Kansas	25	17.2
	Missouri	13	9.0
	Oregon	40	27.6
	Vermont	20	13.8
	Total	145	100.0
Adjusted	KsMo	38	26.2

Respondents were asked to indicate their primary role, with an option to write in “Other.” In some cases, the respondent chose “Other” rather than “Special Education” even when the description they provided reflected a special education role. These responses were recoded as “Special Education.” As shown in Table 5, most of the teachers in the sample indicated their primary role was general education (77%, $n = 112$), while special education teachers accounted for 8% of the sample ($n = 11$). The category of “Others” included counselors, librarians, media specialists and specialty areas like technology.

Table 5

Responses by Primary Role

Primary Role	Frequency	Percent
General Education	112	77.2
Special Education	11	7.6
Administration	9	6.2
Other	13	9.0
Total	145	100.0

Respondents were also asked to indicate all grades taught. These responses were then recoded as follows: grades K through 5 “Elementary”; grades 6 through 8 “Middle School”; and grades 9 through 12 “High School.” Responses that included all grades or no grades were not

included ($n = 16$). If a response included grades that spanned the recoded grouping, it was recoded based on the highest grades taught. As shown in Table 6, elementary school teachers comprised the largest percentage of the sample (47%, $n = 61$), followed by high school teachers (30%, $n = 38$), and finally middle school teachers (23%, $n = 30$).

Table 6

Responses by Grade Level Taught

Grade Taught	Frequency	Percent
Elementary	61	42.1
Middle School	30	20.7
High School	38	26.2
Missing	16	11.0
Total	145	100.0

As shown in Table 7, almost 43% of the respondents indicated they had been teaching for over 20 years, higher than the national average of 21% according to the National Center for Education Statistics (NCES, 2012). Because of the small cell size for the 1 to 5 group, this was combined with the next group to create a new group, 1 to 10 years ($n = 38$), which accounted for 26% of the sample.

Table 7

Responses by Grouped Years of Experience

Years of Experience	Frequency	Percent
1 to 5	8	5.5
6 to 10	30	20.7
11 to 20	45	31.0
>20	62	42.8
Total	145	100.0
Adjusted 1 to 10	38	26.2

Table 8 shows that females accounted for 73% of the sample ($n = 106$) and males for 27% of the sample ($n = 39$). This reflects the national distribution of 74% for female teachers according to the Bureau of Labor Statistics (U.S. Department of Commerce, 2013).

Table 8

Responses by Gender

Gender	Frequency	Percent
Male	39	26.9
Female	106	73.1
Total	145	100.0

About two-thirds ($n = 93$) of the respondents indicated they had received CCSS training. Respondents were not asked in the survey to indicate the nature of the training, but this was an area that was probed during the follow-up interviews.

Table 9

Responses by CCSS Training

Received Training	Frequency	Percent
no	52	35.9
yes	93	64.1
Total	145	100.0

While the research design involved a stratified sample of school districts by urbanicity, as shown in Table 10 there was only one response from a school district with the category of “City.” Because of this small cell size, this category was combined with “Suburb” to form a new category “City&Suburb” ($n = 23$), which accounted for 16% of the sample. Over three-quarters of the responses came from schools designated either “Town” or “Rural.”

Table 10

Responses by District Urbanicity

	Urbanicity	Frequency	Percent
	City	1	.7
	Suburb	22	15.2
	Town	82	56.6
	Rural	38	26.2
	Total	143	98.6
	Missing	2	1.4
	Total	145	100.0
Adjusted	City&Suburb	23	15.9

What Are Teachers’ Identifiable Stages of Concern About CCSS?

To answer the first research question, the raw scores were compiled for each of the seven stages and then converted to percentile scores using a conversion table provided by George et al. (2006). (See Appendix K for the average raw stage scores for the sub-groups.) The table consists of normed percentiles based on a stratified sample of 830 educators who completed the survey in 1974. The percentiles were then plotted both in aggregate and by groups to develop profiles of concern. The resulting graphs revealed in which stage(s) the concerns were most and least intense. The patterns of concern were then interpreted using the guidelines provided by George et al. (2006), namely by looking at the high and low stage scores as well as the differences in relative scores between stages.

In looking at the stages of concern by the three subscales (see Table 11), almost three quarters of the sample had "Self" (Stages 0-2) as their highest concern stages (74%, $n = 107$), while 15% ($n = 21$) had "Task" concerns (Stage 3), and 12% ($n = 17$) had "Impact" concerns (Stages 4-6).

Table 11

Responses by Stages of Concern Subscales

Subscale	Frequency	Percent
Self (0-2)	107	73.8
Task (3)	21	14.5
Impact (4-6)	17	11.7
Total	145	100.0

The percentiles were plotted to show the overall concern profile of the 145 respondents who indicated they had been teaching between 2009 and 2013 (Figure 1). The concerns are most intense in Stages 0 (75%), 1 (66%), and 2 (70%). This profile is typical of nonusers of an innovation (George et al., 2006), with the high Stage 0 percentile signaling that the innovation (in this case, CCSS) is still not top of mind. The high Stage 1 score suggests that the users want more information about CCSS, and the high Stage 2 score that the users have some concerns about what CCSS implementation means for them personally. The higher Stage 2 score when compared to Stage 1 suggests that the personal concerns are stronger than a desire for information about CCSS, signaling potential resistance to CCSS implementation. The Stage 3 score indicates some concerns about the logistics of implementing CCSS, while the low Stage 4 score suggests that at this point in time the respondents have minimal concerns about the impact of the CCSS implementation on students. The Stage 5 and Stage 6 scores are relatively less intense, which indicates that respondents are not currently concerned with collaborating with others (Stage 5), or on refocusing the CCSS implementation (Stage 6).

Figure 1. Relative Intensity of Stages of Concern Overall

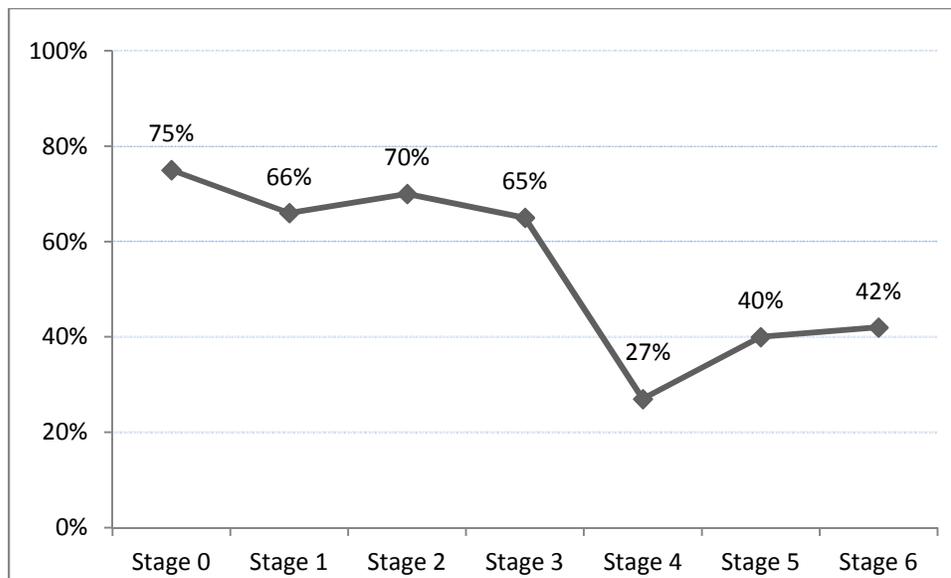


Figure 1: Responses from participants who had been teaching continuously between 2009 and 2013 ($N = 145$). Raw scores averaged and converted to percentiles based on a normed and stratified sample of 830 educators (George et al., 2006).

How Do Those Concerns Differ by Characteristics of the Teacher?

To answer the second research question, the concerns percentiles were calculated and plotted for different groups. First, the stages of concern were examined by geographic characteristics, then by other characteristics of the teacher. I also examined the different demographic variables to see if they had a statistically significant effect on the teacher's stages of concern.

Geographic characteristics. The relative intensity of the stages of concern, as represented by percentiles, was plotted by state (Figure 2) and by district urbanicity codes (Figure 3).

For all states except Oregon, the highest concern scores were in the Self stages, namely Stages 0-2. This, again, is typical of users who are new to an innovation and who tend to be more concerned about getting information about the innovation and its potential impact on them. The most intense stage of concern for participants from Oregon was Stage 3, which indicates that they are most concerned about the tasks, logistics, and time related to CCSS. The higher Stage 2 score when compared to Stage 1 across all states signals potential resistance to CCSS implementation. The low Stage 4 score indicates that at this point the respondents have minimal concerns about the impact of the CCSS implementation on students. The higher Stage 5 score for Vermont suggests moderate interest in collaboration on CCSS implementation. A large difference in relative intensity was seen for Stage 6. The tailing up of the scores for Oregon and KsMo indicates that those respondents have ideas about how to implement CCSS differently.

The differences between raw scores for each stage were examined with analysis of variance (ANOVA). The ANOVA showed statistically significant differences between states in Stage 3, $F(3,141) = 5.620, p = .001$, and Stage 6, $F(3,141) = 4.203, p < .01$. Post-hoc analysis showed significant mean differences between Iowa and Oregon ($p = .02$), Vermont and Oregon ($p < .001$), and KsMo and Oregon ($p = .05$) for Stage 3; and Vermont and Oregon ($p < .01$), and KsMo and Vermont ($p < .05$) for Stage 6. To further explore the differences between Oregon and the other states, the demographic variables were cross tabulated against the states. This revealed that Oregon had significantly ($p < .01$) more responses ($n = 16$) from middle school teachers (44.4% compared to 23.3% across all states).

Figure 2. Relative Intensity of Stages of Concern by State

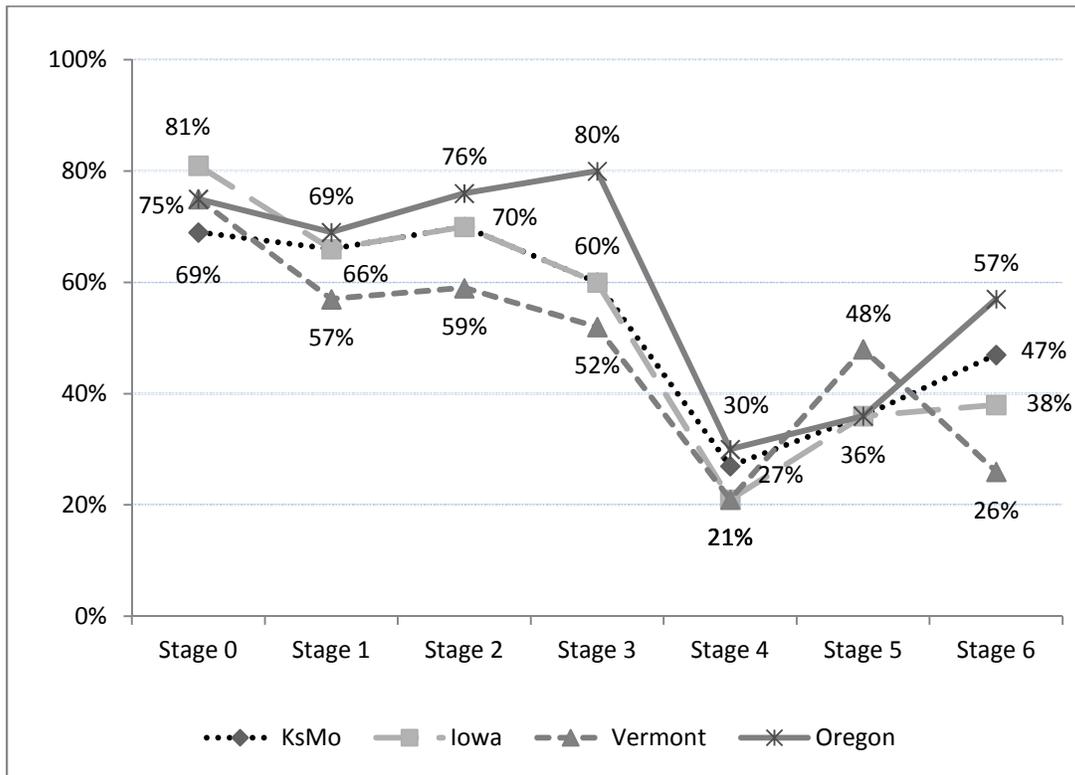


Figure 2: Responses from participants who had been teaching continuously between 2009 and 2013 ($N = 145$), by KsMo ($n = 38$), Iowa ($n = 47$), Vermont ($n = 20$), and Oregon ($n = 40$). Raw scores averaged and converted to percentiles based on a normed and stratified sample of 830 educators (George et al., 2006).

In looking at the relative intensity of the stages of concern by the district's urbanicity (Figure 3), the highest concern scores were in the Self stages, namely Stages 0-2. Participants from districts in City/Suburb were slightly more concerned about getting information relative to CCSS implementation than about the consequences of the implementation for them personally. The relatively low Stage 4 score suggests that the respondents in all urbanicities have minimal concerns about the impact of the CCSS implementation on students. Participants from City/Suburb and Rural districts tended to be more concerned about collaborating on CCSS

implementation than respondents from districts in towns. In contrast, respondents from districts in towns tended to have some concerns about how to refocus CCSS implementation.

An ANOVA was conducted to examine the differences in raw stage scores by the district's urbanicity. The ANOVA showed a statistically significant difference in Stage 5, $F(2,140) = 4.417, p < .02$. The post-hoc analysis showed a significant difference in the Stage 5 means between Rural and Town ($p < .01$).

Figure 3. Relative Intensity of Stages of Concern by District Urbanicity

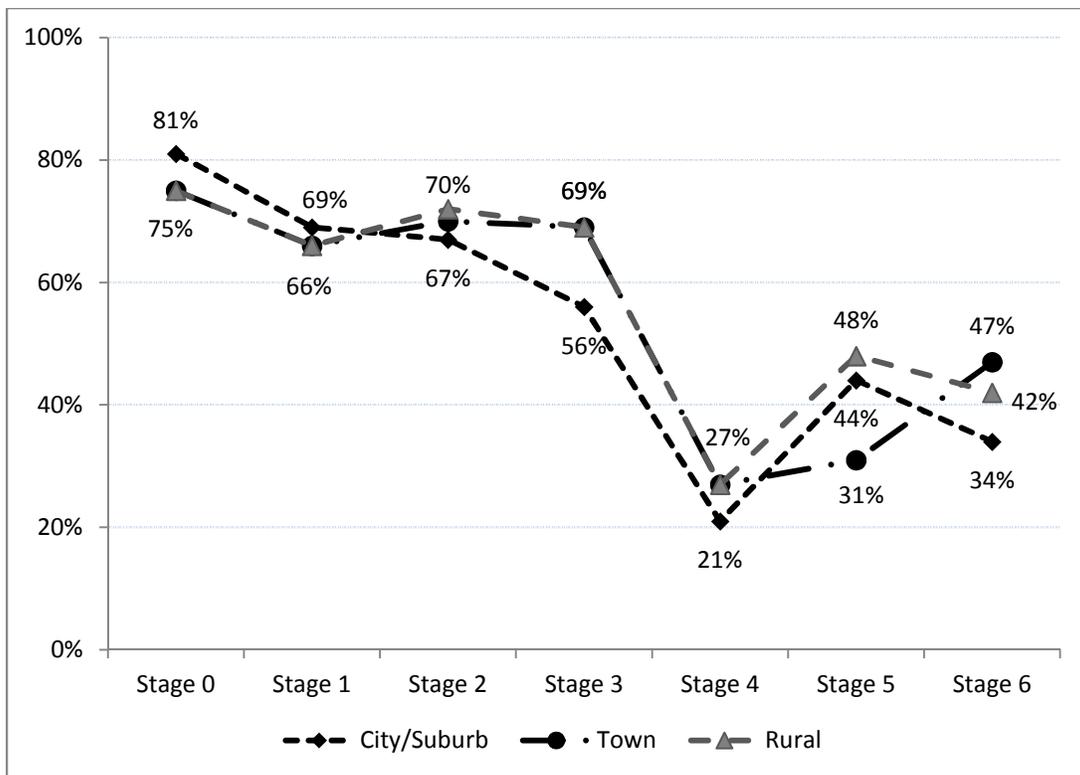


Figure 3: Responses from participants who had been teaching continuously between 2009 and 2013, with no missing urbanicity data ($N = 143$), by City/Suburb ($n = 23$), Town ($n = 82$), and Rural ($n = 38$). Raw scores averaged and converted to percentiles based on a normed and stratified sample of 830 educators (George et al., 2006).

Demographic characteristics. The relative intensity of the stages of concern, as represented by percentiles, was plotted by grade level taught (Figure 4), by gender (Figure 5), by years of teaching experience (Figure 6), by whether the respondent had received CCSS training (Figure 7), and by primary role (Figure 8).

In examining the relative intensity of the stages of concern by the grade level taught (Figure 4), the pattern of concerns tended to be similar in all but Stage 0, where a large difference could be seen. Respondents who taught at the high school level had a high Stage 0 score, which indicates that there are other things of greater concern. In contrast, respondents who taught at the elementary school level had the lowest Stage 0 percentile, which showed some awareness of and concern about CCSS. The higher Stage 2 score when compared to Stage 1 across all levels taught suggests potential resistance to CCSS implementation. Respondents across all levels taught indicate some concern, highest for the middle school level, about the tasks associated with CCSS implementation. The relatively low Stage 4 score suggests that the respondents across all levels have minimal concerns about the impact of the CCSS implementation on students. The tailing up of the scores for the middle school and high school levels indicates that those respondents have ideas about how to implement CCSS differently.

An ANOVA conducted on the differences in raw scores between grade levels taught showed that the difference in Stage 0 was significant, $F(2,126) = 17.658, p = .000$. The post-hoc analysis showed significant differences in the means for Stage 0 between Elementary and High School ($p = .000$), and Middle School and High School. ($p < .05$).

Figure 4. Relative Intensity of Stages of Concern by Grade Level Taught

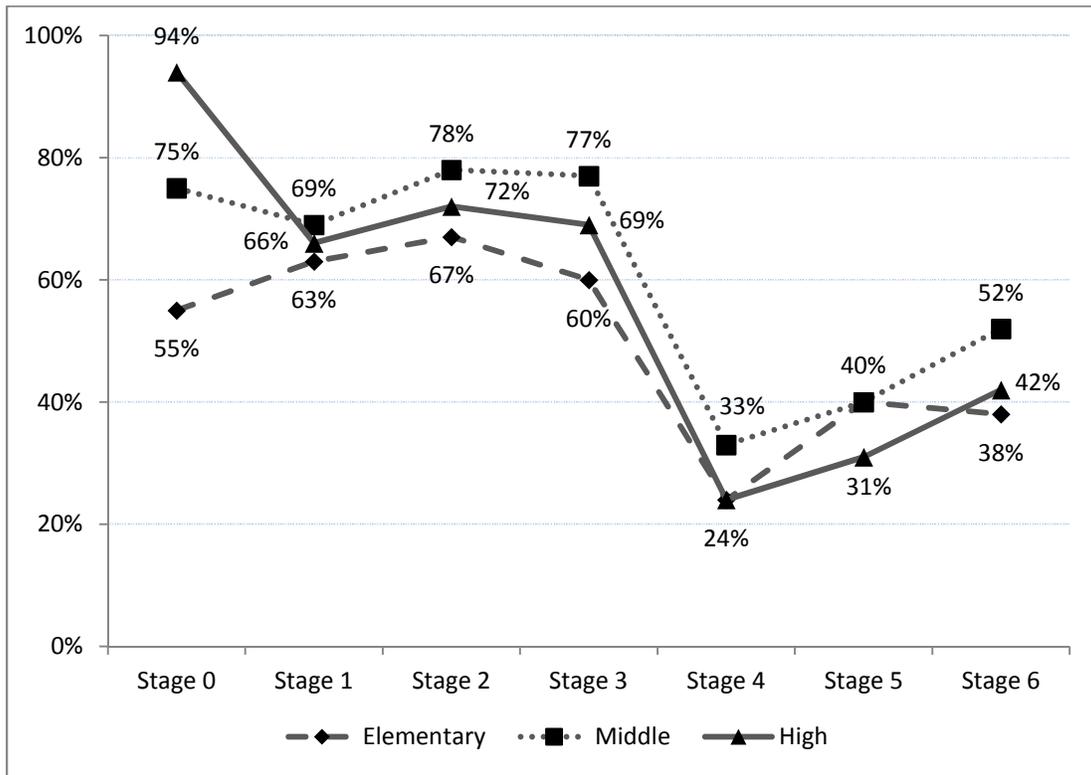


Figure 4: Responses from participants who had been teaching continuously between 2009 and 2013, with no missing grade level data ($N = 129$), by Elementary ($n = 61$), Middle ($n = 30$), and High School ($n = 38$). Raw scores averaged and converted to percentiles based on a normed and stratified sample of 830 educators (George et al., 2006).

The relative intensity of the stages of concern by gender (Figure 5) shows a pattern of concerns that is similar in all but Stage 0, where a large difference could be seen. Male respondents had a high Stage 0 score, which indicates that there are other things of greater concern. In contrast, female respondents showed some awareness of and concern about CCSS. The higher Stage 2 score when compared to Stage 1 across gender suggests potential resistance to CCSS implementation. Both groups of respondents indicate some concern about the tasks

associated with CCSS implementation. The relatively low Stage 4 score indicates that both male and female respondents have minimal concerns about the impact of the CCSS implementation on students. The tailing up of the scores for male respondents suggests that those respondents have ideas about how to implement CCSS differently.

An ANOVA conducted using raw stage scores showed statistically different concerns by gender for Stage 0, $F(1,143) = 27.873, p = .000$; and Stage 6, $F(1,143) = 4.028, p < .05$.

Figure 5. Relative Intensity of Stages of Concern by Gender

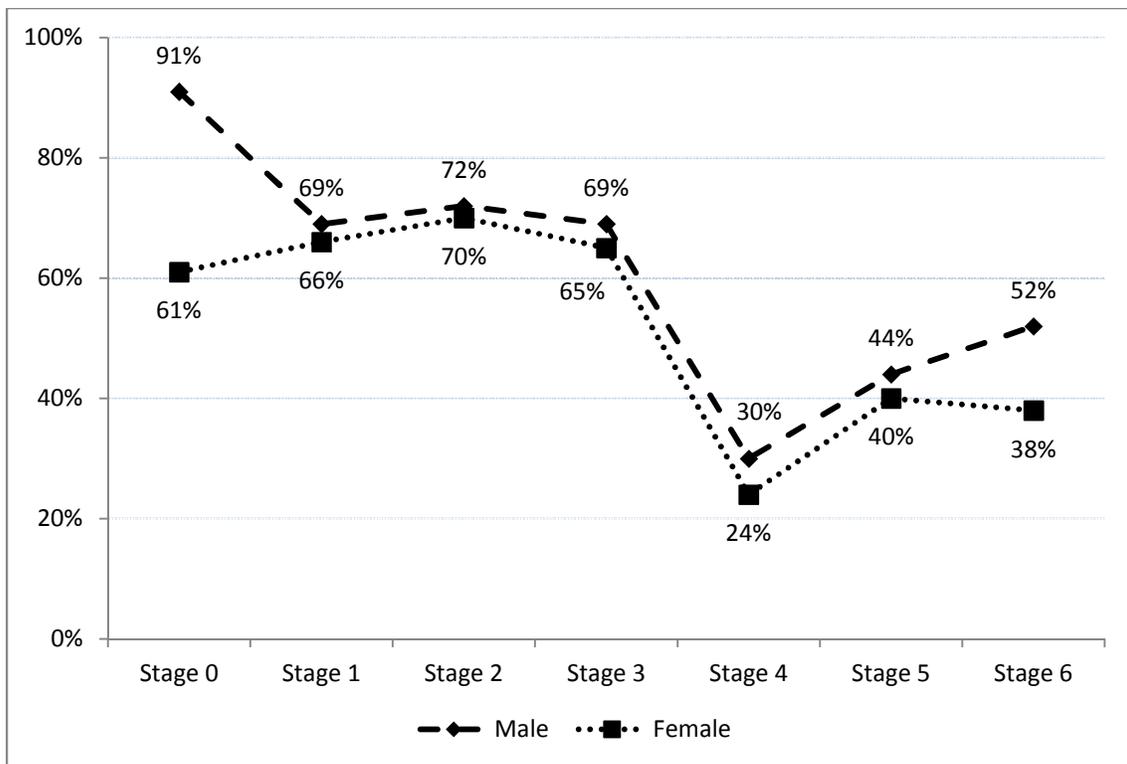


Figure 5: Responses from participants who had been teaching continuously between 2009 and 2013 ($N = 145$), by Male ($n = 39$), and Female ($n = 106$). Raw scores averaged and converted to percentiles based on a normed and stratified sample of 830 educators (George et al., 2006).

The relative intensity of the stages of concern by years of experience (Figure 6) shows a pattern of concerns that is largely similar except for slight differences in Stage 0 and Stage 6. Across all groups, respondents are largely unconcerned about CCSS implementation, indicating that other initiatives are of higher concern. The higher Stage 2 score when compared to Stage 1 across years of experience suggests potential resistance to CCSS implementation. All groups of respondents indicate some concern about the tasks associated with CCSS implementation. The relatively low Stage 4 score implies that respondents regardless of years of experience have minimal concerns about the impact of the CCSS implementation on students. The slight tailing up of the scores for those with 11 to 20 years of experience indicates that those respondents may have ideas about how to implement CCSS differently.

An ANOVA on raw stage scores by years of experience did not reveal any statistically significant differences in stages of concern by years of experience.

Figure 6. Relative Intensity of Stages of Concern by Years of Experience

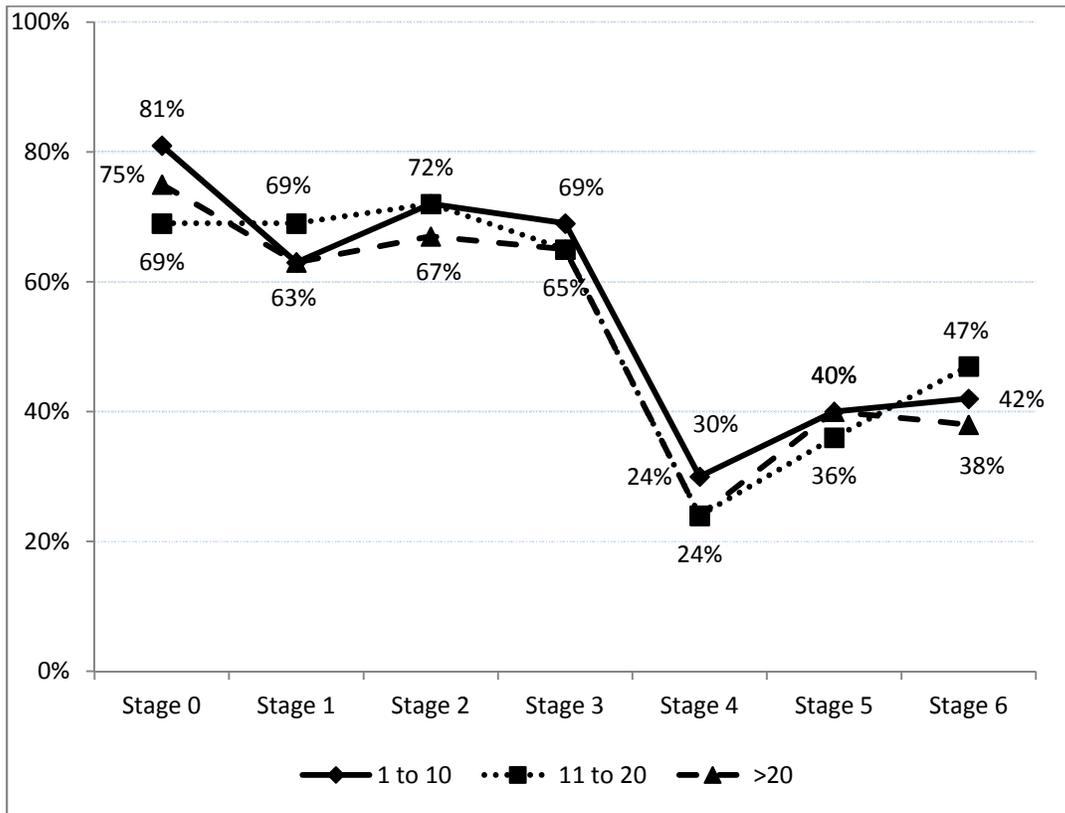


Figure 6: Responses from participants who had been teaching continuously between 2009 and 2013 ($N = 145$), by 1 to 10 years ($n = 38$), 11 to 20 years ($n = 45$), and greater than 20 years ($n = 62$). Raw scores averaged and converted to percentiles based on a normed and stratified sample of 830 educators (George et al., 2006).

The relative intensity of the stages of concern by whether or not the respondent had received what they perceived to be CCSS training (Figure 7) shows some slight differences in Stage 0 and Stage 1. Those who responded that they had received CCSS training were somewhat less concerned about CCSS implementation and about receiving information about the implementation. The higher Stage 2 score when compared to Stage 1 for those who had received training suggests potential resistance to CCSS implementation. All groups of respondents

indicated some concern about the tasks associated with CCSS implementation. The relatively low Stage 4 score indicates that respondents regardless of years of experience have minimal concerns about the impact of the CCSS implementation on students.

An ANOVA conducted using the raw stage scores showed a statistically significant difference in concerns for Stage 0 depending on whether the respondents indicated they had received CCSS training, $F(1,143) = 9.882, p < .01$, and Stage 1, $F(1,143) = 8.137, p < .01$.

Figure 7. Relative Intensity of Stages of Concern by Reception of CCSS Training

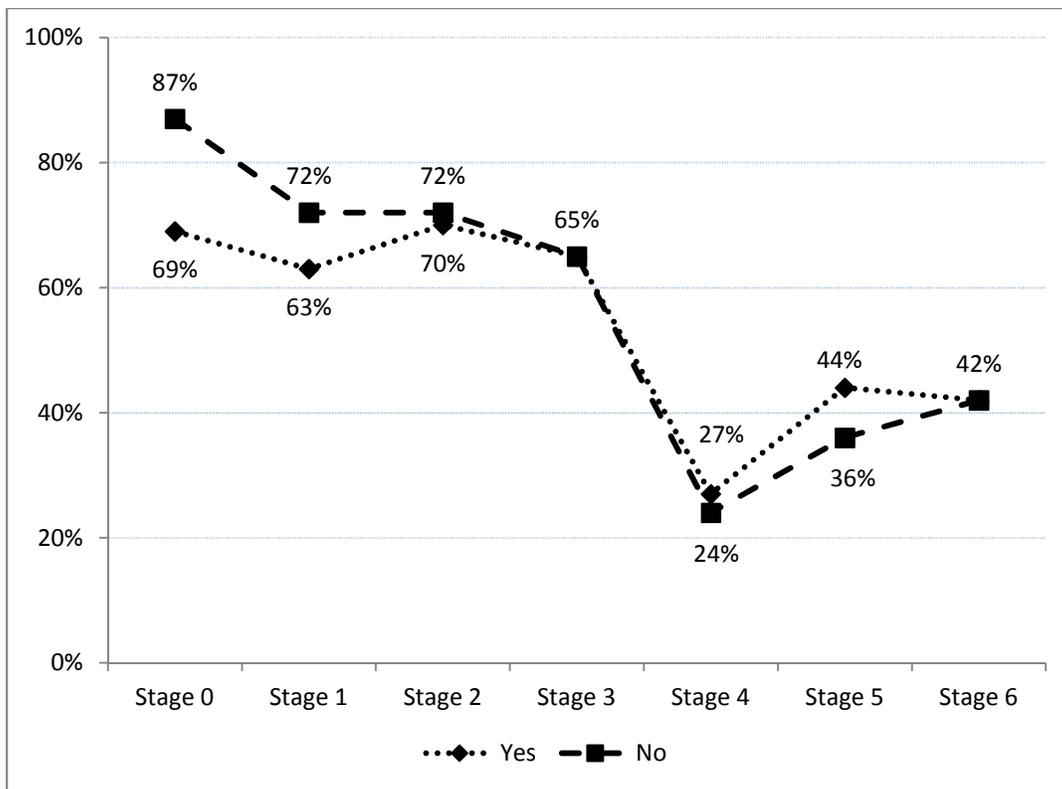


Figure 7: Responses from participants who had been teaching continuously between 2009 and 2013 ($N = 145$), grouped by whether ($n = 93$) or not ($n = 52$) respondent had received what they perceived to be CCSS training. Raw scores averaged and converted to percentiles based on a normed and stratified sample of 830 educators (George et al., 2006).

The final characteristic examined was primary role in the school (Figure 8). The relative intensity of the stages of concern was, like all the other characteristics, indicative of respondents who are still new to the innovation, with higher scores in the Self subscale (Stages 0-2). There were, however, some large differences observed in the relative intensity of concerns in Stage 5, where those whose primary role was GenEd or SpEd were least concerned and those whose primary role was Other or Admin most concerned about collaborating on CCSS implementation.

Figure 8. Relative Intensity of Stages of Concern by Primary Role

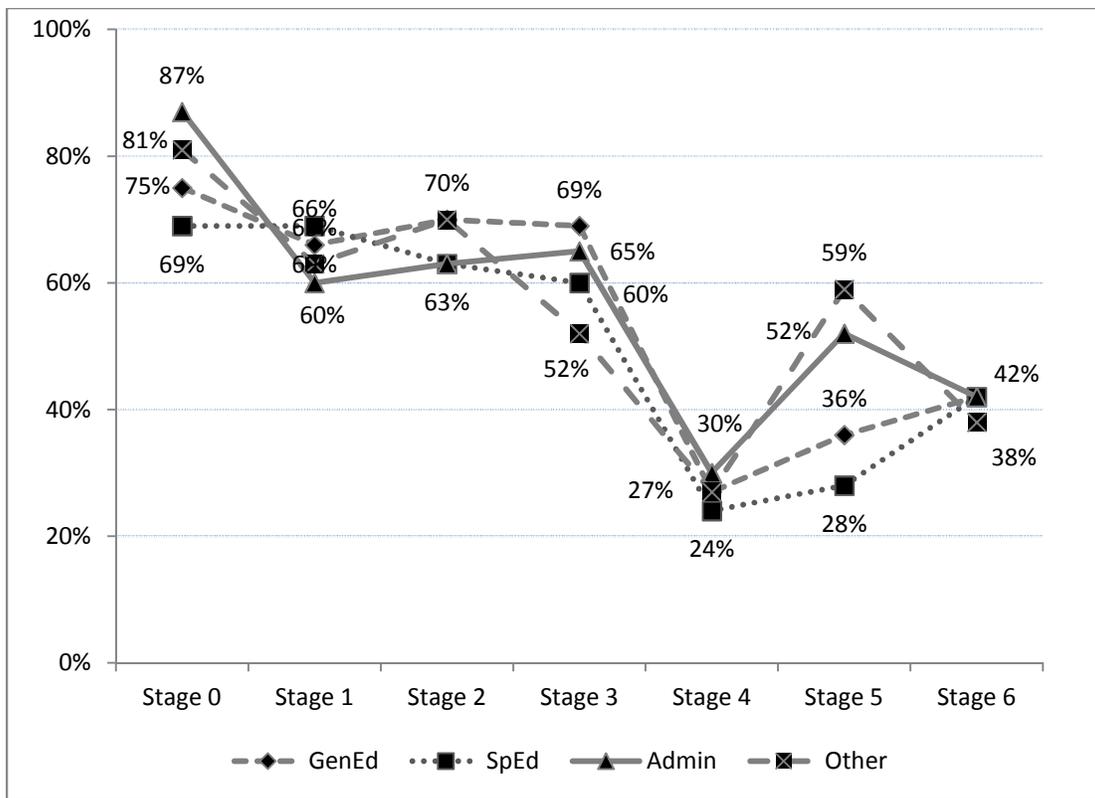


Figure 8: Responses from participants who had been teaching continuously between 2009 and 2013 ($N = 145$), grouped by GenEd ($n = 112$), SpEd ($n = 11$), Admin ($n = 9$), and Other ($n = 13$). Raw scores averaged and converted to percentiles based on a normed and stratified sample of 830 educators (George et al., 2006).

Although an ANOVA conducted using the raw stage scores showed a statistically significant difference in relative intensity of concerns for Stage 5, $F(3,141) = 3.661, p < .02$, the large difference in sub-group sizes is an issue. Post-hoc analysis did not show any significant differences for Stage 5 between the subgroups.

Factors affecting stages of concern. To further examine differences in stages of concern by various teacher characteristics, the raw scores for every stage were regressed on the independent variables to understand what effect, if any, the variables had on the concern score. Because all of the independent variables except Years of Experience were categorical, the first step was to recode them into dummy variables (Keith, 2006). The dummy variables for the independent variable categories, with the reference, are listed below:

- Urbanicity: CitySuburb and Town, with Rural serving as the reference;
- State: KsMo, Iowa, and Oregon, with Vermont as the reference;
- Role: GenEd, SpEd, and Admin, with Other as the reference;
- Grade Level: Elementary and Middle, with High School as the reference;
- Gender: Female, with male as reference; and
- CCSS Training: yes, with no training as reference.

Statistically significant relationships between certain independent variables and concern scores were seen in Stages 0 and 5 (Table 12). For Stage 0, the independent variables accounted for 39% of the variance in raw scores ($R^2 = .393$). The overall regression was statistically significant, $F(13,113) = 5.637, p = .000$. Five variables had a statistically significant effect on the raw Stage 0 score: Years of Teaching ($p \leq .05$), Teach Elementary ($p \leq .001$), Teach Middle ($p \leq .01$), Female ($p \leq .001$), and Received Training ($p \leq .001$). For Stage 5, the independent variables accounted for 22% of the variance in raw scores ($R^2 = .216$). The overall regression was

statistically significant, $F(13,113) = 2.399, p \leq .01$. Three variables had a statistically significant effect on the raw Stage 5 scores, Teach GenEd ($p \leq .05$), Teach SpEd ($p \leq .05$), and From Town ($p \leq .01$).

Table 12

Summary of Regression Analyses for Variables Explaining Raw Scores for Stages 0 and 5

Variable	Stage 0			Stage 5		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Years of teaching	-.109	.053	-.164*	-.038	.073	-.048
From Iowa	.510	1.397	.040	-1.126	1.922	-.074
From Oregon	.102	1.280	.008	-.454	1.762	-.028
From Vermont	1.634	1.617	.094	2.068	2.224	.098
Teach GenEd	-.759	1.888	-.047	-6.020	2.598	-.311*
Teach SpEd	1.334	2.614	.055	-7.119	3.597	-.240*
Admin Role	.165	3.179	.005	-2.000	4.374	-.049
Teach Elementary	-5.542	1.143	-.465***	2.114	1.572	.147
Teach Middle	-3.442	1.357	-.246**	2.550	1.867	.151
From City/Suburb	.248	1.676	.015	-.569	2.306	-.029
From Town	.175	1.121	.014	-5.422	1.542	-.367**
Female	-4.095	1.125	-.299***	-.328	1.549	-.020
Received Training	-3.225	.946	-.263***	.572	1.302	.039
<i>R</i> ²			.393			.216
<i>F</i>			5.637***			2.399**

Note. $N = 126$. * $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$

Qualitative Data

The responses to the open-ended questions (“How prepared do you feel about implementing CSSS? What additional tools or training do you think would benefit you?”) were

used to validate the survey results by identifying any obvious discrepancies between the stages of concern profile and the participant's feeling of preparedness. The responses were reviewed and coded by two researchers to assign a level of preparedness (Prepared, Somewhat Prepared, Unprepared, No Answer), and to identify the resources most needed for successful implementation. Good interrater reliability ($r = 88\%$) was established for the level of preparedness responses and moderate reliability for resources most needed ($\kappa = 73\%$). For any items whose coding was substantially different (e.g., one researcher coding a response as "Prepared" and the other as "Unprepared"), the researchers discussed their interpretation of the text, and were given an opportunity to change their coding. To establish frequencies of preparedness responses for the follow up analysis, the number of prepared, somewhat prepared, and unprepared responses were averaged across the two raters.

An analysis of the open-ended question responses for those who answered ($n = 96$) revealed that 67% of the respondents ($n = 64$) felt prepared or somewhat prepared, while 33% ($n = 32$) felt unprepared. Verbatim responses from those who felt prepared include:

- "I think as a district and as a professional we are prepared to implement the state standards."
- "I feel prepared to implement Common Core State Standards, however, I would like time to work on aligning our curriculum to the CCSS and the resources to make sure how I interpret the standards are how they are supposed to be interpreted. Some of the wording of the standards is not very clear as to exactly what it means."

These are verbatim responses from those who felt somewhat prepared:

- “Not as prepared as I would like. The CCCS are very complex and by the time they are unlayered they are very time consuming to teach.”
- “I feel somewhat prepared, but would like more training. I would like to see some integrated units that have already been developed for complex texts. We have created some units, and would benefit from sharing materials more.”

The following verbatim responses are from respondents who felt unprepared:

- “I have had some training in the CCSS, but feel that I am still at a loss when it comes to teaching to these standards.”
- “I do not feel very prepared when it comes to assessing the common core. I feel that the meaning of the standards and what is being assessed are two different things. I also believe that the standards are an inch deep and a mile wide. Some of the standards are not developmentally appropriate and we do not have time to teach all of the standards. The training on CCSS has been very limited and funding for curriculum is also limited.”

The two resources most needed, according to the responses, were time and training. Here are some representative verbatim responses:

- “Time is needed for planning and preparation for implementation. Time for meeting with vertical, horizontal, and cross-curricular teams is necessary for alignment work and implementation strategies. Training regarding cross-curricular implementation of CCSS would be very beneficial. “
- “...I would like time to have conversations about how to supplement our math program with deeper math thinking skills.”

- “I think there is still time, curriculum and training needed. Teachers are extremely busy during the school year and due to budget constraints very little funding is available to train them during summer.”
- “I need more time to familiarize myself with my grade level standards, make sure my curriculum aligns to the standards, find or create assessments that accurately assess the standards, and make necessary adjustments to our report cards. This all takes a lot of time and our time is limited as it is. We need more training or exposure to curriculum and assessments that are aligned to the standards. We also need more time as a staff to work on the things listed above.”

The semi-structured interviews conducted after the survey ($n = 5$) were used to validate the Stages of Concern framework by comparing the answers provided during the interviews with the relative intensity of the respondents’ concerns. There were no major contradictions between the concerns profile and the attitudes expressed in the interview, though some interviewees expressed more negative opinions than were reflected in their stages of concern scores.

Demographic characteristics of the interviewees and highlights from the interviews follow.

Interviewee 1 was a female who taught general education at the middle school level. She had not received training on CCSS, and had been teaching 13 years. Her concerns profile indicated that she viewed CCSS implementation as important (low Stage 0), was most concerned about getting information on CCSS (high Stage 1), and was positively inclined. This was also reflected in the interview, where Interviewee 1 said that she was comfortable with the standards, that CCSS matched her personal teaching style, and that she would like to see the test results “before the test counts.”

Interviewee 2 was a male who taught all grades, had received training on CCSS, and had been teaching 17 years. His concerns profile suggested that he felt CCSS was important (low Stage 0), was most concerned about receiving information (high Stage 1). His Stage 1 score was higher than his Stage 2 score, which indicated that he viewed CCSS implementation positively. In the interview, Interviewee 2 spoke positively about collaboration within the district, and about the impact that CCSS implementation would have on the students. Interviewee 2 also discussed his desire to have unified delivery of information on CCSS implementation so “everyone hears the same thing.”

Interviewee 3 was a male who taught high school, and his focus was general education. He had been teaching for five years, and had received formal training on CCSS. His concerns profile indicated that there were other activities of greater concern (high Stage 0), and that he was more concerned about the effect that CCSS implementation would have on him personally (high Stage 2) than on receiving information (Stage 1), which can signal doubt or resistance. He had relatively high concerns about how to manage the CCSS implementation (Stage 3). Interviewee 3 expressed some doubts in the interview about the impact that CCSS will have on students, and thought that experienced teachers were treating CCSS as “the latest trend.” In the interview, Interviewee 3 also expressed concern about how to implement the cross-curricular aspects of CCSS.

Interviewee 4 was a female who taught high school, with a general education focus. She had been teaching for 28 years, and had received formal training on CCSS. The concern profile for Interviewee 4 reflected that the peak concerns were about implementation of CCSS (high Stage 3), although concerns about getting information (high Stage 1) were almost as strong. There were also intense concerns about the impact of CCSS on her personally (high Stage 2),

though these were not as high as concerns about getting information. Interviewee 4 had relatively high scores on Stage 6, which can signal that she thinks there are better ways to implement, and can suggest resistance to the implementation. In her interview and in her response to the open-ended questions, Interviewee 4 expressed concerns about the implementation of CCSS being too standardized. She also said that students needed to be prepared in areas not covered by the CCSS. “Common Core practices do little to improve work ethic, values and moral integrity. Kids will learn when they have a foundation of hope.”

Interviewee 5 was a female who taught high school, in general education. She had been teaching for 30 years, and had received CCSS training. Her concerns profile indicated that she was most concerned about getting information about CCSS (high Stage 1), followed by concerns about CCSS implementation (high Stage 3). While Interviewee 5 also had concerns about what CCSS would mean personally (high Stage 2), her profile suggested a positive attitude about CCSS implementation. She also had relatively high concerns about working with others to implement (high Stage 5). In her answer to the open-ended questions, Interviewee 5 said she was “not prepared at all.” In her interview, Interviewee 5 criticized the way that CCSS was introduced to the teachers in her district, and about a lack of information about the standards. She said that she decided “I will teach myself” about the standards. She expressed concerns about the pace of implementation in her district, felt that they were behind other districts. Interviewee 5 also thought that CCSS implementation would require extended periods with subjects like math in order to work the problems.

Summary

The purpose of this study was to explore concerns that teachers have about implementing the CCSS, and how those concerns differ by characteristics of the teacher. The results of the

study indicated that there are identifiable stages of concern among this sample of participants that are most intense in the Stages that make up Self concerns, i.e., Stages 0-2. This is typical of individuals who are new to an innovation, and are considered non-users. Significant mean differences were observed in relative intensity of concerns based on the characteristics of state, district urbanicity, grade level taught, gender, whether the participant had received CCSS training, and primary role. No significant mean differences in relative intensity of concerns were observed by grouped years of experience. Statistically significant effects of some independent variables were seen in two stages: 0 and 5. An analysis of the open-ended question responses revealed that, of those respondents who answered the question ($n = 96$), 67% ($n = 64$) felt prepared or somewhat prepared, while 33% ($n = 32$) felt unprepared. The two resources most needed, according to the responses, were time and training. The semi-structured interviews conducted after the survey ($n = 5$) validated that the respondents were in the early stages of adoption with higher concerns in Stages 0 - 3.

CHAPTER V: DISCUSSION

In this final chapter I will discuss the major findings of the study and then review the conclusions that can be drawn. The discussion will include the implications of the findings for CCSS implementation generally and teacher development specifically. I will then discuss limitations of the research, and at the end introduce some areas of future research.

Major Findings

This exploratory study sought to answer two questions related to CCSS implementation:

- What are teachers' identifiable stages of concern (based on the Concerns-Based Adoption Model framework)?
- How do those concerns differ by characteristics of the teacher?

The convenience sample was drawn from five states that were still in the early stages of CCSS implementation: Kansas, Missouri, Iowa, Vermont, and Oregon (O'Hara, 2012, 2013). In three of those states (Kansas, Missouri, and Iowa), political contention over CCSS has manifested itself in legislation either introduced or passed to change or repeal CCSS (Common Core Backlash, 2014). This presented two challenges at the outset of this study: first, how to mitigate the likely confounding effect of negative CCSS publicity on the attitudes of the teachers being surveyed; and second, how to mitigate the likely reluctance of superintendents and principals to participate in a study whose results could feed the political fires. I raise these issues early in the chapter because their impact was apparent in both the qualitative responses of some teachers and in a low response rate (less than 1%). This verbatim response to an open-ended question about CCSS implementation is illustrative:

- "I feel that as a District we have all the initial tools in place that we need to be successful. We do have several areas of the unknown and will address the issues as

they arise. It is important that we realize we as a state will be adopting the Common Core State Standards and stop wasting time shooting holes in it.”

These issues notwithstanding, there were three major findings that answered the research questions.

Identifiable stages of concern. The first major finding was that respondents in the sample expressed distinct and discernable concerns about CCSS implementation that focused primarily on the stages associated with the beginning of an implementation process. The pattern of most intense concerns is in the Self subscale (Stages 0-2), which suggests that the respondents may lack the confidence that they can successfully engage in or execute the CCSS initiative because they feel they lack information about it or what is specifically required of them. The concerns about information are expressed through agreement with statements like “I have a very limited knowledge of CCSS” (question 6), “I would like to know how CCSS is better than what we have now” (question 35), or “I would like to discuss the possibility of using CCSS” (question 14). Apprehension about what the CCSS implementation means personally is expressed through agreement with statements like “I would like to know how my teaching or administration is supposed to change” (question 17), “I would like to have more information on time and energy commitments required by this innovation” (question 28), or “I would like to know how my role will change when I am using CCSS” (question 33).

The concerns construct is an affective and emotional one, reflecting the feelings and perceptions of those involved in a change process. A basic assumption of the CBAM framework is that change in the context of education is a personal experience, and that you can draw conclusions about what the user is most preoccupied with during the change process by looking at the relative intensity of the concerns across the seven stages. Of particular interest in

understanding the readiness of the respondents to embrace the CCSS implementation is the relatively higher intensity of personal concerns (Stage 2) when compared with informational concerns (Stage 1). According to George et al. (2006), this pattern is referred to as a “negative one-two split” (p. 40) and can signal doubt and potential resistance to a change. For individuals with these higher personal concerns, receiving more information about the CCSS implementation will not suffice; rather they need a better understanding about what will be required of them. Potential resistance to CCSS implementation can also be inferred from the rising intensity of concerns in Stage 6 (refocusing) compared to Stages 4 (consequence) and 5 (collaboration) (George et al., 2006). This can indicate that the respondents have an idea about implementing CCSS that is better than the current implementation process. Specifically, respondents would tend to agree with statements like “I know of some other approaches that might work better” (question 2), “I am concerned about revising my use of CCSS” (question 9), or “I would like to modify our use of CCSS based on the experiences of the students” (question 22).

The overall pattern of concerns seen here is not unique to CCSS implementation but rather is common when educational change is introduced. Van den Berg and Ros (1999) found that high levels of Self concerns, relative to the other stages, continued more than three years after an educational innovation was introduced. Individuals within a system, when exposed to an innovation that is complex and represents a major change from the status quo, will try to determine whether the innovation is consistent with their personal values and job functions (Hall et al., 1973). This manifests itself in relatively higher concerns in the early stages (0-2).

Within the CBAM framework it is the relative intensity of concerns rather than the absolute levels that are of greatest interest. The fact that teachers at this early stage of implementation are not expressing more intense concerns about the impact to students (Stage 4) or collaboration with

colleagues (Stage 5) should not be interpreted to mean that these are not important to the respondents. Rather, it indicates that their personal concerns are more intense and top of mind at this point in CCSS implementation, which is corroborated by the responses to the open-ended question about preparedness. This verbatim response is illustrative:

- “Not as prepared as I would like. The CCSS are very complex and by the time they are unlayered they are very time consuming to teach. NOT all students have the background knowledge needed to master the CCSS for their grade level. I feel that the CCSS have been pushed on us without proper time to prepare the teachers and the students. The CCSS are NOT realistic for the age and grade level they have been targeted for.”

Differences in stages of concern. Consistent with the exploratory nature of this study, the data were grouped by geographic and demographic characteristics of the respondents to determine whether and where there were significant differences. In some cases the small cell size (e.g., districts with a city urbanicity) precluded meaningful analysis, and in all cases the small sample size meant that any statistically significant results could only be interpreted in a directional manner. Nonetheless the second major finding was that there were some statistically significant differences observed between certain groups that could help inform teacher development and the general dialogue around CCSS implementation.

The most striking difference was observed when comparing the results by state. Contrary to the overall pattern of higher Self concerns (Stages 0-2) when compared to other stages, the peak stage for respondents from Oregon was Stage 3 (management), which indicates concerns related to the tasks, time and logistics of implementation. These respondents would have tended to agree with statements like “I am concerned about not having enough time to organize myself each day”

(question 4), “I am concerned about my inability to manage all that the CCSS requires” (question 16), or “Coordination of tasks and people is taking too much of my time” (question 34).

Respondents from Oregon also were significantly more likely to have strong ideas about how to implement CCSS differently, as signified by the tailing up in Stage 6 (refocusing).

The pattern for Oregon is more typical of users who are already well into implementation. Considering that the targeted timetable for Oregon’s classroom implementation and transition to CCSS-aligned standards across all grades is 2014-15 (O’Hara, 2013), I looked at other factors that might explain the difference compared to Kansas, Missouri, Iowa, and Vermont. First I looked at aspects of the state’s implementation. According to the Oregon Department of Education website (<http://www.ode.state.or.us>), the state had begun aligning math standards to CCSS in 2010-11 school year and reading/literature and science to CCSS reading in 2011-12, earlier than the other states. To the extent that teachers from Oregon in this sample were involved in the alignment, they may be more familiar with CCSS implementation and therefore have a profile that is more similar to a user than nonuser. Another possible explanation is that there was a disproportionately large number of middle school teachers in Oregon compared to the other states. As will be discussed below, middle school teachers in the sample tended to have more intense concerns about how to manage the tasks associated with CCSS implementation than teachers from other grade levels.

A difference was also observed between districts in different urbanicities. The respondents in the study whose district urbanicity was rural tended to have more intense concerns about collaboration (Stage 5) than other urbanicities. These respondents would have tended to agree with statements like “I would like to help other faculty in their use of CCSS” (question 5), “I would like to coordinate my effort with others to maximize CCSS effects” (question 27), and “I

would like to know what other faculty are doing in this area” (question 28). This presents an opportunity for administrators of rural districts to use collaborative work teams that encourage cooperation and coordination among teachers as a strategy of implementation.

When considering the relative intensity of concerns by characteristics of the teacher, several significant differences were observed and should be taken into account by those responsible for designing the processes and training that support CCSS implementation. First, elementary, middle school, and high school teachers had different intensities of concern about CCSS implementation, with the largest difference seen in the earliest concern stage. In the case of Stage 0 (unconcerned), the grade level actually predicted the level of raw scores.

High school and middle school teachers had high Stage 0 scores, indicating that CCSS implementation is not top of mind for these respondents relative to other initiatives. This is in contrast to elementary school teachers, whose relatively lower Stage 0 score indicates that CCSS implementation is much more top of mind. This higher preoccupation with implementation by elementary school teachers is consistent with the external debate among educators about the translation of college and career readiness into standards for elementary school students who may not have the cognitive readiness to succeed. In setting the writing standards, for example, one criticism is that the writing benchmarks are “simply educated guesses as to what students’ [sic] should be able to achieve at particular grades” (Graham & Harris, 2013). In the area of mathematics standards for students in grades 3 through 5, an argument has been made that some learning progressions demanded by the standards regarding fractions are at odds with students’ cognitive capabilities (Norton & Boyce, 2013). Orlich (2011) notes that the complexity of some standards for young children, for example in mathematics, does not match their formal thinking capacity.

Another difference was seen in concerns about the tasks associated with implementation. Middle school teachers were significantly more concerned about the logistics of implementation (Stage 3) than either elementary or high school teachers. Further, Stage 3 concerns were one of the two most intense stages of concern for middle school teachers, the other being personal concerns (Stage 2). Given the differences in students and curriculum at these grade levels, this may not be surprising. What it suggests, however, is that middle school teachers will be especially responsive to CCSS planning and implementation that considers the practical impact to them, at the classroom level. This includes issues related to resourcing, organizing, managing and scheduling. This verbatim response from a middle school teacher illustrates this point:

- “I do not have the curriculum to implement all the standards I’m supposed to teach. Currently, I have to do all my own research and go online or buy books to teach the appropriate lessons...”

Consistent with other concerns-based research (Klassen & Chui, 2010; Campbell & Thompson, 2007; Forlin et al., 2009), significant differences in relative intensity of concern were observed by gender. Males had significantly higher scores for Stage 0 (unconcerned), signaling less preoccupation with CCSS. Male respondents would have tended to agree with statements like “I am more concerned about another innovation” (question 3), “I am not concerned about CCSS at this time” (question 12), and “I spend little time thinking about CCSS” (question 23). For males, the Stage 6 (refocusing) score tailed up while the score for females tailed down, and the gap between the two scores was statistically significant. This suggests that the male respondents in this sample had strong ideas about how to implement CCSS. When this pattern occurs early in implementation, it can indicate negative attitudes toward an innovation (George et al, 2006).

Respondents were asked whether they had received CCSS training. They were not asked to specify the nature of the training except in the semi-structured interviews. Four of the five individuals interviewed indicated they had formal CCSS training, but that training varied widely from handouts explaining the standards to organized workshops that covered how to align curriculum to the CCSS. In some cases the training was voluntary (e.g., workshop) and in other cases it occurred in mandatory staff meetings. When looking at the relative intensity of concerns by whether or not the respondent had received training, significant differences were seen in the overall concern about or involvement with CCSS (Stage 0) and interest in learning more about CCSS (Stage 1). Those who said they had received training indicated significantly more involvement with CCSS, as expressed by a lower percentile in Stage 0 (unconcerned) than those who had not. Not surprisingly, those who said they had not received training had significantly higher concerns about getting information on CCSS.

When these results are examined in conjunction with the responses to the open-ended questions, where time to implement and training emerged as the two resources most needed, the importance of training to the successful implementation of CCSS is supported. When training was received, respondents reported less intense concerns about getting information. At the same time, the training did not address the personal concerns that respondents had about CCSS implementation (Stage 2), where there was no significant difference between those who reported receiving training and those who had not. This suggests that to optimize implementation of CCSS, the professional development should very specifically address the questions and concerns that the teachers have about the impact to their classroom. Said another way, the results of this study indicate that the training that has been held for this group of respondents has not yet addressed those concerns.

Finally, statistically significant differences in concerns for Stage 5 (collaboration) were seen by primary role of the respondent. Those who identified their role as “Other” had significantly higher concerns about coordinating and cooperating with others on CCSS implementation. This could be largely driven by the nature of the roles that were categorized as other, including librarians and counselors. If the nature of the role is to serve all grades, then having more intense concerns about working with others on implementation is understandable.

Minimal impact of years of teaching experience. The third major finding from the analysis was that the number of years that the respondents had been teaching did not significantly impact the overall nature of their concerns. This is contrary to previous research conducted using the CBAM framework where years of experience was the most crucial factor in explaining the stages of concern (Christou et al., 2004).

The finding was a surprise to this researcher based on the review of articles and some literature on educational reform. Two different perspectives about experienced teachers often emerged from these sources. The first was that teachers with many years of experience would feel more comfortable in their ability to execute changes, and less concerned about what the reform would mean for them personally. The second was that experienced teachers would be cynical and battle worn after many cycles of reform and would therefore be resistant to CCSS implementation. In fact, years of experience only had a modest statistical impact on predicting concerns compared to other characteristics of the teacher. For example, the factors that emerged as the strongest predictors of Stage 0 scores (which signify overall preoccupation with the reform) were teaching elementary school and having received CCSS training. Teachers with those characteristics were more likely to have lower Stage 0 concerns, which signify greater preoccupation with the reform.

When you consider the foundational research on novice teachers and teacher development by Frances Fuller upon which the CBAM framework was built, it would be logical to assume that novice or less experienced teachers would have different feelings or perceptions than teachers who had spent more time in the classroom. Research on teacher productivity (Harris & Sass, 2011) and teacher self-efficacy (Klassen & Chiu, 2010) found that years of experience had an effect; as the teachers' time in the classroom increased, productivity and self-efficacy increased. The major difference, however, is that the focus of Fuller's earlier research and the two more recent studies was on the perceived ability to teach, not to implement a reform or change in the classroom.

Based on the results of this study, there was no evidence that, at this point in CCSS implementation, more experienced teachers were more likely to resist CCSS implementation, or that less experienced teachers more likely to embrace the change. Similarly, there was no indication that teachers who had spent more time in the classroom were more likely to have higher concerns about the impact of CCSS to their students than the impact to themselves.

What this suggests is that it is the change process itself and how it is facilitated that makes the larger difference in the nature of teacher concerns, and ultimately in the success of the educational change. Michael Fullan (2007) has argued that any successful change must allow educators to meet in the middle, to take local culture and context into account yet also recognize the complexity that exists at all levels of the educational infrastructure, from national to regional to district and finally to school level. He found that schools that were successful in implementing change had principals who were inclusive and facilitative, focused on student learning, or established collaborative teaching groups. In contrast, failed reform occurred when the strategy was top down and relationships were not built with teachers and principals (Fullan, 2007).

Conclusions

Within the military there is an often-used adage that no battle plan survives the first shot. However well-informed and well-intentioned the objectives, however comprehensive and rigorous the planning, the true test comes when the plan is implemented within the chaotic and uncertain environment on the ground. In many ways this holds true for CCSS implementation.

A recurring theme among researchers who have followed educational reform over the past several decades is that successful change in education is difficult because of the institutional and human complexity involved. The point of failure is often the final phase of reform, the implementation. As Jerald (2005) notes in his policy brief:

The implementation stage is the *most difficult of all*. And it is the stage where the majority of serious improvement efforts fail. As thousands of administrators and teachers have discovered too late, implementing an improvement plan—at least any plan worth its salt—really comes down to changing a complex organization in fundamental ways. (p. 2)

Researchers have found that for a large-scale innovation to succeed, it is important to pay attention both to teachers' personal experiences with the innovation and to their subjective perceptions (Geijsel, Slegers, van den Berg, & Kelchtermans, 2001). This is because emotions have been found to drive teacher behavior (van den Berg, 2002), and it is the teacher's behavior in the classroom that will need to change or at least adapt for CCSS implementation to succeed. The literature on educational reform concludes that the success of any educational reform is ultimately dependent on how it is implemented at the classroom level (Tyack & Cuban, 1995; Fullan, 2007).

With these challenges in mind, I suggest that the results of this study can contribute to a better, though not conclusive, understanding of the factors that will support a successful implementation of CCSS. I will discuss those factors in the context of the two major conclusions of this study: 1) teacher uncertainty surrounding CCSS implementation is impacting how ready and confident teachers feel to implement CCSS in their respective classrooms; 2) the supports provided to teachers, to include professional development, should address the differentiated concerns and uncertainty expressed by the teachers.

Teacher Readiness. When change is introduced to teachers, uncertainty can result because information is either lacking or inconsistent about the “rights, obligations, tasks, and responsibilities” of the teachers, as well as the consequences of the change (van den Berg, 2002, p. 582) Overall, the teachers in this survey indicated that they still need more information about CCSS, including a better understanding of the impact that CCSS implementation will have on them in the classroom. Many felt they lacked the resources necessary to interpret and apply CCSS, and therefore were uncertain about their ability to successfully introduce the standards. This loss of confidence has been seen in other reform initiatives (Hargreaves, 2004).

Many of the respondents acknowledged the efforts that were underway within their respective districts to prepare for CCSS implementation. From the state department of education websites, it is clear that all the states in the survey have had CCSS-related initiatives underway for at least the past 12 months, and some much longer. The resources identified on the websites are often diverse and seem robust. When looking at the responses of this survey, however, one has to conclude that the resources have not been sufficient to address basic concerns that teachers have about bringing CCSS into their respective classrooms.

The early stage of implementation is a consideration. While there are some differences in the implementation schedule for CCSS among the states that constitute the sample, all can be considered in the early, “non-user” phase. That is, implementation of CCSS has been introduced and is underway, but not yet across all grades. That means that many teachers have not yet had an opportunity to experience a full cycle of reform from curriculum to instruction through assessments. The literature on the CBAM framework tells us that as teachers experience the change and gain a better understanding overall and in the classroom, the nature of the concerns will shift to managing the change and the impact that the change will have on students. The data from this study indicate that the respondents are not yet to that point.

Hall et al. (1973, 1974) used literature on educational change as one of the primary data sources as they conceptualized CBAM. That literature indicated that individuals participating in a major change will go through affective phases that impact how readily they will embrace the change. Across many educational change initiatives, researchers applying the CBAM framework have found that until these early concerns are addressed, it is difficult for individuals to consider the innovation objectively (George et al., 2006; van den Berg & Ros, 1999; Hall, 2013). The significance for those charged with CCSS implementation is that it will take active intervention of their part to move teachers to the next level of readiness. A critical part of that intervention is for administrators to acknowledge teacher concerns, and to address them with robust support systems.

Support systems. Hargreaves (2004) found that “support systems of training, mentoring, time and dialogue” (p. 288) were essential to successful educational change. Also important is for teachers to have the opportunity to learn from “direct observation of practice and trial and error in their own classrooms” (Elmore, 1996, p. 24). Unfortunately, the open-ended responses

from teachers suggest that this opportunity is often not available, and in fact the teachers' experiences reflect some of the conditions that Elmore (1996) describes as leading to the failure of reform to achieve scale or results:

Teachers are often tossed headlong into discussion groups to work out the classroom logistics of implementing a new curriculum. They are encouraged to develop model lessons as a group activity and then sent back to their classrooms to implement them as solo practitioners. Teachers are seldom asked to judge if this new curriculum translates well into concrete actions in the classroom, nor are they often asked to participate as codesigners of the ideas in the first place...In other words, the condition under which teachers are asked to engage in new practices bear no relationship whatsoever to the conditions required for learning how to implement complex and new practices with success. (p. 24)

Van den Berg (2002) notes that professional development that encompasses teachers' beliefs, attitudes, or emotions "may be particularly successful" (p. 589). When van den Berg and colleagues provided intense professional development over a two-year period that was small scale, strongly person oriented, targeted at teachers working in collaborative teams, and supported by transformation leadership, they found that disorientation, confusion and fear on the part of teachers was avoided (van den Berg, 2002).

Overall, respondents indicated they still need information about how to bring CCSS into their classrooms, but the nature of the type and amount of information will differ. Some teachers indicated that to date they have had no training at all and were learning what they needed on their own. Others indicated they had training about the standards, but not on integrating them into curriculum and lesson plans. Some teachers who indicated they felt very prepared mentioned

participating in professional learning communities. Many mentioned a desire to work with other teachers to discuss integrated curriculum. The prevalent concern, as shown in the data, was uncertainty about what CCSS implementation will mean for the teacher, in the classroom.

Teachers in the study indicated differing concerns, yet the responses to the open-ended questions indicate that, for the most part, districts are using the same general training to help prepare teachers—where training has been provided at all. As discussed earlier, the nature of the concern (and consequently what is required to address it) can vary depending on factors like grade level taught or the role of the teacher. A differentiated approach could include, for example, providing middle school teachers with more information and resources related to managing the logistics and timing of the implementation; or, providing elementary school teachers with examples of instructional strategies with age-appropriate academic demands that could be applied for their youngest students.

In addition to formal training and development, there is also an opportunity to use informal and ongoing learning through teacher collaboration. This type of informal learning has been found to be more effective in generating educational reform than formal in-service development (Jurasaitė-Harbison & Rex, 2010). This requires that teachers have both the opportunity and the time to collaborate on how best to apply the standards, how to align to current curriculum, and to share lessons learned. Ideally, the collaboration should be an ongoing process that supports the fine-tuning and adjustments necessitated throughout the school year to reconcile the CCSS with the day-to-day complexities of the classroom. In the responses to the open-ended questions many teachers expressed a frustration that they had to develop many of the resources on their own as well as a desire to collaborate with fellow teachers across grade levels and the district.

Collaborative teaming can also have positive impacts beyond the implementation of standards. Research has shown that participating on an empowered school team can foster teacher performance and organizational commitment (Somech, 2005). Student performance can also be positively impacted. A study conducted with public elementary schools in a Midwestern state that was engaged in a large-scale improvement effort focused on high-stakes assessments found that “teacher collaboration for school improvement was positively related to differences among schools in both mathematics and reading achievement” (Goddard, Goddard, & Tschannen-Moran, 2007, p. 891).

Implementing these supports will require transformational leadership on the part of principals (van den Berg, 2002), characterized by trust in the ability of the teachers to execute the reform. This type of leadership has been shown to decrease uncertainty on the part of teachers (Geijsel et al., 2001) and increase teachers’ job satisfaction and collaboration (Orphanos & Orr, 2014). It also helps build the type of school community and culture that nurtures empowerment and leads to organizational effectiveness (Somech, 2005).

In summary, this study highlighted concerns that teachers have about CCSS at this stage of implementation. If left unaddressed, these concerns can become potential obstacles to full implementation at the classroom level. The voice of the teacher was included in the results, helping us better understand teachers’ feelings and perceptions as they introduce CCSS into their classrooms. The perspective of those closest to the classroom is important because they best understand the practical realities associated with implementing a reform as broad as CCSS.

The small sample precluded making conclusive recommendations; however, the study did identify areas that are worthy of attention by those who are leading the CCSS implementation for their schools and districts. The study showed, for example, that the stages of

concern can differ by certain teacher characteristics like grade level taught. There is also clear evidence that the teachers in the study want more information, both about the standards and what implementation means for them. These results can help inform decisions about the allocation of resources and the design of appropriate interventions and supports for teachers.

Limitations

The biggest limitation of this study is the small sample size. Some of the factors that may have contributed to the low response rate were identified at the beginning of the chapter. While the number of responses produced some statistically significant results, these results should not be generalized to overall populations. For example, it would not be appropriate to assume that all middle school teachers involved in CCSS implementation within the states studied will be more likely to be concerned about managing the implementation. Likewise, the small sample precludes drawing precise conclusions about the factors that had a statistically significant effect on the concerns. Rather, the results should be viewed as directional and suggestive of areas that would benefit from further study.

Another limitation is the potential inconsistency in how grade levels are defined across states. While grade 9 was categorized as high school for this study, in some states it may be the final year of middle school.

Finally, the authors of the SoC instrument caution against using the tool to screen or evaluate concerns (George et al., 2006). While the results may signal trends that could have positive or negative impacts on the adoption of the innovation, the concerns in themselves “are neither good nor bad” (p. 55).

Future Research

The study uncovered several areas that would benefit from additional research. First, teacher concerns should be explored in-depth using a larger sample and multiple regression to better understand the factors that can predict the stage of concern. This would allow administrators to better tailor ongoing supports for teachers during the implementation. Another area for future research at this early stage of CCSS implementation is to assess the impact of supports and development by administering the SoC questionnaire both pre- and post-implementation and then analyzing the differences in the relative intensity of concerns between the two time periods. Finally, the analysis of stages of concern only provides insights on the affective aspects of CCSS implementation. To understand the degree to which teachers are adopting, or “using” the change, future research should use the Levels of Use (LOU) dimension of the CBAM framework. There are eight different behavioral profiles in the LOU construct that range from nonuse to actively exploring modifications to the innovation (Hall, 2013). Applying the LOU construct would involve focused interviews to identify the usage profile of the respondent.

References

- Adrian, C. A. (2012). *Implementing Standards-Based Grading: Elementary Teachers' Beliefs, Practices And Concerns* (doctoral dissertation). Retrieved from https://research.wsulibs.wsu.edu:8443/xmlui/bitstream/handle/2376/4090/Adrian_wsu_0251E_10397.pdf?sequence=1
- Ben-Peretz, M. (1980). Teachers' Role in Curriculum Development: An Alternative Approach. Retrieved from <http://www.jstor.org/stable/1494313>
- Burke, P.J. (2001). Teacher's Career Stages and Patterns of Attitudes Toward Teaching Behaviors. *Education, 105*(3), 240-248.
- Campbell, M.R., & Thompson, L.K. (2007). Perceived Concerns of Preservice Music Education Teachers: A Cross-Sectional Study. *Journal of Research in Music Education, 55*(2), 162-176. DOI: 10.1177/002242940705500206
- Christou, C., Eliophitou-Menon, M., & Philippou, G. (2004). Teachers' Concerns regarding the Adoption of a New Mathematics Curriculum: An Application of CBAM. *Educational Studies in Mathematics, 57*(2), 157-176. Retrieved from <http://www.jstor.org/stable/4150269>
- Clandinin, J., & Connelly, F.M. (1998). Stories to Live By: Narrative Understandings of School Reform. *Curriculum Inquiry 28*, (2), 149-164. DOI: 10.1111/0362-6784.00082
- Cohen, Jacob (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement, 20*(1), 37-46. DOI:10.1177/001316446002000104
- Common Core Backlash: Track State Efforts. (2014). Retrieved from the *Education Week* website: <http://www.edweek.org/ew/section/multimedia/2014-anti-cc-tracker.html>

- Conway, P.F., & Clark, C.M. (2003). The journal inward and outward: a re-examination of Fuller's concerns-based model of teacher development. *Teaching and Teacher Education, 19*, 465-482. DOI: 10.1016/S0742-051X(03)00046-5
- Cook, T., & Campbell, D. T. (1979). *Quasi-Experimentation*. Boston, MA: Houghton Mifflin.
- Craig, C. J. (2012). "Butterfly Under a Pin": An Emergent Teacher Image amid Mandated Curriculum Reform. *The Journal of Educational Research, 90-101*. DOI:10.1080/00220671.2010.519411
- Donovan, L., & Green, T. (2010). One-to-One Computing in Teacher Education: Faculty Concerns and Implications for Teacher Educators. *Journal of Digital Learning in Teacher Education, 26*(4), 140-148.
- Dunn, K. E., & Rakes, G. C. (2009, June 9). Producing caring qualified teachers: An exploration of the influence of pre-service concern on learner-centeredness. *Teaching and Teacher Education, 26*. DOI:10.1016/j.tate.2009.06.013
- Eisner, E.W. (1979). *The Educational Imagination*. Upper Saddle River, NJ: Prentice Hall.
- Elmore, R. F. (1996). Getting to Scale with Good Educational Practice. *Harvard Educational Review, 66*(1), 1-26. Retrieved from <http://search.proquest.com/docview/212298081?accountid=14556>
- Forlin, C., Loreman, T., Sharma, U., & Earle, C. (2009). Demographic differences in changing pre-service teachers' attitudes, sentiments and concerns about inclusive education. *International Journal of Inclusive Education, 13*(9), 195-209. DOI: 10.1080/13603110701365356
- Fullan, M. (2003). *Change Forces with a Vengeance*. New York, NY: RoutledgeFarmer.

- Fullan, M. (2007). *The New Meaning of Educational Change*. New York, NY: Teachers College Press.
- Fuller, F.F. (1969). Concerns of Teachers: A Developmental Conceptualization. *American Education Research Journal*, 6(2), 207-226. Retrieved from <http://www.jstor.org/stable/1161894>
- Fuller, F.F. (1970). *Personalized Instruction for Teachers: An Introduction for Teacher Educators*. Austin, TX: Texas University Research and Development Center for Teacher Education. Retrieved from <http://files.eric.ed.gov/fulltext/ED048105.pdf>
- Fuller, F.F. (1974). A Conceptual Framework for a Personalized Teacher Education Program. *Theory into Practice*, 13(2), 112-122. Retrieved from <http://www.jstor.org/stable/1475475>
- Fuller, F., & Case, C. (1969). *Concerns of Teachers, A Manual for Teacher Educators: Increasing Teacher Satisfaction with Professional Preparation by Considering Teachers' Concerns when Planning Preservice and Inservice Education*. Austin, TX: Texas University Research and Development Center for Teacher Education. Retrieved from <http://files.eric.ed.gov/fulltext/ED040143.pdf>
- Fuller, F.F., & Case, C. (1972). *A Manual for Scoring the Teacher Concerns Statement*. Austin, TX: Texas University Research and Development Center for Teacher Education. Retrieved from <http://files.eric.ed.gov/fulltext/ED079361.pdf>
- Fuller, F.F., Parsons, J.S., & Watkins, J.E. (1974, April). *Concerns of Teachers: Research and Reconceptualization*. Paper presented at the 59th Annual Meeting of the American Education Research Association, Chicago, IL. Retrieved from <http://files.eric.ed.gov/fulltext/ED091439.pdf>

- Geijsel, F., Slegers, P., van den Berg, R., & Kelchtermans, G. (2001). Conditions Fostering the Implementation of Large-Scale Innovation Programs in Schools: Teachers' Perspectives. *Educational Administration Quarterly*, 37(1), 130-166. DOI: 10.1177/00131610121969262
- George, A.A. (1977, April). *Development and Validation of a Concerns Questionnaire*. Paper presented at the 61st annual meeting of the American Educational Research Association, New York, NY. Retrieved from <http://files.eric.ed.gov/fulltext/ED147314.pdf>
- George, A. A., Hall, G. E., & Stiegelbauer, S. M. (2006). *Measuring Implementation in Schools: The Stages of Concern Questionnaire*. Austin, TX: SEDL.
- Ghaith, G., & Shaaban, K. (1999). The relationship between perceptions of teaching concerns, teacher efficacy, and selected teacher characteristics. *Teaching and Teacher Education*, 15, 487-496. DOI: 10.1016/S0742-051X(99)00009-8
- Gilligan, C., Spencer, R., Weinberg, M. K., & Bertsch, T. (2003). On the Listening Guide: A Voice-Centered Relational Method. In *Qualitative Research in Psychology: Expanding Perspectives in Methodology and Design* (pp. 157-172). American Psychological Association Press.
- Goodard, Y.L., Goddard R.D., Tschannen-Moran, M. (2007). A Theoretical and Empirical Investigation of Teacher Collaboration for School Improvement and Student Achievement in Public Elementary Schools. *Teachers College Record*, 109(4), 877-896. Retrieved from http://education.illinoisstate.edu/downloads/casei/collaboration_studentachievement.pdf
- Graham, S., & Harris, K. R. (2013). Common Core State Standards, Writing, and Students with LD: Recommendations. *Learning Disabilities Research & Practice*, 28(1), 28-37.

- Haager, D., & Vaughn, S. (2013). Common Core State Standards and Students with Learning Disabilities: Introduction to the Special Issue. *Learning Disabilities Research & Practice*, 28(1), 1-4.
- Hacker, A., & Dreifus, C. (2013, June 9). Who's Minding the Schools? *The New York Times*, pp. SR 1, 6, 7.
- Hall, G.E. (1974). *The Concerns-Based Adoption Model: A Developmental Conceptualization of the Adoption Process Within Educational Institutions*. Paper presented at the 59th Annual Meeting of the American Education Research Association, Chicago, IL. Retrieved from <http://files.eric.ed.gov/fulltext/ED111791.pdf>
- Hall, G. (1976). Concerns of Teachers About Implementing Team Teaching. *Educational Leadership*, 34(3), 227.
- Hall, G.E. (2013). Evaluating change processes. *Journal of Educational Administration*, 51(3), 264-289. DOI: 10.1108/09578231311311474
- Hall, G. E., George, A. A., & Rutherford, W. L. (1979). *Measuring Stages of Concern About Innovation: A Manual for Use of the SoC Questionnaire* (2 ed.). The University of Texas.
- Hall, G., & Hord, S. M. (2011). Implementation. *Journal of Staff Development*, 32(3), 52-57.
- Hall G.E., Wallace, R.C., & Dossett, W.A. (1973). *A Developmental Conceptualization of the Adoption Process Within Educational Institutions*. Austin, TX: Texas University Research and Development Center for Teacher Education. Retrieved from <http://files.eric.ed.gov/fulltext/ED095126.pdf>
- Hargreaves, A. (2005). Educational change takes ages: Life, career and generational factors in teachers' emotional responses to educational change. *Teaching and Teacher Education*, 21, 967-983. DOI: 10.1016/j.tate.2005.06.007

- Hargreaves, A. (2004). Inclusive and exclusive educational change: emotional responses of teachers and implications for leadership. *School Leadership & Management*, 24(2), 287-309. DOI: 10.1080/1363243042000266936
- Harris, D.N., & Sass, T.R. (2011). Teacher training, teacher quality and student achievement. *Journal of Public Economics*, 95, 798-812. DOI: 10.1016/j.pubeco.2010.11.009
- Hess, F.M., & McShane, M.Q. (2013). Common Core in the real world. *Kappan*, 95(3), 61-66.
- Hilton, A., & Armstrong, R. (2006). Post Hoc ANOVA Tests. *Microbiologist*. Retrieved from http://eprints.aston.ac.uk/9317/1/Statnote_6.pdf
- Hochberg, E.D., & Desimone, L.M. (2010). Professional Development in the Accountability Context: Building Capacity to Achieve Standards. *Educational Psychologist*, 45(2), 89-106. DOI: 10.1080/00461521003703052
- Hope, R. G. (2009). IDEA and NCLB: Is There a Fix to Make Them Compatible? *Children's Legal Rights Journal*, 29(4), 1-23. Retrieved from <http://heinonline.org>
- Hoy, A.W., & Spero, R.B. (2005). Changes in teacher efficacy during the early years of teaching: A comparison of four measures. *Teaching and Teacher Education*, 21, 343-356. DOI: 10.1016/j.tate.2005.01.007
- Jerald, C. (2005). The Implementation Trap: Helping Schools Overcome Barriers to Change. The Center for Comprehensive School Reform and Improvement Policy Brief, 1-12. Retrieved from the Center website: www.centerforcsri.org.
- Jurasaitė-Harbison, E., & Rex, L. A. (2010). School cultures as contexts for informal teacher learning. *Teaching and Teacher Education*, 26(2), 267-277.

- Keaton, P. (2013). Selected Statistics From the Common Core of Data: School Year 2011–12 (NCES 2013-441). U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved from <http://nces.ed.gov/pubsearch>.
- Keith, T.Z.(2006). *Multiple Regression and Beyond*. Boston, MA: Pearson Education, Inc.
- Keppel, G., & Wickens, T.D. (2004). *Design and Analysis: A Researcher's Handbook* (Fourth ed.). Upper Saddle River, NJ: Pearson Education.
- Klassen, R.M., & Chiu, M.M. (2010). Effects on Teachers' Self-Efficacy and Job Satisfaction: Teacher Gender, Years of Experience, and Job Stress. *Journal of Educational Psychology, 102*(3), 741-756. DOI: 10.1037/a0019237
- Kliebard, H.M. (2004). *The Struggle for the American Curriculum*. New York, NY: RoutledgeFalmer.
- Kridel, C. (2006). Sweet thoughts of reverie: Rereading AERA conference programs, 1974-2006. *JCT, 22*(3), 95-104. Retrieved from <http://search.proquest.com/docview/194661924?accountid=14556>
- Kwak, C., & Clayton-Matthews, A. (2002). Multinomial Logistic Regression. *Nursing Research, 51*(6), 404-410. Retrieved from <http://ovidsp.tx.ovid.com.www2.lib.ku.edu:2048/>
- Kwok, P. (2014). The role of context in teachers' concerns about the implementation of an innovative curriculum. *Teaching and Teacher Education, 38*, 44-55. DOI: 10.1016/j.tate.2013.11.002
- LeBreton, J.M., & Senter, J.L. (2008). Answers to 20 Questions About Interrater Reliability and Interrater Agreement. *Organizational Research Methods, 11*(4), 815-852. DOI: 10.1177/1094428106296642

- Marshall, J.D., Sears, J.T., Allen, L.A., Roberts, P.A., & Schubert, W.H. (2007). *Turning Points in Curriculum*. Upper Saddle River, NJ: Pearson Education, Inc.
- März, V., & Kelchtermans, G. (2013). Sense-making and structure in teachers' reception of educational reform. A case study on statistics in the mathematics curriculum. *Teaching and Teacher Education*, 29, 13-24. DOI: 10.1016/j.tate.2012.08.004
- McDonnell, L.M., & Weatherford, M.S. (2013). Evidence Use and the Common Core State Standards Movement: From Problem Definition to Policy Adoption. *American Journal of Education*, 120(1), 1-25. Retrieved from <http://www.jstor.org/stable/10.1086/673163>
- McHugh, M.L. (2012). Interrater reliability: the kappa statistic. *Biochemia Medica*, 22(3), 276-282. DOI: 10.11613/BM.2012.031
- McLaughlin, M., Glaab, L., & Carrasco, I.H. (2014). *Implementing Common Core State Standards in California: A Report from the Field*. Palo Alto, CA: Policy Analysis for California Education (PACE). Retrieved from the PACE website:
<http://edpolicyinca.org/publications/implementing-common-core-state-standards-california-report-field>
- National Center for Education Statistics. (2006). Local Education Agency (School District) Locale Code Files. Retrieved from Common Core of Data website:
http://nces.ed.gov/ccd/data/zip/al051a_csv.ziphttp://nces.ed.gov/nationsreportcard/tdw/print_page.aspx
- National Center for Education Statistics. (2009). NAEP Technical Documentation Urban Classification. Retrieved from National Assessment of Education Progress website:
http://nces.ed.gov/nationsreportcard/tdw/print_page.aspx

National Center for Education Statistics. (2012). Number, highest degree, and years of full-time teaching experience of teachers in public and private elementary and secondary schools, by selected teacher characteristics: Selected years, 1999-2000 through 2011-12.

Retrieved from the FastFacts website:

http://nces.ed.gov/programs/digest/d13/tables/dt13_209.20.asp

National Center for Education Statistics. (2013). School District Demographic System (SDDS).

Retrieved from SDDS website: <http://nces.ed.gov/surveys/sdds/ed/index.asp>

National Governors Association Center for Best Practices, Council of Chief State School Officers. (2010). *The Standards*. Retrieved from Common Core Standards:

<http://www.corestandards.org>

National Governors Association Center for Best Practices, Council of Chief State School

Officers, Achieve, Inc. (2008). *Benchmarking for Success: Ensuring U.S. Students Receive a World-Class Education*. Retrieved from

<http://www.corestandards.org/assets/0812BENCHMARKING.pdf>

New York State Archives. Retrieved from

http://www.archives.nysed.gov/edpolicy/research/res_essay_eisenhower_sputnik.shtml

Newton, J. R., Kennedy, M. J., Walther-Thomas, C., & Cornett, J. (2012). Transforming special education teacher education: a reaction to the report: transforming teacher education through clinical practice: a national strategy to prepare effective teachers. *Focus on Exceptional Children*, 45(1), 1-17.

Nichols, S., & Parsons, J. (2011). Dewey's Dream of Democracy for Teachers. *New Zealand Journal of Teachers' Work*, 8(1), 47-54. Retrieved from

http://www.teacherswork.ac.nz/journal/volume8_issue1/nichols.pdf

- Norton, A., & Boyce, S. (2013). A cognitive core for common state standards. *Journal of Mathematical Behavior*, 32, 266-279. DOI: 10.1016/j.jmathb.2013.01.001
- O'Hara, M. (2012). *Closing the Expectations Gap, 2012: 50-State Progress Report on the Alignment of K-12 Policies and Practice with the Demands of College and Careers*. Achieve, Inc. Retrieved from <http://files.eric.ed.gov/fulltext/ED535986.pdf>
- O'Hara, M. (2013). *Closing the Expectations Gap, 2013: 2013 Annual Report on the Alignment of K-12 Policies and Practice with the Demands of College and Careers*. Achieve, Inc. Retrieved from <http://www.achieve.org/files/2013ClosingtheExpectationsGapReport.pdf>
- Orlich, D.C. (2011). Educational Standards—*Caveat Emptor*. *Kappa Delta Pi Record*, 47(2) 52-57. DOI: 10.1080/00228958.2011.10516561
- Orphanos, S., & Orr, M.T. (2014). Learning leadership matters: The influence of innovative school leadership preparation on teachers' experiences and outcomes. *Educational Management Administration & Leadership*, 42(5), 680-700. DOI: 10.1177/1741143213502187
- Overbaugh, R., & Lu, R. (2008). The Impact of a Federally Funded Grant on a Professional Development Program: Teachers' Stages of Concern Toward Technology Integration. *Journal of Computing in Teacher Education*, 25(2), 45-55.
- Parsons, J.S., & Fuller, F.F. (1974, April). *Concerns of Teachers: Recent Research on Two Assessment Instruments*. Paper presented at the 59th annual meeting of the American Educational Research Association, Chicago, IL. Retrieved from <http://files.eric.ed.gov/fulltext/ED093987.pdf>
- Phan, T. and Glander, M. (2007). Documentation to the NCES Common Core of Data Local Education Agency Locale Code File: School Year 2005-06 (NCES 2007-388). National

- Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC. Retrieved from <http://nces.ed.gov/ccd/pdf/al051agen.pdf>
- Pigge, F.L., & Marso, R.N. (1997). A Seven-Year Longitudinal Multi-Factor Assessment of Teaching Concerns Development Through Preparation and Early Years of Teaching. *Teaching and Teacher Education*, 13(2), 225-235. DOI: 10.1016/S0742-051X(96)00014-5
- Reeves, C.K., & Kazelskis, R. (1985). Concerns of Preservice and Inservice Teachers. *The Journal of Educational Research*, 78(5), 267-271. Retrieved from: <http://www.jstor/stable/27540135>
- Roach, A. T., Kratochwill, T. R., & Frank, J. L. (2009). School-Based Consultants as Change Facilitators: Adaptation of the Concerns-Based Adoption Model (CBAM) to Support the Implementation of Research-Based Practices. *Journal of Educational and Psychological Consultation*, 19, 300-320. DOI:10.1080/10474410802463304
- Schubert, W. H. (2010). Language, legacy, and love in curriculum (Chapter 1). *Curriculum and Teaching Dialogue*. Information Age Publishing.
- Schwab, J. J. (1969). The Practical: A Language for Curriculum. *The School Review*, 1-23.
- Shah, N. (2012). Common-Core Tests Pose Challenges in Special Ed. *Education Week*, 7.
- Smith, J. M., & Kovacs, P. E. (2011). The impact of standards-based reform on teachers: the case of 'No Child Left Behind'. *Teachers and Teaching: Theory and Practice*, 17(2), 201-225. DOI: 10.1080/13540602.2011.539802
- Somech, A. (2005). Teachers' Personal and Team Empowerment and Their Relations to Organizational Outcomes: Contradictory and Compatible Constructs? *Educational Administration Quarterly*, 41(2), 237-266.

- Tyack, D. & Cuban, L. (1995). *Tinkering Toward Utopia: A Century of Public School Reform*. Cambridge, MA: Harvard University Press.
- U.S. Department of Commerce, Bureau of Labor Statistics (2013). Employed persons by detailed occupation, sex, race, and Hispanic or Latino ethnicity. Retrieved from BLS website: <http://www.bls.gov/cps/cpsaat11.pdf>
- U.S. Department of Education. (2008). *A Nation Accountable: Twenty-five Years After A Nation at Risk*. Retrieved from <http://www2.ed.gov/rschstat/research/pubs/accountable/accountable.pdf>
- U.S. National Commission on Excellence in Education. (1983). *A nation at risk : the imperative for educational reform : a report to the Nation and the Secretary of Education, United States Department of Education*. Washington, D.C : The Commission : [Supt. of Docs., U.S. G.P.O. distributor]. Retrieved from <http://files.eric.ed.gov/fulltext/ED226006.pdf>
- Van den Berg, R. (2002). Teachers' Meanings Regarding Educational Practice. *Review of Educational Research*, 72(4), 577-625. DOI: 10.3102/00346543072004577
- Van den Berg, R., & Ros, A. (1999). The Permanent Importance of the Subjective Reality of Teachers During Educational Innovation: A Concerns-Based Approach. *American Educational Research Journal*, 36(4), 879-906. DOI: 10.3102/00028312036004879
- Watzke, J.L. (2007). Longitudinal research on beginning teacher development: Complexity as a challenge to concerns-based stage theory. *Teaching and Teacher Education*, 23, 106-122. DOI: 10.1016/j.tate.2006.04.001
- Wilcox. R.R. (2010). *Fundamentals of Modern Statistical Methods* (2 ed.). New York, NY: Springer

Wolf, N. B. (2013). *Teachers' understanding of and concerns about mathematical modeling in the common core standards.*(doctoral dissertation), Retrieved from <http://search.proquest.com/docview/1432193702?accountid=14556>. (1432193702).

Appendix A: Introductory Page

This short, approximately 15-minute research survey is to determine what people who are implementing or thinking of implementing the Common Core State Standards (CCSS) are concerned about during the implementation process. The results will provide valuable data on the nature of teacher concerns and the supports that teachers may need for successful implementation of CCSS. Participation in the on-line survey is strictly voluntary and should cause no more discomfort than you would experience in your everyday life.

Please respond to the items in terms of **your present concerns**, or how you feel about your involvement with **CCSS**. We do not hold to any one definition of this initiative so please think of it in terms of your own perception of what it involves. Phrases such as “this approach” and “the new system” all refer to CCSS. Remember to respond to each item in terms of your present concerns about your involvement or potential involvement with CCSS. Some items may be irrelevant to you at this time. For those items, please circle “0” on the scale.

All responses are confidential and will be aggregated and returned to the State Department of Education in a summary report. It is possible, however, with internet communications, that through intent or accident someone other than the intended recipient may see your response. For questions or concerns about this survey, please contact Linda McGurn at linda.mcgurn@ku.edu or Dr. Marc Mahlios at mahlios@ku.edu. For information about your rights as a research participant, please contact the University of Kansas Human Subjects Community at irb@ku.edu or (785) 864-7429. Thank you for taking a few minutes to provide valuable feedback. Completion of the survey indicates your willingness to take part in this study and that you are at least 18 years old.

Appendix B: Stages of Concern Questionnaire

0	1	2	3	4	5	6	7
Irrelevant	Not true of me now		Somewhat true of me now			Very true of me now	

Circle one number for each item.

1. I am concerned about students' attitudes toward CCSS.	0	1	2	3	4	5	6	7
2. I now know of some other approaches that might work better.	0	1	2	3	4	5	6	7
3. I am more concerned about another innovation.	0	1	2	3	4	5	6	7
4. I am concerned about not having enough time to organize myself each day.	0	1	2	3	4	5	6	7
5. I would like to help other faculty in their use of CCSS.	0	1	2	3	4	5	6	7
6. I have a very limited knowledge of CCSS.	0	1	2	3	4	5	6	7
7. I would like to know the effect of CCSS on my professional status.	0	1	2	3	4	5	6	7
8. I am concerned about conflict between my interests and my responsibilities.	0	1	2	3	4	5	6	7
9. I am concerned about revising my use of CCSS.	0	1	2	3	4	5	6	7
10. I would like to develop working relationships with both our faculty and outside faculty using CCSS.	0	1	2	3	4	5	6	7
11. I am concerned about how CCSS affects students.	0	1	2	3	4	5	6	7
12. I am not concerned about CCSS at this time.	0	1	2	3	4	5	6	7
13. I would like to know who will make the decisions in the new system.	0	1	2	3	4	5	6	7
14. I would like to discuss the possibility of using CCSS.	0	1	2	3	4	5	6	7
15. I would like to know what resources are available if we decide to adopt CCSS.	0	1	2	3	4	5	6	7
16. I am concerned about my inability to manage all that the CCSS requires.	0	1	2	3	4	5	6	7
17. I would like to know how my teaching or administration is supposed to change.	0	1	2	3	4	5	6	7
18. I would like to familiarize other departments or persons with the progress of this new approach.	0	1	2	3	4	5	6	7

0	1	2	3	4	5	6	7
Irrelevant	Not true of me now		Somewhat true of me now			Very true of me now	

Circle one number for each item.

19. I am concerned about evaluating my impact on students.	0	1	2	3	4	5	6	7
20. I would like to revise the CCSS approach.	0	1	2	3	4	5	6	7
21. I am preoccupied with things other than CCSS.	0	1	2	3	4	5	6	7
22. I would like to modify our use of CCSS based on the experiences of our students.	0	1	2	3	4	5	6	7
23. I spend little time thinking about CCSS.	0	1	2	3	4	5	6	7
24. I would like to excite my students about their part in this approach.	0	1	2	3	4	5	6	7
25. I am concerned about time spent working with nonacademic problems related to CCSS.	0	1	2	3	4	5	6	7
26. I would like to know what the use of CCSS will require in the immediate future.	0	1	2	3	4	5	6	7
27. I would like to coordinate my efforts with others to maximize CCSS effects.	0	1	2	3	4	5	6	7
28. I would like to have more information on time and energy commitments required by CCSS.	0	1	2	3	4	5	6	7
29. I would like to know what other faculty are doing in this area.	0	1	2	3	4	5	6	7
30. Currently, other priorities prevent me from focusing my attention on CCSS.	0	1	2	3	4	5	6	7
31. I would like to determine how to supplement, enhance, or replace CCSS.	0	1	2	3	4	5	6	7
32. I would like to use feedback from students to change the program.	0	1	2	3	4	5	6	7
33. I would like to know how my role will change when I am using CCSS.	0	1	2	3	4	5	6	7
34. Coordination of tasks and people is taking too much of my time.	0	1	2	3	4	5	6	7
35. I would like to know how CCSS is better than what we have now.	0	1	2	3	4	5	6	7

Appendix C: Demographic Questions

Please complete the following:

1. How long have you been teaching? _____
2. Have you been teaching continuously between 2009 and 2013?
Yes _____ **No** _____
3. What grade level do you currently teach? (select all that apply)
4. What is your primary role?
General education teacher _____ **Special education teacher** _____
Administrator _____ **Other staff (e.g., guidance counselor)** _____
5. Have you received formal training regarding CCSS (workshops, courses) in the past 12 months?
Yes _____ **No** _____
6. Gender
Male _____ **Female** _____
7. State that school is located in: _____
8. How prepared do you feel about implementing CCSS? What additional tools or training do you think would benefit you?

If you would be willing to be contacted for a brief follow up interview, please provide your email address here: _____

Thank you for sharing your perspective!

Appendix D: Copyright Permission



SEDL LICENSE AGREEMENT

To: Linda McGurn (Licensee)
14403 West 53rd Terrace
Shawnee, KS 66216

From: Nancy Reynolds
Information Associate
SEDL
Information Resource Center-Copyright Permissions
4700 Mueller Blvd.
Austin, TX 78723

Subject: License Agreement to reprint and distribute SEDL materials

Date: December 5, 2013

Thank you for your interest in using the **Stages of Concern Questionnaire** (SoCQ 075) published by SEDL in *Measuring Implementation in Schools: Stages of Concern Questionnaire* written by Archie A. George, Gene E. Hall, and Suzanne M. Stiegelbauer in 2006, as Appendix A, pages 79-82; it is also available in electronic format as SEDL's *Stages of Concern Questionnaire (SoCQ) Online* (which can be purchased on the SEDL website at <http://www.sedl.org/pubs/catalog/items/cbam21.html>) and in the book *Taking Charge of Change*, revised ed., published in 2006 and written by Shirley M. Hord, William L. Rutherford, Leslie Huling, and Gene E. Hall, on pages 46-49.

The SoCQ 075 will be referred to as the "work" in this permission agreement. SEDL is pleased to grant permission for use of the work cited above by the Licensee for her dissertation at the University of Kansas School of Education in Lawrence, KS. The following are the terms, conditions, and limitations governing this limited permission to reproduce the work:

1. All reprinting and distribution activities shall be solely in the media in which the work has been made available for your use, *i.e.*, copy made from a print copy or by purchasing access to the *Stages of Concern Questionnaire Online* and shall be used for educational, non-profit use only. Precise compliance with the following terms and conditions shall be required for any permitted reproduction of the work described above.
2. No adaptations, deletions, or changes are allowed with the exception of substituting the words "the innovation" with a word or phrase that participants will recognize such as the name of the innovation or initiative; and questions may be added to identify demographic indicators.

Voice: 800-476-6861

Fax: 512-476-2286

www.sedl.org

4700 MUELLER BLVD., AUSTIN, TX 78723

or participants before or after the instrument, but otherwise, the wording and order of items cannot be changed. No derivative work based on or incorporating the work may be created without the prior written consent of SEDL.

3. This permission is non-exclusive, non-transferable, and limited to the one-time use specified herein. This permission is granted solely for the period December 9, 2013, through December 31, 2014, inclusive. SEDL expressly reserves all rights in this material.
4. You must give appropriate credit on the copies of the work you distribute: "Reprinted by Linda McGurn with permission from SEDL," or attribute SEDL as appropriate to the professional style guidelines you are following. All reproductions of the material used by you shall also bear the following copyright notice on each page of use: "Copyright © 2006, SEDL."
5. An exact copy of any reproduction of the work you produce shall be promptly provided to SEDL. All copies of the work produced by you which are not distributed or used shall be destroyed or sent to SEDL, save and except a maximum of three archival copies you are permitted to keep in permanent records of the activity you conducted.
6. This License Agreement to reproduce the work is limited to the terms hereof and is personal to the person and entity to whom it has been granted; and it may not be assigned, given, or transferred to any other person or entity.
7. SEDL is not charging the Licensee a copyright fee to use the work.

I'm e-mailing you a PDF of this agreement. Please print and sign one copy below, indicating that you understand and agree to comply with the above terms, conditions and limitations, and send the original back to me. If you wish to keep a copy with original signatures, please also print, sign, and return a second copy and, after I receive and sign it, I'll return it with both of our signatures to you.

Thank you, again, for your interest in using SEDL's **Stages of Concern Questionnaire** (SoCQ 075). If you have any questions, please contact me at 800-476-6861, ext. 6548 or 512-391-6548, or by e-mail at nancy.reynolds@sedl.org.

Sincerely,

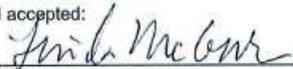


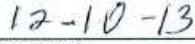
Nancy Reynolds for SEDL



Date signed

Agreed and accepted:

Signature: 



Date signed

Printed Name: LINDA MCGURN

Appendix E: Interview Questions

At the beginning of the interview, confirmed demographic data from survey (e.g, years teaching, subject taught). If participant said they had received CCSS training, asked for a description of formal CCSS training. All interviewees were asked these questions:

1. How did you receive information regarding CCSS implementation at your school? How would you prefer to get that information?
2. How do you think the CCSS implementation will impact your students?
3. How have you worked with other teachers in your school to adapt your curriculum for CCSS?
4. How do you think CCSS implementation is progressing in other school districts/other states?

Appendix F: Example of Interview Writeup (redacted)

Date Interviewed: 6-18-14

1. *How did you receive information regarding CCSS implementation at your school? How would you prefer to get that information?*

Received from AEA, read the handout. Also had speakers. There are other initiatives going on, school improvements. They did a good job helping teachers understand common core. Comment: “It’s not about the curriculum.” Didn’t see anything on technical reading (referenced spouse who is business owner and said that students lack technical reading skills, can’t follow instructions).

2. *How do you think the CCSS implementation will impact your students?*

Doesn’t think CCSS can help students. There are so many other problems, issues. It’s not how or what we are teaching. Example of freshman, “we have been at war their whole life.” The idea/philosophy of CC is wonderful, but it won’t work. Mentioned competition for student attention. Had already realigned science curriculum for _____ Core.

3. *How have you working with other teachers in your school to adapt your curriculum for CCSS?*

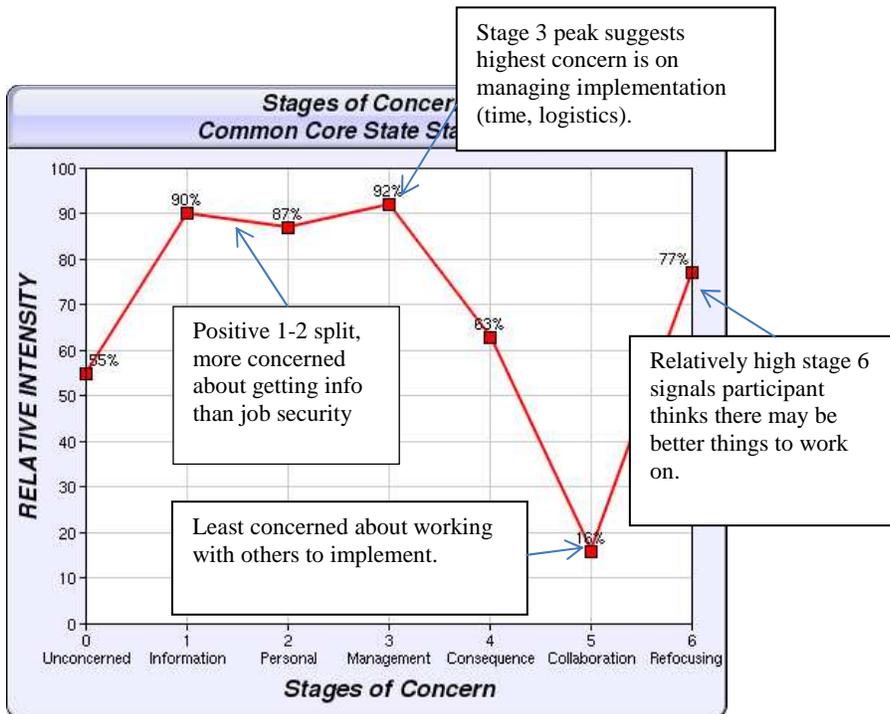
Teachers meet 1x/month for two hours. Try to cover a little CC material. Also, every other month work with teachers in same curricular area. For grades 3-12, science is all mapped out.

4. *How do you think CCSS implementation is progressing in other school districts/states?*

Early in interview said they were ahead of most in the state (in getting info), but here said that the district is one step behind others. Shared anecdote about teacher transferring to a larger school, said that everyone is forced to use the same material and use it the same way, said implementation was too standardized. Transferring teacher was good and creative in classroom, is feeling stifled by the “by the book” implementation. “Is it going to fix our school?” Mentioned pendulum swinging, and Madeline Hunter. Wondered where the money coming from for implementation.

Biggest question: How do I take gung ho kids and move and challenge them, then do justice to the middle group (ok, but not outstanding). In a class of 25, there are 2 outstanding, 13 in the

middle range, and 10 students really struggling. Mentioned student with severe dyslexia who spent 5 out of 6 periods in the teaming center (and not general ed), and was able to graduate with honors along with college bound students. Some parents had problems with that, but noted “I didn’t see it, I wasn’t there.”



Demographics from survey:

- Teach grades 9, 10
- General Education
- Teaching 28 years
- Female
- Formal training on CCSS.

From interview:

- Teach 9-12, teaches science and health
- Taking class this summer on science of drugs
- Nature of training: through AEA, mostly paperwork explaining standards. Some fuzziness.

Appendix G: IRB Approval



APPROVAL OF PROTOCOL

March 12, 2014

Linda McGurn
linda.mcgurn@ku.edu

Dear Linda McGurn:

On 3/12/2014, the IRB reviewed the following submission:

Type of Review:	Modification
Title of Study:	Understanding Teacher Concerns about Common Core State Standards (CCSS) Implementation
Investigator:	Linda McGurn
IRB ID:	STUDY00000609
Funding:	None
Grant ID:	None

The IRB approved the study on 3/12/2014.

1. Any significant change to the protocol requires a modification approval prior to altering the project.
2. Notify HSCL about any new investigators not named in original application. Note that new investigators must take the online tutorial at https://rgs.drupal.ku.edu/human_subjects_compliance_training.
3. Any injury to a subject because of the research procedure must be reported immediately.
4. When signed consent documents are required, the primary investigator must retain the signed consent documents for at least three years past completion of the research activity.

Please note university data security and handling requirements for your project:
<https://documents.ku.edu/policies/IT/DataClassificationandHandlingProceduresGuide.htm>

You must use the final, watermarked version of the consent form, available under the "Documents" tab in eCompliance.

Sincerely,

Stephanie Dyson Elms, MPA
IRB Administrator, KU Lawrence Campus

Appendix H: Urbanicity Codes

(ULOCAL) Urban-centric locale (Phan & Glander, 2007)

The 12 urban-centric locale code categories are defined below.

- 11 = City, Large: Territory inside an urbanized area and inside a principal city with population of 250,000 or more.
- 12 = City, Midsize: Territory inside an urbanized area and inside a principal city with population less than 250,000 and greater than or equal to 100,000.
- 13 = City, Small: Territory inside an urbanized area and inside a principal city with population less than 100,000.
- 21 = Suburb, Large: Territory outside a principal city and inside an urbanized area with population of 250,000 or more. 4
- 22 = Suburb, Midsize: Territory outside a principal city and inside an urbanized area with population less than 250,000 and greater than or equal to 100,000.
- 23 = Suburb, Small: Territory outside a principal city and inside an urbanized area with population less than 100,000.
- 31 = Town, Fringe: Territory inside an urban cluster that is less than or equal to 10 miles from an urbanized area.
- 32 = Town, Distant: Territory inside an urban cluster that is more than 10 miles and less than or equal to 35 miles from an urbanized area.
- 33 = Town, Remote: Territory inside an urban cluster that is more than 35 miles of an urbanized area.

- 41 = Rural, Fringe: Census-defined rural territory that is less than or equal to 5 miles from an urbanized area, as well as rural territory that is less than or equal to 2.5 miles from an urban cluster.
- 42 = Rural, Distant: Census-defined rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster.
- 43 = Rural, Remote: Census-defined rural territory that is more than 25 miles from an urbanized area and is also more than 10 miles from an urban cluster.

Appendix I: Districts Sampled

Numbers in cells represent count of public school teachers in the districts as of 2007-2008

(National Center for Education Statistics, 2013)

DISTRICT TYPE	IOWA	KANSAS	MISSOURI	OREGON	VERMONT
Urban District 1	1108	1219	689	858	319
Urban District 2	866	755	2225	307	212
Suburban District 1	183	470	150	558	178
Suburban District 2	96	311	94	12	144
Suburban District 3	255	147	335	228	78
Suburban District 4	144	1866	975	424	
Suburban District 5		1870	314	178	
Town District 1	106	160	142	247	99
Town District 2	144	64	134	144	58
Town District 3	88	294	99	68	183
Town District 4	91	338	81	261	231
Town District 5	70	86	107	53	122
Town District 6	164	145	228	241	17
Town District 7	61	75	317	311	
Town District 8	88	101	360	41	
Town District 9	149	113	141	151	
Town District 10	84		144	115	
Rural District 1	47	78	52	43	6

DISTRICT TYPE	IOWA	KANSAS	MISSOURI	OREGON	VERMONT
Rural District 2	57	27	56	54	37
Rural District 3	32	63	47	150	82
Rural District 4	40	24	35	1	75
Rural District 5	7	16	23	17	36
Rural District 6	55	24	21	19	41
Rural District 7	45	17	62	9	23
Rural District 8	34	19	97	17	38
Rural District 9	16	41	16	18	20
Rural District 10	37	18	53	12	
Rural District 11		41			
TOTAL	4067	8382	6997	4537	1999

Total teachers, all states: 25982

Appendix J: Statements on Questionnaire by Stage

Adapted from *The Stages of Concern Questionnaire* (George et al., 2006, pp. 27, 28)

ITEM	STATEMENT
Stage 0	
3	I am more concerned about another innovation.
12	I am not concerned about CCSS at this time.
21	I am preoccupied with things other than CCSS.
23	I spend little time thinking about CCSS.
30	Currently, other priorities prevent me from focusing my attention on CCSS.
Stage 1	
6	I have a very limited knowledge of CCSS.
14	I would like to discuss the possibility of using CCSS.
15	I would like to know what resources are available if we decide to adopt CCSS.
26	I would like to know what the use of CCSS will require in the immediate future.
35	I would like to know how CCSS is better than what we have now.
Stage 2	
7	I would like to know the effect of CCSS on my professional status.
13	I would like to know who will make the decisions in the new system.
17	I would like to know how my teaching or administration is supposed to change.
28	I would like to have more information on time and energy commitments required by CCSS.
33	I would like to know how my role will change when I am using CCSS.
Stage 3	
4	I am concerned about not having enough time to organize myself each day.
8	I am concerned about conflict between my interests and my responsibilities.
16	I am concerned about my inability to manage all that the CCSS requires.
25	I am concerned about time spent working with nonacademic problems related to CCSS.
34	Coordination of tasks and people is taking too much of my time.
Stage 4	
1	I am concerned about students' attitudes toward CCSS.
11	I am concerned about how CCSS affects students.
19	I am concerned about evaluating my impact on students.
24	I would like to excite my students about their part in this approach.
32	I would like to use feedback from students to change the program.

Stage 5	
5	I would like to help other faculty in their use of CCSS.
10	I would like to develop working relationships with both our faculty and outside faculty using CCSS.
18	I would like to familiarize other departments or persons with the progress of this new approach.
27	I would like to coordinate my efforts with others to maximize CCSS effects.
29	I would like to know what other faculty are doing in this area.
Stage 6	
2	I now know of some other approaches that might work better
9	I am concerned about revising my use of CCSS.
20	I would like to revise the CCSS approach.
22	I would like to modify our use of CCSS based on the experiences of our students.
31	I would like to determine how to supplement, enhance, or replace CCSS.

Appendix K: Average Raw Scores by Stage, Sub-Group

		Stage 0 Raw	Stage 1 Raw	Stage 2 Raw	Stage 3 Raw	Stage 4 Raw	Stage 5 Raw	Stage 6 Raw
		Mean						
District Urbanicity (N=143)	City&Suburb	14	19	18	15	17	19	13
	Town	13	18	19	18	19	16	16
	Rural	13	18	20	18	19	20	15
State (N=145)	Iowa	14	18	19	16	17	17	14
	Oregon	13	19	21	21	20	17	18
	Vermont	13	15	16	14	17	20	11
	KsMo	12	18	19	16	19	17	16
Primary Role (N=145)	GenEd	13	18	19	18	19	17	15
	SpEd	12	19	17	16	18	15	15
	Admin	15	16	17	17	20	21	15
	Other	14	17	19	14	19	23	14
Training (N=145)	no	15	20	20	17	19	17	15
	yes	12	17	19	18	19	18	15
Gender (N=145)	Male	17	18	20	19	20	18	17
	Female	11	17	19	17	18	18	14
Yrs Teaching (N=145)	1 to 10	14	17	20	18	20	18	15
	11 to 20	12	19	20	17	18	17	16
	> 20	13	17	18	17	18	18	14
Grade Level (N=129)	Elementary	10	17	18	16	18	18	14
	Middle School	13	19	22	20	21	18	17
	High School	17	18	20	18	18	16	15
Total (N=145)		13	18	19	17	19	18	15