EXPLORING TEACHERS' FIDELITY OF IMPLEMENTATION OF GIFTED

LANGUAGE ARTS CURRICULUM

_____

A Dissertation

Presented to

The Faculty of the Curry School of Education

University of Virginia

_____

In Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

_____

by

Melanie Caughey, B.A., Bucknell University, M.S.Ed. Duquesne University

August, 2018

ABSTRACT

Fidelity of implementation (FOI) describes how well the delivery of an intervention follows a protocol or program model as the developers intended. FOI is an emerging area of focus in gifted education, where the primary interventions studied are curriculum units for use in both gifted and general education classrooms. Researchers have identified problems with teachers' ability to implement units with fidelity that need to be addressed for the use of gifted curriculum to become more widespread. Results of the present study indicated that teachers provided usable self-report data on their fidelity of implementation, and that all teachers made adaptations to evidence-based gifted education curriculum by adding, subtracting, and modifying material. An exploration of the relationship between teachers' level of fidelity and the modifications they made indicated that teachers with lower levels of fidelity had more difficulty balancing completion of the curriculum with other obligations.

Key words: gifted education, fidelity of implementation, gifted curriculum, curriculum implementation, replication, rural, place-based curriculum

Melanie Caughey
Curriculum, Instruction, and Special Education
Curry School of Education
University of Virginia
Charlottesville, Virginia

APPROVAL OF THE DISSERTATION

This dissertation, Exploring Teachers' Fidelity of Implementation of Gifted Language Arts Curriculum, has been approved by the Graduate Faculty of the Curry School of Education in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

_____
Carolyn M. Callahan, Advisor/Chair

_____
Christina M. Amspaugh

_____
Walter F. Heinecke

_____
Peter Youngs

_____24 April 2018_____ Date

DEDICATION

This dissertation is dedicated to WTC and PBK, gone but not forgotten, who always remind me to be grateful for what I have and inspire me to try and make a positive difference in the world.

ACKNOWLEDGEMENTS

I would be remiss if I did not acknowledge the following people for all their guidance during my time as a graduate student at the University of Virginia.

Thank you to all the teachers who contributed to this study, particularly for their willingness to take on additional responsibility and respond to my e-mails and questions. It was a privilege to work with all of you.

Thank you to Dr. Carolyn Callahan, for her willingness to take me on as a graduate student and her patience as I learned (and continue to learn) the differences between writing a paper about literature and writing a research paper. I appreciate all your time and expertise, more than I can express.

Thank you to Dr. Amy Azano, for her enthusiasm and dedication to rural education that helped make this dissertation possible. I am grateful to have been a part of this project.

Thank you to my committee—Dr. Christina Amspaugh, Dr. Walt Heinecke, and Dr. Peter Youngs—for agreeing to be a part of this journey. Each of them offered support, time, and perspectives that were invaluable to me.

Thank you to my colleagues, particularly Annalissa Brodersen, Mona Alimin, Sunhee Park, and Svetlana Dmitrieva, for their guidance and encouragement. I am honored to have been in the trenches with you.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

The goal of educational interventions is to facilitate student growth in cognitive, affective, or physical domains. When researchers measure the outcomes of interventions without attention to how well participants implemented the intervention, we do not have a clear picture of why changes may or may not have occurred, the effects of deviations from intended treatment, or what may have affected the deviations. Researchers have established connections between the degree of implementation and student outcomes in both general (e.g., Carroll et al., 2007; Durlak & DuPre, 2008) and gifted education (e.g., Missett & Foster, 2015). Hence, measuring fidelity of implementation in conjunction with examining the reasons for high or low fidelity can provide developers with critical information that they use to ensure greater fidelity, and hopefully, more consistent results in later implementations of the treatment. Currently, scholars (Anderson, 2017; Olszewski-Kubilius & Steenbergen-Hu, 2017) encourage researchers to create studies that focus on why participants make adaptations so that they can fully understand all aspects relating to positive (or negative) change. The goal of my study was to gain insight into teachers' degrees of fidelity and reasons why they make adaptations in the implementation of a language arts curriculum for gifted learners.

1

Fidelity of Implementation

Background

Fidelity of implementation (FOI), also known as treatment fidelity, treatment integrity, or procedural reliability, describes how well the delivery of an intervention follows a protocol or program model as intended by the developers or any researchers who study an intervention (e.g., Harn, Parisi, & Stoolmiller 2013; Moncher & Prinz, 1991; O'Donnell, 2008; Yeaton & Sechrest, 1981). FOI is important in research because lack of treatment integrity is an internal validity threat (Gresham, MacMillan, Beebe-Frankenberger, & Bocian, 2000; Moncher & Prinz, 1991). Internal validity exists when the researchers reduce conditions (i.e., threats to validity) that would affect their ability to draw correct inferences about their data (Creswell, 2013). Providing evidence of treatment fidelity would lessen the threat of incorrect inferences based on the possibility that teachers are not providing instruction as delineated by the intervention protocol.

Researchers in the medical field first conducted FOI research about treatment adherence—whether the treatment occurred or not—and receipt—the dosage of a treatment administered (Harn et al., 2013). The social and behavioral sciences began to consider treatment fidelity in the 1950s, with the earliest research published in education program evaluation in the 1970s (Moncher & Prinz, 1991; O'Donnell, 2008). While it is becoming more common to report fidelity in education studies, just 47% of intervention articles found in general and special education journals with high impact factors between 2005-2009 reported a fidelity score (Swanson, Wanzek, Haring, Ciullo, & McCulley, 2011). My search of major education journals over the course of 10 months from January

2016 to October 2017 documented that 10% of the articles that discuss curriculum also reference fidelity.

Types of FOI in education. Educational researchers have developed a multidimensional concept of FOI. According to Dane and Schneider (1998) and Carroll et al. (2007), there are five dimensions of implementation fidelity that can be measured: (1) adherence—whether or not the intervention was delivered as expected, (2) exposure/dose—the amount of the intervention that was received and whether or not it was received as prescribed, (3) quality of delivery—how the intervention is delivered, (4) participant responsiveness—participants' engagement and outcomes, and (5) program differentiation—identifying the elements that affect the outcome of the intervention. Researchers typically report the five dimensions in terms of structural (also known as surface or content) fidelity and process fidelity (e.g., Gersten et al., 2005; Mowbray, Holter, Teague, & Bybee, 2003; Odom, 2009; O'Donnell, 2008; Power et al., 2005). Both types of fidelity information are often collected through researcher observation or teacher self-report (Harn et al., 2013).

Structural FOI consists of the objective components of the intervention, such as time spent on the intervention and completion of tasks. Researchers measure this type of FOI using the dimensions of adherence and exposure (e.g., Durlak & DuPre, 2008; Mowbray et al., 2003; O'Donnell, 2008). Observers and/or implementers typically gather data on structural FOI using a rubric that includes the essential components of the intervention. Rubrics help researchers clearly document whether the participants implemented the components at all, if the components were implemented as expected,

and how many days and/or hours it took to implement them (Harn et al., 2013; Power et al., 2005).

Process FOI focuses on the more subjective aspects of fidelity, such as quality of delivery of intervention, student engagement through teacher-student interactions during the intervention (Justice, Mashburn, Hamre, & Pianta, 2008; O'Donnell, 2008), individualization, and emotional climate (Mowbray et al., 2003). Process FOI may be assessed by observers using rubrics to provide ratings on components like lesson flow, preparation (e.g., materials are ready, teachers use the materials, and instructional language provided), teachers' responses to students (Durlak, 2010; Kaderavek & Justice, 2010), rating of student engagement, accuracy of response, and behavioral redirections (Durlak & DuPre 2008; Power et al., 2005). While it is more difficult to establish process FOI measurement reliability compared to structural, some researchers believe that process FOI elements are potentially more relevant to outcomes (Gersten et al., 2005; Justice et al., 2008; Mowbray et al., 2003).

Rather than exploring each dimension separately, Carroll et al. (2007) advocate for a conceptual framework that explores each element as well as the relationships of the elements to one another. Researchers may combine structural and process as well. For example, Century, Rudnik, and Freeman's (2010) framework makes a case for adherence being an overall category that encompasses both structural and process fidelity. However, most researchers choose to report one or two dimensions of FOI (Durlak & DuPre, 2008).

Factors Affecting FOI and Successful Program/Curricular Intervention

There are varying theories and empirical findings about which factors affect fidelity. For example, Anagnostopoulos, Sykes, McCrory, Cannata, & Frank (2010)

identified factors related to the social and cultural context of schools in their study of how stakeholders implement new instructional programs. Other researchers (e.g., Andrews & Lemons, 2015; Balfanz, Mac Iver, & Byrnes, 2006; Botvin et al., 1992; Johnson, Kraft, & Papay, 2011) have documented a range of organizational characteristics that influence how teachers make instructional decisions. These include amount of support; school culture, morale, and/or norms; scheduling and timing; and class size. These are structural factors because they focus on the procedural and educative aspects of implementation (Century et al., 2010).

Factors related to instruction and process focus on quality of delivery and student engagement (Century et al., 2010). Researchers (e.g., Andrews & Lemons, 2015; Davidson, Fields, & Yang, 2009) have documented both positive and negative factors related to whether teachers will implement an innovation appropriately. The category of factors positively influencing fidelity includes dissatisfaction with current practices, buy-in to the new intervention, and positive beliefs. The category of factors negatively influencing fidelity includes unwillingness to change, satisfaction with current practice, and negative beliefs.

Implementers may make adaptations that affect fidelity in response to these factors, which is why authors of reviews on fidelity suggest regular evaluation of FOI (Durlak, 2010; Gresham et al., 2000; Mowbray et al., 2003). Some researchers (e.g., Anderson, 2017; Harn et al., 2013; Skolits & Richards, 2010) believe that adaptations may be more important to positive outcomes than strict fidelity, if the "active ingredients" of the practice are still there despite the modifications (Harn et al., 2013). Studies by McHugo et al. (2007) and Simmons et al. (2007) include evidence that lower FOI can

still lead to positive student outcomes if the adaptations fit the context of the school. Implementers who make adaptations are more likely to sustain the practice (Swain, Whitley, McHugo, & Drake 2010; Webster-Stratton, Reinke, Herman, & Newcomer, 2011). Therefore, adaptation to interventions may not only be complementary to practice, but necessary for an evidence-based program to work (Webster-Stratton et al., 2011). Theoretically, cultural framework and/or culturally informed theory should guide the changes (Castro, Barrera, & Martínez, 2004). Evidence indicates the changes need to be flexible and collaborative (Webster-Stratton et al., 2011) to ensure that developers are blending research and practice effectively and appropriately.

FOI in Gifted Education

Researchers in gifted education (Azano et al., 2011; VanTassel-Baska, Avery, Little, & Hughes, 2000) have provided evidence of positive outcomes for a variety of curricular interventions, identified a relationship between positive implementation of treatment and outcomes, and recognized issues with teachers' ability to implement units with fidelity. For example, in studies of the CLEAR Curriculum Model, researchers found that the implementation of the CLEAR curriculum units led to improvements in student outcomes in language arts and they reported a correlation between positive student outcomes and the FOI ratings of the teachers (Azano et al., 2011). In further reports on this model, researchers identified factors that affected fidelity, which are similar to factors noted by the general and special education researchers. These factors include the teachers' beliefs (Azano et al., 2011; Missett, Brunner, Callahan, Moon, & Azano, 2014), the teachers' comfort level with the curriculum (Azano et al., 2011), and the community/school context (Azano, Callahan, Missett, & Brunner, 2014). Olszewski-

Kubilius and Steenbergen-Hu (2017) recently advocated for more of this type of research to ensure a better understanding of the adaptations that teachers make to evidence-based gifted education curriculum. They believe that studying these differences systematically will allow the field to improve the "understand[ing of] the essential components of a successful intervention" (p. 6).

The research discussed in Chapter 2 from the fields of general, special, and gifted education suggests a need for rigorous studies of FOI in education to ensure that schools can provide the best evidence-based practices. While researchers have identified some factors that lead teachers to make positive adaptations, more evidence would help to solidify understandings of factors that affect fidelity and the impact of modifying those factors on increasing fidelity. There is also a dearth of evidence about whether curriculum modified to address some of these factors that result in lowered FOI can lead to higher FOI. To address these issues, I examined teachers' implementation of innovative language arts curriculum units in elementary school classrooms.

Study Context

In Promoting PLACE (Place, Literacy, Achievement, Community, and Engagement) in Rural Schools, third and fourth grade elementary school classrooms implement versions of the previously studied CLEAR curriculum units. The developers adapted the curriculum for rural learners and tailored content to the specific nature of each unique school community. The research team allowed for flexible elements in the overall project, such as in choice of service delivery model (e.g., pull-out classroom or cluster grouping) so that school division personnel had the ability to select the setting for curriculum implementation (nearly always within the existing gifted programming

model). The project staff provided each division with individualized support, communicating with and assisting the administrators, gifted coordinators, and teachers with the units as needed. The staff adapted the training offered on how to use the curriculum for each division, with the core components of the CLEAR curriculum remaining a consistent element. Teachers had the option of making changes that they felt were justifiable, but they were cautioned about making large changes and they were asked to document all modifications they made by reporting those changes on fidelity logs.

My study explored modifications made by teachers in the implementation of this research-based gifted education curriculum, focusing on the factors that affected FOI.

Research Questions

1. With what degree of fidelity (high/moderate/low) do teachers implement the place-based CLEAR curriculum units?

2. How are teachers adapting the place-based curriculum? Why do they make these adaptations? How are their adaptations related to factors that have been identified in prior literature as affecting fidelity of implementation?

3. When teachers are grouped by high, moderate, or low fidelity, do common or differential themes emerge about how and why adaptations are made?

CHAPTER 2

REVIEW OF THE LITERATURE

To gain insight into how and why teachers exhibit different degrees of fidelity to a

curriculum for gifted learners and make adaptations in the implementation of a language

arts curriculum, it is important to review the literature on fidelity. This review addresses a

brief history of fidelity research in education, the different types of fidelity researched, a

useful framework for studying fidelity, the ways researchers measure fidelity, the degrees

of fidelity discussed by researchers, the factors that affect fidelity, the fidelity-adaptation

debate, and the research on fidelity that is specific to gifted education.

Historical Overview of Fidelity of Implementation

Definition

Fidelity of implementation (FOI) is also known as treatment fidelity, treatment

integrity, or procedural reliability. It is a determination of whether an intervention was

conducted as the developers intended (e.g., Moncher & Prinz, 1991; Mowbray et al.,

2003; O'Donnell, 2008; Yeaton & Sechrest, 1981). Intervention, program, and innovation

are terms used in the literature interchangeably, depending on the field in which the

researchers conducted the study. For the sake of consistency, this chapter will use the

term *intervention*.

Importance of FOI

FOI provides evidence of whether teachers can implement an intervention with a

high level of consistency (Skolits & Richards, 2010). When high FOI is achieved there

will be less random/unintended variability, which improves statistical power (Bellg et al., 2004). Low fidelity of implementation is an internal validity threat (Dumas, Lynch, Laughlin, Smith, & Prinz, 2001; Gresham et al., 2000; Moncher & Prinz, 1991; Sanchez et al., 2007). Internal validity exists when the researchers reduce factors that would affect their ability to draw correct inferences about their data (Creswell, 2013). Internal validity is also necessary so researchers can relate the change in outcomes to the intervention (Skolits & Richards, 2010). Providing evidence that there is high treatment fidelity would lessen the threat of incorrect inferences based on the possibility that teachers are not providing instruction according to treatment protocol.

Skolits and Richards (2010) suggested that fidelity information is challenging because researchers cannot control what happens in school settings. However, studies that lack fidelity data are problematic because researchers may misinterpret their outcomes. For example, Botvin, Baker, Filazzola, and Botvin (1990) assumed that teachers must have implemented more of the cognitive portion of the program than the skills because student outcomes were stronger in the cognitive sections of their outcome measure. The researchers also attributed issues with implementation to the fact that the schools assigned teachers, as they felt teachers who chose to partake in the program might be more enthusiastic (Botvin et al., 1990). However, these were ideas unsubstantiated by data from the field reports. Including information about FOI is important for researchers who want to disseminate research findings accurately and effectively (Bellg et al., 2004).

Background on FOI Studies

Education journals published the first studies discussing FOI in the late 1970s (Berman & McLaughlin, 1976; Hall & Loucks, 1977, 1978). In 1981, Yeaton and

Sechrist authored a seminal literature review on FOI. They reported that few studies

offered any kind of detail on whether the interventions were properly implemented.

While there were increases throughout the 1980s in fidelity reporting, 55% of articles still

ignored the issue (Moncher & Prinz, 1991). Researchers were often very descriptive

about what they did to implement training but were not as clear about making sure the

staff implemented the intervention as planned (Wiese, 1992).

Education research is moving in a positive direction, as policymakers and high-

impact factor journals now expect to see information on FOI included in the reports of

educational research (Missett & Foster, 2015; O'Donnell, 2008; Swanson et al., 2011).

Still, the transition to gathering fidelity data in education research has been slow

(O'Donnell, 2008). Swanson et al. (2011) found that while 67% of articles reported

fidelity, only 9.8% had data on the quality of the treatment intervention and less than half

reported reliability information. Inconsistent and incomplete reporting are reasons why

researchers continue to advocate for inclusion of clear FOI data in educational research

reports (e.g., Carroll et al., 2007; Missett & Foster, 2015; Swanson et al., 2011).

Essential Components Necessary to Study FOI

FOI studies in education typically focus on a curriculum intervention or

educational program that is meant to improve student performance or achievement in a

specific area. The developers must ensure they designed the intervention well before they

can study FOI. First, developers must establish the core components of the intervention

(O'Donnell, 2008). These core components should be based on theoretical and evidence-

based practices in the field they are studying (Felner, Philips, Dubois, & Lease, 1991;

O'Donnell, 2008). Additional aspects that researchers need to standardize before

implementation and study of FOI can begin are training (Bellg et al., 2004; Gearing et al., 2011; Hennessey & Rumrill, 2003; O'Donnell, 2008), the intervention itself, and the development of instruments to measure fidelity (Gearing et al., 2011; O'Donnell, 2008; Skolits & Richards, 2010). Then, the developers must ensure there is a fit between the intervention and the outcomes they use so there can be a clear conclusion about whether the intervention was effective and about the impact of fidelity on effectiveness (Felner et al., 1991; O'Donnell, 2008; Valentine & Cooper, 2008).

Types of FOI

Researchers agree that there are two main types of fidelity: structural and process (e.g., Gersten et al., 2005; Odom, 2009; O'Donnell, 2008). Researchers describe structural fidelity as the technical elements of the intervention. Structural fidelity can be measured quantitatively. It consists of the objective components of the intervention, such as time spent on the intervention and completion of tasks (Harn et al., 2013; Power et al., 2005). Process fidelity is about how participants deliver the elements of the intervention. Process fidelity can be measured quantitatively or qualitatively. It focuses on the more subjective aspects of fidelity, such as quality, engagement, individualization, and emotional climate (O'Donnell, 2008).

Researchers commonly refer to the five different dimensions of FOI reported by Dane and Schneider (1998): participant responsiveness, quality of delivery, program differentiation, exposure, and adherence. These dimensions incorporate the ideas of Yeaton and Sechrest (1981) and Flay (1986), who each reported three dimensions. Subsequent work by Ruiz-Primo (2006) and Carroll et al. (2007) furthered the discussion of five dimensions. Researchers (e.g., Justice et al., 2008; Lynch & O'Donnell, 2005;

O'Donnell, 2008) reported participant responsiveness and quality of delivery as process dimensions and program differentiation, exposure, and adherence as structural dimensions. Researchers often pick and choose which of the five dimensions they use to analyze fidelity, rather than exploring all of them.

Process Dimensions

  Participant responsiveness. Participant responsiveness is defined as how the participants interact with the intervention materials, shown through participants' engagement and outcomes (Carroll et al., 2007; Dane & Schneider, 1998; Gresham, Gansle, Noell, Cohen, & Rosenblum, 1993). It may be studied in terms of student outcomes as in Al Otaiba and Fuchs (2006), who considered a student to be responsive if his or her oral reading fluency was at or above the mean fluency of the intervention group. They connected a lack of participant responsiveness to lower fidelity of implementation in a K-1 intervention (Al Otaiba & Fuchs, 2006). Lynch and O'Donnell (2005) chose to embed items in their observation protocol to provide evidence of interaction, which focused on ensuring that students were involved in the unit in the manner intended by the developers. While most curriculum or intervention developers discuss how the students respond to the units they created in some capacity, they do not specifically report data on this dimension.

  Quality of delivery. Quality of delivery, which is about how well the participants implement the intervention, is more commonly reported (Carroll et al., 2007; Dane & Schneider, 1998; Gresham et al., 1993). Other terms used to describe quality of delivery are competence (Power et al., 2005; Waltz et al., 1993; Webster-Stratton et al., 2011), quality of instruction (O'Donnell, 2008), and quality of curriculum enactment (Ruiz-

13

Primo, 2006). Webster-Stratton et al. (2011) suggested researchers measure quality of delivery by looking at the implementers' level of skill in using the methods, processes, and principles of the intervention. Waltz et al. (1993) suggested measuring whether appropriate responses are based on context. In curriculum research, quality of delivery reflects a teacher's skill in implementing a unit. Lynch and O'Donnell (2005) recommend that researchers examine whether the teachers' theoretical and pedagogical ideas are consistent with the way the unit is written. Researchers may also consider how a teacher's skill, enthusiasm, preparedness, and attitude are evident in implementation (Lynch & O'Donnell, 2005).

There are mixed and limited findings of the impact of quality of delivery on outcomes. Lee, Penfield, and Maerten-Rivera (2009) did not find any significant effect on science achievement gains. Andrews, Leonard, Colgrove, and Kalinowski (2011) and Linton, Farmer, and Peterson (2014) found that when teachers properly used active learning techniques to deliver science curriculum, students exhibited achievement gains.

Structural Dimensions

Program differentiation. Researchers have different definitions of program differentiation, also called treatment differentiation (Power et al., 2005; Webster-Stratton et al., 2011) or curriculum differentiation (Ruiz-Primo, 2006). In the 1990s, the definition focused on how many essential components participants implemented, as well as ensuring that they excluded other components (Dane & Schneider, 1998; Gresham et al., 1993). Carroll et al. (2007) re-conceptualized program differentiation to explain how researchers identify the elements that affect the outcome of the intervention. Ruiz-Primo (2006) and Durlak and DuPre (2008) defined the term as what makes an intervention

different from typical practice. Webster-Stratton et al. (2011) used the term to measure implementation specifically in regards to the population for whom the intervention was designed. The commonality between these definitions of program differentiation is that they all require clarity about the central components of the intervention. Developers typically discuss this dimension when explaining the core components since program differentiation is part of how developers create measures to determine how well a program is implemented. However, researchers have not reported a direct link between this dimension and specific student outcomes.

Exposure. Exposure, also referred to as dosage, is the amount of the intervention that was delivered and whether it was delivered as prescribed (Carroll et al., 2007; Dane & Schneider, 1998). Researchers may document this by detailing the number, length, and/or frequency of lessons and/or program elements (Dane & Schneider, 1998; Gresham et al., 1993). Carroll et al. (2007) added a component to exposure they termed *coverage*, which would measure the degree to which everyone who should be benefiting from the program is benefiting. Another aspect of exposure that some studies consider is participant absences, as students' exclusion from parts of the intervention may affect the outcome of the study (Dane & Schneider, 1998; Felner et al., 1994).

Researchers have made connections between exposure and positive outcomes in their research. Exposure had a larger correlation with the results than adherence or modification in a study by Pentz et al. (1990), leading them to conclude that the amount of implementation had a significant effect on changing adolescent behavior. Similarly, a school-based pregnancy prevention program was more effective with younger students when teachers dedicated more time to the program in class (Allen, Philliber, & Hoggson,

1990). Prevention researchers (e.g., Botvin et al., 1990) have also documented that higher levels of attendance in a treatment program is associated with greater gains, though these studies are not the same as curriculum-based interventions. These data suggest the importance of gathering information about student presence/participation during delivery of instruction when assessing impact of curriculum interventions.

Adherence. The final dimension, adherence, is discussed more frequently in the literature than other dimensions of FOI. There are a variety of definitions that overlap with the definitions for exposure and overall FOI (O'Donnell, 2008). The definitions that overlap with exposure focus on the extent of implementation of the developers' objectives (Dane & Schneider, 1998; Gresham et al., 1993) or delivery and dosage of the intervention in sequence (Webster-Stratton et al., 2011). The definitions that correspond with descriptions of overall FOI reflect attention to whether participants complete the treatment elements as prescribed by the developer (Waltz et al., 1993) and whether the intervention was delivered as expected (Carroll et al., 2007; Dane & Schneider, 1998). O'Donnell (2008) suggests that adherence is not actually a separate dimension because it is the same as overall FOI. The relationship between adherence and outcomes is discussed further in the section on degrees of fidelity.

Using the FOI Dimensions

Not all studies of FOI look at both structural and process elements. Rather than having studies that focus on one dimension, researchers now encourage a multidimensional investigation of FOI to capture fidelity appropriately (Carroll et al., 2007; Durkak, 2010; O'Donnell, 2008; Ruiz-Primo, 2006). Multidimensional frameworks are designed explore each element of FOI and their relationships to one another (Carroll

16

et al., 2007). For example, researchers would measure quality of delivery discretely, but discuss it as a moderator between the intervention and fidelity (Carroll et al., 2007). Ruiz-Primo (2006) created a matrix-like framework of the five dimensions and structure/process elements. Nelson, Cordray, Hulleman, Darrow, and Summer (2012) suggested having intervention components and mediators as separate fidelity measures. Regardless of the methodology and definitions, understanding how the dimensions work together can lead to better understanding of implementation. For example, in their study of a home-based pre-reading intervention, van Otterloo, van der Leij, and Veldkamp (2006) found that parents averaged 66% adherence and 74% quality of administration. However, their research showed that the variables worked better together, as adherence and quality accounted for 43% of the variance in pre-reading skills at the end of kindergarten. When combined with pre-test data, adherence and quality predicted 87% of the total variance in students' reading scores. Therefore, looking at how the dimensions overlap and combine is an important consideration for researchers.

While researchers reference Carroll et al.'s (2007) framework the most, Century et al. (2010) created an FOI framework for curriculum interventions where they address the problems with overlap and discuss how the five dimensions interact. For example, Century et al. (2010) follow O'Donnell's (2008) suggestion and describe adherence as overall fidelity. The researchers also describe program differentiation as an overarching component, defining it as how an intervention develops before, during, and after implementation depending on feedback and outcomes.

In Century et al.'s (2010) framework, structural fidelity describes the developers' intentions about the intervention's design, organization, and instructional materials. They

17

classify the dimensions as procedural or educative. Procedural fidelity incorporates the dimension of exposure, as it is about the steps of the procedure and the ways the intervention is organized. Educative fidelity brings more attention to the training teachers receive to implement the intervention. Training is often discussed as having a potential influence on outcomes, particularly in the gifted literature (e.g., Gavin, Casa, Adelson, Carroll, & Sheffield, 2009; Reis et al., 2007).

Process fidelity becomes instructional fidelity, creating a stronger connection to a teachers' practice by connecting fidelity to the developers' intentions about teachers and students. To capture this association while acknowledging the historical use of process, I used the term *instructional-process fidelity*. Instructional-process fidelity classifies the dimensions as pedagogical or student engagement. Pedagogical fidelity includes quality of delivery, focusing on the teachers' actions, behaviors, and interactions with students and how this fits with what the developers expect to see in the intervention. Student engagement fidelity includes participant responsiveness as it encompasses whether the students engage with the intervention as expected.

In Century et al.'s (2010) framework, adherence captures both structural and instructional-process fidelity by looking at how the developers' intentions match the teachers' instruction. By reconceiving program differentiation as the development of an intervention over time, the adaptations teachers make are a natural part of the discussion of FOI. This framework arguably creates a stronger way for researchers to discuss FOI.

FOI Measurement

As discussed previously, when there is no fidelity data, researchers may make claims about their outcomes that are not valid (e.g., Botvin et al., 1990). Collecting

information to measure fidelity is necessary so developers can make clear, defensible claims about how their interventions work. Researchers may collect this information differently, depending on whether they intend to report structural or instructional-process fidelity data.

Structural Fidelity Data

Structural fidelity data is reflective of the essential components of the intervention so that researchers can clearly document whether the components were implemented at all, if the components were implemented as expected, and how long it took to implement them (Harn et al., 2013; Power et al., 2005). While there have been efforts to create universal FOI protocols (Hall & Loucks, 1977; Valentine & Cooper, 2008), most researchers use instruments that are specific to their projects (e.g., Benner, Nelson, Stage, & Ralston, 2014; Forgatch, Patterson, & DeGarmo, 2005; Kutash, Duchnowski, Sumi, Rudo, & Harris, 2002).

Instructional-Process Fidelity Data

Instructional-process fidelity data includes information like degree of lesson flow; how the materials are prepared; the degree to which teachers use the materials and instructional language provided; and teachers' responses to students (Durlak, 2010; Kaderavek & Justice, 2010), as well as ratings of student engagement; accuracy of teachers' responses; and behavioral redirections (Durlak & DuPre 2008; Power et al., 2005). While it is more difficult to establish instructional-process FOI measurement reliability than it is to establish reliability of measures of structural FOI, researchers suggest that instructional-process FOI elements are potentially more relevant to outcomes (Gersten et al., 2005; Justice et al., 2008; Mowbray et al., 2003). As with structural

fidelity, the instruments used to gather instructional-process information are typically specific to the projects' goals and outcomes (e.g., Al Otaiba & Fuchs, 2006).

Data Collection

Because of the variation in instruments, it is important for researchers to document the way they gather their information. The consensus is that observation data directly gathered by researchers is best (e.g., Century et al., 2010; Dane & Schneider, 1998; Smith, Dunic, & Taylor, 2007). Studies have also included teacher self-report (Foster, 2011; Fuchs, Fuchs, & Karns, 2001; Lee et al., 2009; Pentz et al., 1990) or student reports (Lastica & O'Donnell, 2007). The following section discusses the advantages and limitations for each approach.

Researcher observation. Researcher observation is the preferred data collection method, as it leads to the best internal validity (e.g., Century et al., 2010; Dane & Schneider, 1998; Smith et al., 2007). Typically, either the developers of the intervention or trained observers collect the data using a rubric, along with written field notes. Interviews can also help researchers understand how teachers implemented an intervention (Azano et al., 2011; Lastica & O'Donnell, 2007). Regularly scheduled evaluation of implementation is suggested to capture the participants' actual practices (e.g., Odom et al., 2010; van Otterloo et al., 2006; Zvoch, 2009). However, researchers are often limited in their ability to observe by time and resources (Skolits & Richards, 2010). These restrictions mean that the discussion of fidelity is usually based on an assessment of a portion of the overall intervention. O'Donnell (2008) suggests that the portion observed should clearly relate to the critical components and processes.

Teacher self-report. The teacher's perspective is best captured through self-report data completed immediately after every lesson, either in the form of surveys (Fagen, Crouch, & Mazur, 2002; Penuel & Means, 2004), questionnaires (Fuchs et al., 2001), checklists (Webster-Stratton et al., 2011), or researcher-created logs (Foster, 2011). Adding teacher self-report data can help to provide a more complete picture of FOI, but social desirability bias, which exists when there is evidence that teachers are reporting that they have more fidelity to the model than they actually do, is a major concern (e.g., Dane & Schneider, 1998; Ebert-May et al., 2011; Leithwood & Montgomery, 1980). The potential gap between actual and reported practices has led to researchers' concerns about teachers reporting fidelity to a model. Foster (2011) found that while researchers and teachers who completed fidelity logs were not in agreement on how the teacher implements every individual component of an intervention, the overall scores on the logs were within five percent of those of the researcher. This result indicates that teacher self-report may be a more viable alternative to researcher observation than previously believed (Foster, 2011).

Multiple methods. Many researchers use both researcher observation and teacher self-report to create a clearer picture of what is happening in the classroom (Fuchs et al., 2001; Foster, 2011; Pentz et al., 1990; Webster-Stratton et al., 2011). Questionnaires (Fuchs et al., 2001), checklists (Webster-Stratton et al., 2011), interviews (Azano et al., 2011; Davidson et al., 2009; Foster, 2011), and researcher-created logs (Foster, 2011; Kutash et al., 2002) are different forms of teacher self-report data gathered to support the researcher-observation data. When teacher self-reports are the primary source of information, research staff's reports or observations are used to validate them (Pentz et

al., 1990). Researchers have reported multiple methods with a single composite statistic (Odom et al., 2010) or a matrix (Valentine & Cooper, 2008).

Reporting FOI

While almost all studies of FOI in curriculum interventions include observations, FOI can be determined both qualitatively and quantitatively. Quantitative approaches are more common, with researchers often reporting FOI as a percentage (e.g., Davidson et al., 2009; Justice et al., 2008; Zvoch, 2009). Another common reporting method is a number that corresponds with a researcher-created scale or rating system (e.g., Forgatch et al., 2005; LaChausse, Clark, & Chapple, 2014; Zvoch, Letourneau, & Parker, 2007). Researchers who determine fidelity qualitatively place the implementers into groups based on their judgments of the implementers' performance (e.g., Azano et al., 2011; Fagen et al., 2002; McHugo et al., 2007). The placements created by the researchers reflect the researchers' overall perceptions of teachers' degree of fidelity.

<center>**Degrees of Fidelity**</center>

The degree of fidelity can have an important influence on outcomes (Botvin, Dusenbury, Baker, James-Ortiz, & Kerner, 1989; Davidson et al., 2009). Researchers often hypothesize that teachers with higher levels of fidelity will have better student outcomes (e.g., Chen, 2005). There is some evidence that teachers with higher percentages of fidelity may not make modifications that would better suit the needs and abilities of students (Skolits & Richards 2010). Other researchers believe that focusing on adherence can compromise the intentions of the intervention (Leventhal & Friedman, 2004). Most studies report a relationship between high FOI and improved student outcomes (e.g., Balfanz et al., 2006; Callahan, Moon, Oh, Azano, & Hailey, 2014;

<center>22</center>

Forgatch et al., 2005; Kovaleski, Gickling, Morrow, & Swank, 1999; Ysseldyke et al.,
2003).

There is also varying research evidence about moderate fidelity. As with high
fidelity, there are studies that associate moderate levels of fidelity with improvement
(Balfanz et al., 2006; Fuchs et al., 2001; Skolits & Richards, 2010). Skolits and Richards
(2010) reported that their moderate fidelity group had the highest effect size, leading
them to call 70-79% fidelity an optimal range. In other studies, researchers reported that
students of implementers with higher levels of FOI had students with the best results, but
the students of implementers with moderate fidelity still outperformed the control group
(Balfanz et al., 2006; Fuchs et al., 2001). Additionally, other researchers found that
students of moderate or partial implementation teachers achieved similar results to the
students in control classrooms (Ysseldyke et al., 2003). While the findings are mixed, it is
important to note that lower is not the same as low fidelity, which has not produced the
intended results (Al Otaiba & Fuchs, 2006; Kovaleski et al., 1999; LaChausse et al.,
2014; Pentz et al., 1990).

Researchers may also report mixed findings on degree of fidelity. Zvoch et al.
(2007) reported that degree of fidelity was not associated with student growth because the
highest and lowest rates of literacy growth were in low implementing sites (Zvoch et al.,
2007). Justice et al. (2008) found that teachers can have high structural fidelity but low
process fidelity. Most of the teachers adhered to guidelines and lesson plans but scored
low on measures of language modeling and literacy focus. These findings led the
researchers to conclude that instructional quality in language and literacy is dissociated
from adherence to a model (Justice et al., 2008). Contrasting findings like those presented

by Zvoch et al. (2007) and Justice et al. (2008) show the need for more descriptive findings in research. The description would provide a better idea of what is happening in the classroom that would help researchers make sense of such disparate information.

One potential reason for the varied findings is that there are no explicit guidelines on what "good fidelity" is (Smith et al., 2007; Vaughn et al., 2007). Dane and Schneider (1998) claimed this led to "arbitrary categorizations." For example, Pentz et al. (1990) created high and low fidelity groups by looking at the median scores while Forgatch et al. (2005) created a scale with three levels of ratings: 1-3 points was low/needs work, 4-6 points was medium/acceptable, and 7-9 points was high/good work. As with reporting and framework, a unique way of grouping exists for each study on FOI. Researchers must justify their approach by showing how the criteria are necessary to show appropriate fidelity to the model (Foster, 2011).

Factors that Affect FOI

Researchers have identified many factors that affect fidelity of implementation. Stein et al. (2008) described how program characteristics and setting had an impact on FOI. According to Stein et al. (2008), distinct program characteristics included in the treatment condition and the setting, comprised of school/organizational characteristics and teacher/classroom characteristics, contribute to fidelity. Student characteristics are not believed to contribute to FOI, but both student characteristics and FOI contribute to student achievement. In terms of the FOI framework from Century et al. (2010), the structural factors are related to school context, while the instructional-process factors are related to the teacher.

Structural Factors

Developers should have knowledge of the social and cultural context of schools when attempting to understand how stakeholders make decisions about or changes to instruction (Anagnostopoulos et al., 2010). Organizational characteristics that influence how teachers make instructional decisions and implementation of curriculum found in research include amount of support; school culture, morale, and/or norms; scheduling and timing; and class size.

Amount of support. Researchers suggests that, for teachers to change their instruction and implement an intervention, they need the support of the administration (e.g., Andrews & Lemons, 2015; Datnow, Hubbard, & Mehan, 2002; Stains & Vickrey, 2017). Strong leadership is a social condition that teachers associate with improved student outcomes (Johnson et al., 2011), while changes in principals or upper administration are associated with problems in schoolwide reform (Balfanz et al., 2006; Datnow et al., 2002). Teachers who take on a leadership role can help to disseminate a strategy throughout a school (Datnow et al., 2002; Webster-Stratton et al., 2011). Researchers identified the importance of having both administration and teachers willing and able to adopt a new intervention (Dusenbury, Branningan, Falco, & Hansen, 2003) and view the intervention as a priority (Andrews & Lemons, 2015; Datnow et al., 2002; Peterson et al., 2013). Researchers provide evidence that ensuring appropriate financial support, such as necessary materials, is also crucial (e.g., Botvin et al., 1992; Andrews & Lemons, 2015; Peterson, et al., 2013). Lastly, administrators must also be willing to provide appropriate staff (Balfanz et al., 2006) and/or the time for training sessions

(Andrews & Lemons, 2015; Botvin et al., 1992; Peterson et al., 2013; Webster-Stratton et al., 2011) to ensure teachers implement the curriculum properly.

School culture, morale, and/or norms. In Durlak's (2010) review of fidelity literature, he concluded that in addition to support, a good fit between the school community and the program contributes to high FOI. In their study of teachers' working conditions Johnson et al. (2011) identified school culture and relationships with colleagues as two important social conditions affecting implementation. Researchers (Botvin et al., 1992) consider low teacher morale a barrier to high implementation fidelity, while an encouraging environment can make it easier for the staff to share the vision of the intervention and incorporate changes (Andrews & Lemons, 2015; Datnow et al., 2002). The social organization of a department can affect teachers' willingness to make changes (Anagnostopoulos & Rutledge, 2007; Andrews & Lemons, 2015; Datnow et al., 2002). In addition, Durlak and DuPre (2008) stated in a literature review that shared decision making with the community, including collaboration and local input as appropriate, can enhance implementation. Datnow et al.'s (2002) research supports the need to understand local context, as they found that socio-political factors interacted with cultural beliefs and practices to reshape the reforms the researchers were trying to implement.

Scheduling and timing. Local circumstances affect teachers' ability to implement a curriculum intervention. For example, schedules affect the amount of time teachers can spend with an intervention. Researchers (e.g., Borrego, Cutler, Prince, Henderson, & Froyd, 2013; Lynch & O'Donnell, 2005; Pentz et al., 1990) found teachers felt timing was a major reason they made changes or stopped implementing a curriculum

altogether. Teachers also are influenced by other mandatory requirements, such as state testing, which take precedent in determining how classroom time is allocated. These other requirements may make it difficult to schedule interventions fully (e.g., Andrews & Lemons, 2015; Botvin et al., 1992; Penuel & Means, 2004). For example, Balfanz et al. (2006) reported difficulties with implementation when schools focused on getting organized in September, testing during April, and "winding down" in June.

Class size. Researchers cannot control the last structural factor to consider, which is class size. Teachers reported in surveys that the number of students and the layout of a classroom could influence how they adopt evidence-based practices (Lund & Stains, 2015; Stains & Vickrey, 2017). Larger class sizes also make it more difficult to manage a classroom (Botvin et al., 1992), which may be why larger class sizes have been associated with lower adherence (Zvoch, 2009).

Instructional-Process Factors

Instructional-process factors are primarily related to teachers and how their beliefs and attitudes have an important relationship with the likelihood that they will implement a practice (Dusenbury et al., 2003; Stein et al., 2008). These factors can be viewed as positive or negative, depending on whether they help or impede a teacher's ability to implement an intervention.

Positive teacher factors. Researchers report that teachers who are likely to implement an intervention are dissatisfied with current practices, buy-in to new interventions, and believe their students will succeed if they use the intervention (e.g., Andrews & Lemons, 2015; Datnow et al., 2002).

Dissatisfaction with current practices. Dissatisfaction describes when teachers are unhappy with their current practices (Rogers, 2003). Teachers who are interested in changing are more likely to adjust their practice (Lund & Stains, 2015). Specifically, teachers who dislike lectures are more likely to make a change to a more student-centered teaching approach (Andrews & Lemons, 2015; Stains & Vickrey, 2017). Andrews and Lemons (2015) also noted that teachers who were willing to fail were also more likely to implement a new teaching method. The evidence suggests that teachers who want to make a change are more likely to implement a practice with fidelity.

Buy-in. Teachers' positive beliefs about an intervention also can lead to higher FOI. Researchers who surveyed teachers found that when the teachers have personal or research-based evidence that the new intervention is effective they are more likely to make changes (Andrews & Lemons, 2015; Datnow et al., 2002; Stains & Vickrey, 2017). Personal reasons may be more important than the research—teachers must believe the program is worthwhile and have a sense of ownership (Andrews & Lemons, 2015; Datnow et al., 2002; LaChausse et al., 2014). Teachers who were willing to integrate all elements of a math curriculum intervention into their classrooms had consistent and significant achievement gains for students (Ysseldyke et al., 2003). Davidson et al. (2009) observed that high fidelity teachers were more enthusiastic about the curriculum as well. Datnow et al. (2002) reported that, even if there was resistance, schools could sustain curriculum reform if there were enough teachers who supported the changes.

Beliefs. As stated above, teachers' personal beliefs have a major impact on whether they will implement a curriculum properly or not (e.g., Datnow et al., 2002; Gess-Newsome, 2015; Henderson & Dancy, 2007; Lund & Stains, 2015). Specifically,

researchers identified teacher beliefs about the content of the curriculum. For example, if the curriculum is student-centered, it is crucial that teachers believe that students learn by working together and need consistent feedback. Teachers' personal conceptions of teaching should include the value of promoting deep learning and student engagement (Stains & Vickrey, 2017). Teachers' personal conceptions of students have also been identified as having an impact on fidelity. Teachers in the study by Anagnostopoulos and Rutledge (2007) were more likely to make changes to their practice for students who they believed fit the school norms and were hard workers. Datnow et al. (2002) reported that educators' social constructions of students' identities and their beliefs about education, social class, ability, race, and language affected the implementation of school reforms.

In summary, research evidence suggests that teachers who believe in change, the intervention, and their students are more likely to implement a new curriculum intervention with fidelity. When teachers do not believe in change, the intervention, and/or their students, they are less likely to implement a new program or curriculum with FOI.

Negative teacher factors. Researchers report that teachers who are unlikely to implement an intervention properly can be characterized as unwilling to change, satisfied with current practices, and doubt that an intervention will work for them or their students (e.g., Andrews & Lemons, 2015; Datnow et al., 2002; Stains & Vickrey, 2017).

Unwilling to change. Teachers who do not implement a new curriculum may claim there is not enough time to do the work and that they are unprepared (Andrews & Lemons, 2015; Stains & Vickrey, 2017). These teachers may also be resistant to integrating new material into their current practices (Anagnostopoulos & Rutledge, 2007;

Datnow et al., 2002) or misunderstand what is important (Lastica & O'Donnell, 2007). For example, teachers may set up a lab for students to save time even though the lesson requirement of setting up the lab is meant to have the students act like and learn the process as carried out by professionals (Lastica & O'Donnell, 2007). These teachers are also more likely to omit important key components of the lessons, give children inconsistent access to curriculum, delay important components, and progress too slowly (Davidson et al., 2009). In short, teachers with low FOI will do what they feel is best, regardless of the research that supports the curriculum intervention.

     Satisfied with current classroom practices. Teachers who do not feel they need to make changes to their classrooms are unlikely to do anything differently. Sometimes this is because they genuinely prefer other curriculum/interventions (Davidson et al., 2009; Stains & Vickrey, 2017). For example, teachers in the Davidson et al. (2009) study were resistant to implementing an intervention because they preferred child-managed/child-choice activities to the teacher-directed learning in the curriculum. Teachers focused on covering the content they are already responsible for, particularly if existing content was more closely connected to mandatory state testing (e.g., Andrews & Lemons, 2015; Datnow et al., 2002; Penuel & Means, 2004).

     Negative beliefs. As stated previously, teachers' beliefs are important. It is unlikely teachers will implement an intervention that they feel will not work, fit with their personal preferences (Stains & Vickrey, 2017), or mesh with their personality (Davidson et al., 2009; Stains & Vickrey, 2017). They are also unlikely to implement all the necessary changes to their regular practice if they do not believe the students can handle the work (Anagnostopoulos & Rutledge, 2007; Datnow et al., 2002).

Factors without clear support. Some factors have not been consistently identified in the research as having an influence on teachers' implementation. For example, Zvoch (2009) suggested that teachers with a master's degree are more likely to be noncompliant because they implemented 7% fewer components, but other researchers found that educational background and experience are unrelated to fidelity of implementation (Durlak, 2010; Stein et al., 2008). Stein et al. (2008) also found no relationship between teachers' self-efficacy and fidelity.

Student factors. Student-related factors that help improve implementation include student buy-in (Stains & Vickrey, 2017). Researchers also hypothesize that strong relationships with parents and the community will increase developers' ability to work with the schools and strengthen fidelity (Castro et al., 2004; Durlak & DuPre, 2008; Dusenbury et al., 2003). Factors that hinder implementation may include student resistance and lack of pre-requisite knowledge/skills (Stains & Vickrey, 2017).

Considerations. Researchers should evaluate which factors might affect implementation of their interventions (Durlak, 2010). Carroll et al. (2007) suggested that researchers work to identify and control barriers to implementation for higher levels of implementation to occur. Durlak (2010) recommended that developers clarify participant characteristics that might influence relationship between implementation and outcomes. Datnow et al. (2002) developed guidelines for enacting reform, such as viewing local context and diversity, approaching schools with flexibility, seeing teachers as assets and collaborators, and addressing different dimensions of change.

Fidelity-Adaptation Debate

With all the factors that affect implementation, and the fact that absolute fidelity is practically impossible in a real-world school setting (Rogers, 2003; Skolits & Richards, 2010), developers must consider the relationship between fidelity and adaptation. The fidelity-adaptation debate (Blakely et al., 1987) is about the divided opinions on whether it is okay for teachers or other implementers to adapt interventions when using them in different environments. Some researchers believe that changes to an intervention are unnecessary (Bellg et al., 2004; Elliott & Mihalic, 2004). Bellg et al. (2004) were skeptical about adaptation and created a structure for fidelity in which they encouraged researchers not to allow implementers to deviate, if possible. This article prompted a rebuttal by Leventhal and Friedman (2004). They cautioned that while Bellg et al.'s (2004) approach may be appropriate for some research, it does not work for all studies. In other words, complete fidelity is ideal, but adaptation is inevitable. Hence, examination of how adaptation influences outcomes is critical (Berman & McLaughlin, 1976; Hall & Loucks, 1977; Leventhal & Friedman, 2004; Moon & Park, 2016).

The pro-adaptation perspective is prevalent in education, where the study of FOI began because adaptations were being made at a local level (O'Donnell, 2008). In their literature review, Dusenbury et al. (2003) claimed that most teachers do not teach everything in a curriculum. Teachers are also less likely to teach the curriculum with fidelity over time (Callahan et al., 2014; Dusenbury et al., 2003). Interventions may be operationalized in different forms depending on the school division, and it is important to understand how the forms might be different from the developer's model and how that influences outcomes (Hall & Loucks, 1978). Leithwood and Montgomery's (1980)

review explained the importance of describing actual practices to compare what happens in the classroom with the developers' intended practices. Fidelity and adaptation are "considered both complementary and necessary" (Waltz et al., 1993, p. 512), but still are different constructs that should be separately measured. O'Donnell (2008) suggests that additions should be viewed positively when related to positive outcomes and negatively when not related to positive outcomes.

Numerous studies have shown that positive outcomes for students are more likely when teachers make appropriate adaptations to the curriculum (Azano et al., 2011; Durlak, 2010; McHugo et al., 2007; Simmons et al., 2007; Webster-Stratton et al., 2011). In addition, teachers who can make adaptations are more likely to sustain the practice (Dearing, 2008; Swain, et al., 2010; Webster-Stratton, 2011).

Suggestions to Improve Adaptations

Researchers suggest that developers discuss unacceptable and acceptable adaptations with teachers at the beginning of the intervention (Lynch & O'Donnell, 2005; Moon & Park, 2016). Lynch and O'Donnell (2005) found that teachers wanted more structural fidelity support rather than instructional-process supports, since teachers requested specific guidelines from the developers so they could maintain fidelity to the model. With no guidance, Moon and Park (2016) found that teachers were more likely to make negative adaptations than positive ones. Therefore, the problem is with the type of adaptations that occur.

Appropriate adaptations are said to be more important to positive outcomes than strict fidelity if the "active ingredients" of the practice are still there despite any potential modifications (Harn et al., 2013). Identifying critical components before implementation

33

should help teachers make positive adaptations (Mowbray et al., 2003). Webster-Stratton et al. (2011) suggested that any changes are flexible and collaborative to ensure that developers blend research and practice effectively and appropriately. Changes may also be guided by cultural framework and/or culturally informed theory (Castro et al., 2004). The goal should be for the adaptations to be appropriate for the site of the study, as there is evidence of positive student outcomes when teachers make adaptations to fit the context of the school (McHugo et al., 2007; Simmons et al., 2007).

FOI in Gifted Education

While there are numerous studies that show a connection between the use of evidence-based curriculum for gifted learners and improved students outcomes, few discuss fidelity. However, it is no surprise that scholars consider FOI an important component of evidence-based practices in gifted education (Callahan & Moon, 2007; VanTassel-Baska, 2013). As in general and special education, the research base has been improving (Missett & Foster, 2015). This section will address background, essential components, measurement, degrees, factors, and adaptation related to fidelity, focusing exclusively on studies of curriculum for the gifted.

Background on Gifted Curriculum Models and FOI

The curriculum model in gifted education with the most extensive research base is the Integrated Curriculum Model (ICM) from William and Mary. Developers created curriculum units in math, science, language arts, and social studies and have found the units lead to small but significant improvements in student outcomes (VanTassel-Baska, Bass, Ries, Poland, & Avery, 1998; VanTassel-Baska, Bracken, Feng, & Brown, 2009; VanTassel-Baska, Johnson, Hughes, & Boyce, 1996). However, the researchers did not

34

provide clear and complete information on fidelity and only suggested that teachers with FOI were more adept at implementing differentiated instruction (VanTassel-Baska et al., 2008).

There is stronger research evidence that teachers can implement gifted math curriculum with fidelity, and that fidelity of implementation is associated with student achievement gains in math. The models investigated include Mentoring Mathematical Minds (M^3; Cho, Yang, & Mandracchia, 2015; Gavin et al., 2007, Gavin et al., 2009), Project M^2: Mentoring Young Mathematicians (M^2; Casa, Firmender, Gavin, & Carroll, 2017; Gavin, Casa, Firmender, & Carroll, 2013; Firmender, Gavin, & McCoach, 2014), and an unnamed advanced math curriculum (Rubenstein, Gilson, Bruce-Davis, & Gubbins, 2015).

Lastly, there are two language arts curriculum models with strong connections between teacher FOI and achievement gains in language arts. The first is the Schoolwide Enrichment Reading Model (SEM-R, Reis et al., 2007; Reis, Eckert, McCoach, Jacobs, & Coyne, 2008; Reis, McCoach, Little, Muller, & Kaniskan, 2011). The most recent research is on the CLEAR Curriculum Model (Azano et al., 2011; Azano et al., 2014; Callahan et al., 2014; Foster, 2011; Missett et al., 2014; Moon & Park, 2016).

Essential components necessary to study FOI. Gifted education researchers have consistently reported the core components of the curriculum models that have been created in the past 30 years (VanTassel-Baska & Brown, 2007; VanTassel-Baska, Robinson, Coleman, Shore, & Subotnik, 2006; Walsh, Kemp, Hodge, & Bowes, 2012). Missett and Foster (2015) found that developers of gifted education curriculum were consistently identifying the evidence-based core components, which often overlap

between models. For example, differentiated instruction (Tomlinson, 1995, 1999) is included in the structure of ICM, M^3, M^2, SEM-R, CLEAR, and Rubenstein et al.'s (2015) model; the depth and complexity model (Kaplan, 2005) is built into in M^2, CLEAR, and Rubenstein et al.'s model; and the Schoolwide Enrichment Model (Renzulli & Reis, 1985, 2000) is present in SEM-R, CLEAR, and Rubenstein et al.'s model. Foster's (2011) study of the CLEAR Curriculum Model used a set of guiding principles that the researchers used to evaluate the changes teachers made against the research-based elements critical to the construction of the curriculum. Therefore, it is evident that gifted education curriculum models have the strong evidence-based core that is necessary before developers can begin to study FOI appropriately.

Dimensions of FOI in Studies in Gifted Education

The developers of the gifted curriculum models also studied different dimensions of FOI. The instructional-process dimension of student engagement was not directly studied, though quality of delivery is discussed primarily in relations to factors that led to adaptations (Azano et al., 2011, Azano et al., 2014; Foster, 2011; Moon & Park, 2016) and the quality of the adaptations (Foster, 2011; Moon & Park, 2016). Findings about adherence are discussed in the section on degrees of fidelity. This section is focused on the structural dimensions of exposure and training from Century et al.'s (2010) framework.

Exposure. Researchers reported that they asked teachers to keep track of exposure by documenting the number of days they taught the curriculum (Casa et al., 2017) or how long it took them to teach the lessons (Gavin et al., 2007; Gavin et al., 2009). This data was not connected to the outcomes that were the focus of the research.

Additionally, researchers of both language arts (Azano et al., 2014) and math (Rubenstein et al., 2014) curriculum reported that students were not exposed to all the important elements of their respective interventions due to concerns about appropriate grouping, timing, and state test requirements. Therefore, while there is evidence that teachers may have difficulty fully implementing gifted curriculum units, there is no clear connection between exposure and student outcomes.

Training. Researchers continually discuss training as having an impact on fidelity in the gifted literature. Earlier curriculum intervention studies suggested that more training was necessary, as the researchers were concerned with the variation in implementation and the content knowledge of the teachers (VanTassel-Baska et al., 1996; VanTassel-Baska et al., 1998) and that schools were not using student performance data to inform instruction (VanTassel-Baska et al., 2000). More recently, developers reported intensive summer training on content knowledge, philosophies of the curriculum, and teaching strategies in the curriculum; additional training before the implementation of each unit (Cho et al., 2015; Gavin et al., 2007; Gavin et al., 2009); and frequent visits to check for fidelity and to offer additional support (Cho et al., 2015; Gavin et al., 2007; Gavin et al., 2009; Reis et al., 2007; Reis et al., 2008). For example, staff would model parts of lessons where teachers were not implementing the curriculum effectively and then make modifications to the teacher guide (Gavin et al., 2007; Gavin et al., 2009). This ultimately led to concerns that the curriculum units may not be effective in the absence of extensive work with trained research staff (e.g., Casa et al., 2017; Firmender et al., 2014; Gavin et al., 2009; Reis et al., 2008).

However, subsequent studies of gifted curriculum models provide evidence that the interventions can be successful with less training. Developers of new math curriculum models reduced training times on core components and curriculum principles from two weeks to 2-4 days (Gavin et al., 2013; Rubenstein et al., 2015). Reis et al. (2011) found significant results when researchers were observing less frequently as well, suggesting that the SEM-R curriculum can lead to positive student outcomes with less supervision. Other researchers had positive implementation and outcome results without holding training sessions, but rather providing numerous videos and web-based resources to take the place of face-to-face sessions (Azano et al., 2011; Callahan et al., 2014; Foster, 2011).

Measurement

Missett and Foster's (2015) literature review examined FOI issues specific to gifted education. They reported considerable variation in the nature, method, and quantity of fidelity data reported (Missett & Foster, 2015). Some researchers did not explicitly explain how fidelity was determined, even though they reported FOI information (Gavin et al., 2007; Gavin et al., 2009). Most developers created their own instruments to determine FOI. These instruments include the Classroom Observation Scale—Revised (VanTassel-Baska et al., 2008; VanTassel-Baska et al., 2009) and the Project M^2 Teacher Observation Scale (Firmender et al., 2014). Other researchers described how the fidelity logs (Azano et al., 2011; Azano et al., 2014; Callahan et al., 2014; Foster, 2011) or checklists (e.g., Cho et al., 2015; Reis et al., 2011; Rubenstein et al., 2015) they used to represent the core components of the curriculum. Researchers were careful to report the inter-rater reliability of the created forms.

Data collection. All the gifted curriculum studies in this chapter reported researcher observation as the main way researchers collected FOI data. For ICM, the researchers reported infrequency of observations was a concern (VanTassel-Baska et al., 1996; VanTassel-Baska et al., 1998; VanTassel-Baska et al., 2002). Conversely, researchers of SEM-R, M^3, M^2 visited classrooms so frequently that they had to note that the results may be related to their presence on-site (Gavin et al., 2007; Gavin et al., 2009; Reis et al., 2007; Reis et al., 2008). In a later study of SEM-R, there were only unannounced observations once or twice a month (Reis et al., 2011).

Other researchers utilized multiple methods of data collection. Rubenstein et al. (2015) determined FOI through classroom observations and analyzed this data along with teacher surveys, interviews with administration, and teacher focus groups to determine whether the teachers implemented the curriculum properly. Azano et al. (2011), Azano et al. (2014), Callahan et al., (2014), and Moon and Park (2016) used classroom observation data, teacher interviews, and teacher surveys. In summary, researchers commonly use multiple methods in the recent literature, as this approach contributes to the triangulation of data.

Reporting FOI. The extent and explanation of FOI data reported in gifted curriculum studies has improved. Some of the earlier studies that discussed FOI only mentioned whether the teachers had fidelity to the model (Gavin et al., 2007; Gavin et al., 2008; VanTassel-Baska et al., 2009). FOI was mentioned, but not specifically reported, if it was not necessary for the research questions (Rubenstein et al., 2015).

For the remaining studies, most developers chose to report FOI quantitatively, specifically as percentages (e.g., Casa et al., 2017; Firmender et al., 2014; Foster et al.,

2011; Reis et al., 2011). Only studies of the CLEAR curriculum determined fidelity qualitatively, grouping teachers into high, mixed, and low adherence categories based on the codes they developed (Azano et al., 2011; Azano et al., 2014).

Degrees of Fidelity

The findings for gifted education curriculum are similar to the findings in general education research: both high and moderate fidelity are associated with positive student outcomes. Most of the studies provided evidence that when fidelity was higher, students performed better on assessments in language arts (Azano et al., 2011, Foster, 2011) and math (Firmender et al., 2014).

Casa et al. (2017) reported positive results with moderate fidelity, which was 67% overall, with teachers' FOI scores between 53%-78%. The results of this study provide evidence that the model may lead to student success with less-than-perfect FOI (Casa et al., 2017). The reasons for variation in fidelity are represented in the factors that affect FOI.

Factors that Affect FOI

Missett and Foster (2015) suggested that future research in gifted FOI explore the contextual factors that limit FOI to adapt curriculum materials and implement research-based practices more effectively. This section discusses the factors identified by gifted education researchers that affect fidelity, which are like the ones noted by the general and special education researchers.

Structural. Organizational characteristics that influence how teachers make instructional decisions and implementation of curriculum derived from research in gifted education that parallel those identified in the general education literature include amount

of support; school culture, morale, and/or norms; and scheduling and timing. Gifted education researchers have also identified service delivery models as a potential factor influencing FOI.

Amount of support. Making sure gifted students have appropriate resources and trained, supportive staff is a consistent concern in the field (Ambrose, VanTassel-Baska, Coleman, & Cross, 2010; Azano et al., 2011; Feng, VanTassel-Baska, Quek, Bai, & O'Neill, 2005; VanTassel-Baska & Brown, 2007). Teacher attrition is one specific staffing issue, as the teachers who leave may not be replaced, or are replaced with unqualified staff (Ambrose et al., 2010; Feng et al., 2005; Reis et al., 2007). One unique concern discussed in the gifted FOI literature is that researchers provide so much training that teachers cannot be expected to implement the curriculum properly without their assistance. Multiple developers reported that the curriculum units may not be effective in the absence of extensive work with trained research staff (Casa et al., 2017; Firmender et al., 2014; Gavin et al., 2007; Gavin et al., 2009; Gavin et al., 2013).

Gifted education teachers and researchers may not get the support from their school divisions necessary to implement curriculum interventions with high FOI. For example, Reis et al. (2007) had to contend with a principal who moved students around after the random assignment without informing the research team. Gifted education teachers may also have to deal with limited resources that make it difficult to provide students with educational opportunities and general education teachers who do not send students to pull-out programming (Azano et al., 2014). The frustration from lack of support may affect school culture.

41

School culture, morale, and/or norms. Outside of the sample description, the school setting was only explored by Azano et al. (2014). Urbanicity was a factor, as the research team found that rural teachers were disproportionately represented in the low fidelity group. Azano et al. (2014) also reported that gifted teachers in rural communities might face professional isolation, as they are the "lone wolves" working for gifted students. The researchers suggested that rather than having low fidelity, rural teachers were showing more flexibility and creativity that made the units more beneficial to students (Azano et al., 2014). However, this has not been conclusively substantiated.

Scheduling and timing. As with general education, state testing is a major factor that impedes a teacher's ability to implement a curriculum for gifted students appropriately (Ambrose et al., 2010; Feng et al., 2005; Rubenstein et al., 2015; VanTassel-Baska & Brown, 2007). While developers designed many of the gifted curriculum models so they can be used in general education classrooms, teachers are not necessarily able to put in the time it requires to implement them properly (Rubenstein et al., 2015). For example, the ICM science unit *Acid, Acid Everywhere* specifies that it should take 40 hours to implement (VanTassel-Baska et al., 1998). If a gifted education teacher sees students once a week for an hour, without missing any time for assemblies or testing, they would still be unable to complete the unit in a typical 36-week school year.

Another rural-specific scheduling problem noted in previous CLEAR curriculum research is the complicated gifted programming structures that often require a teacher to travel to multiple schools or meet with students at inconsistent times. Itinerant teachers face time constraints characterized by constant traveling, large caseloads, and large gaps

in time between lessons (Azano et al., 2014). How much time teachers truly have to implement the curriculum depends partly on the service delivery model.

Service delivery models. Service delivery model refers to the settings in which gifted student receive services (Callahan & Hertberg-Davis, 2017). The research on gifted FOI specifically references pull-out programs, which are part-time classes where gifted students leave their regular classrooms and come together for instruction (Adams, 2017). Teachers in pull-out classes were more likely to modify the curriculum, which led Moon and Park (2016) to conclude that service delivery model may have an impact on FOI as well. Foster (2011) found that while there were visual differences between service delivery models in the data, the differences were not statistically significant. Given that the same data showed that rural teachers with time restrictions and lack of resources were overrepresented in the low-fidelity group, the same teachers may have limited student choice in the Moon and Park (2016) study. More information would be needed to separate out incorrect information from limitations in choice.

Instructional-process.

Positive teacher factors. Azano et al. (2011) used teacher expectancy theory to explore adherence and quality of delivery in a qualitative analysis. They identified a clear connection between gifted education teachers' internal beliefs, described as sense of autonomy, expectations for students, professional expertise, and level of fidelity. Additionally, external factors like testing requirements and instructional time affected levels of fidelity. Azano et al. (2011) also found that high levels of teacher autonomy were present more often with higher levels of fidelity, even when a teacher reported time constraints.

43

In addition, there is evidence that teachers' individual and group orientation impacts level of fidelity. Teachers with an individual orientation, (i.e., classroom management based on use of formative assessments to help with personalized pacing and ability grouping) were more likely to implement the units with fidelity. Teachers with a group orientation (i.e., classroom management based on the activities teachers felt were fun for everyone and how they perceived student personalities impacted the social structure of the class) were less likely to implement the curriculum with fidelity (Missett et al., 2014). Foster (2011) had similar findings, as she reported that high-fidelity teachers used more data about student knowledge and ability while low-fidelity teachers relied on their perceptions of students' knowledge, ability, and behavior. As with special and general education, teacher beliefs have a major impact.

Negative teacher factors. The main negative teacher factor identified by Rubenstein et al. (2015) was teachers' unwillingness to change, such as the teachers who did not use the curriculum fully due to concerns about appropriate grouping. However, it may be more accurate to say that teachers who seem unwilling to change their practices may have difficulty with the curriculum. Curriculum developers have also cited concerns about how teachers' content knowledge impacts implementation of curriculum (Rubenstein et al., 2015; VanTassel-Baska et al., 1998). Even training teachers about the content and concepts used in the curriculum was not enough to guarantee high FOI in studies by Casa et al. (2017) and Firmender et al. (2014). Other researchers reported teachers' comfort level with the curriculum as a factor influencing FOI, as teachers expressed concerns about working with topics that they were unfamiliar with (Azano et

al., 2011; Foster, 2011). The issues with knowledge and comfort contributed to some of the adaptations teachers made (Azano et al., 2011).

Fidelity-Adaptation Debate

Recently researchers in gifted education have stressed the importance of considering adaptation in gifted education as well. Olszewski-Kubilius and Steenbergen-Hu (2017) advocated for a better understanding of the adaptations that teachers make to evidence-based gifted education curriculum. They believe that studying these differences systematically will allow the field to "understand the essential components of a successful intervention" (p. 6). This type of research is supported by the general and special education literature (Castro et al., 2004; Webster-Stratton et al., 2011).

Adaptation was a major topic of discussion and analysis in the studies of the CLEAR curriculum model. Foster (2011) and Moon and Park (2016) explored FOI data to determine whether teachers were making positive modifications. Moon and Park (2016) focused their analysis on differentiation, which is only one of three core components of the model. Foster (2011) looked at 17 design principles established by the research team. Both studies provide evidence that most of the lessons were implemented with no modifications, and those lessons that teachers modified were done so largely based on time constraints (Foster, 2011; Moon & Park, 2016).

Moon and Park (2016) classified most of the modifications as negative, meaning they felt the changes limited choices or presented students with incorrect information. Foster (2011) found that 60% of modifications made by high-fidelity teachers were in line with the CLEAR model. Moderate-fidelity teachers tended to make modifications that were not in line with the CLEAR model. Low-fidelity teachers were more likely to

45

omit items completely and made three times as many negative changes as the high-fidelity teachers (Foster, 2011). Questions remained about whether some of the factors could be mitigated with subsequent improvement in FOI for teachers in rural communities (Azano et al., 2014). These questions were addressed in a current Javits-funded project, Promoting PLACE in Rural Schools.

Promoting PLACE

The goals of Promoting PLACE in Rural Schools were to help rural, high poverty schools increase their identification of students for gifted services; to create high quality, place-based language arts units based on the CLEAR Curriculum Model; to implement interventions designed to increase a growth mindset and reduce stereotype threat; to increase achievement in language arts; and to increase student engagement and self-efficacy. My study focused on the second and third goals.

Conclusion

Fidelity of implementation was described as being in its infancy in educational research seven years ago (Foster, 2011), and many of the issues that researchers have noted for the past 10-15 years remain. There are still no universally agreed upon definitions or set criteria for measuring or assessing fidelity data, which leads to multiple frameworks and diagrams that purport to have a useful conception (e.g., Carroll et al., 2007; Century et al., 2010; Ruiz-Primo, 2006). There are also no standards for categorizing the degrees of fidelity that developers use to describe what FOI looked like in their studies, which makes it challenging to compare one fidelity study with another.

Researchers may never solve these issues but that may not be as problematic, or even as necessary, as it may seem. The research on FOI is advancing because scholars

and researchers are starting to focus on how FOI is impacted by a variety of different factors. As this body of research grows, the picture of what FOI looks like in different populations, contexts, and domains will become clearer.

CHAPTER 3

METHOD

Researchers at the University of Virginia and Virginia Tech conducted a study called Promoting PLACE in Rural Schools. The research team adapted poetry and folklore units that they developed using the evidence-based CLEAR Curriculum Model to include place-based pedagogy that addresses the unique experiences of rural settings. They hypothesized that adding place-based pedagogy would help to increase the rural students' engagement and achievement in reading and writing. Previous studies established that student outcomes from the CLEAR curriculum are related to teachers' fidelity of implementation (Azano et al., 2011; Callahan et al., 2014) and that rural teachers are more likely to have lower fidelity of implementation (Azano et al., 2014).

The purpose of this study was to examine the degree of fidelity with which rural teachers implement a place-based revision of the CLEAR curriculum for third graders and to better understand the adaptations these teachers make to evidence-based curriculum. To do this, I investigated the following questions:

1. With what degree of fidelity (high/moderate/low) do teachers implement the place-based CLEAR curriculum units?

2. How are teachers adapting the place-based curriculum? Why do they make these adaptations? How are their adaptations related to factors that have been identified in prior literature as affecting fidelity of implementation?

3. When teachers are grouped by high, moderate, or low fidelity, do common or differential themes emerge about how and why adaptations are made?

Research Design

I chose to use a convergent parallel mixed methods design (Creswell, 2013) because the quantitative and qualitative data were collected at the same time but analyzed separately. After I analyzed both types of data, I merged my findings into a joint display of data and reported the results from both the quantitative and the qualitative portions of the study in a single visual (Creswell, 2013). For the quantitative analysis of the study I used the teachers' fidelity logs so that I would have a comprehensive measure of teachers' degree of fidelity. To determine that the logs were an acceptable measure of fidelity (as a proxy for observation) I used the protocol established in a previous study of CLEAR curriculum (Foster, 2011). In the qualitative analysis, I explored how and why teachers made adaptations to the units, whether their adaptations were in line with the previous literature about structural and instructional-process factors that affect FOI, and whether I could identify common or unique themes when looking at these adaptations across cases of teachers with high, moderate, and low fidelity of implementation.

I used quantitative fidelity scores to address Question 1: With what degree of fidelity (high/moderate/low) do teachers implement the place-based CLEAR curriculum units? For Question 2 (How are teachers adapting the place-based curriculum? Why do they make these adaptations? How are their adaptations related to factors that have been identified in prior literature as affecting fidelity of implementation?), I used qualitative coding to find patterns in teachers' delivery of the CLEAR curriculum units. I used the quantitative data to group the teachers based on their level of fidelity and the qualitative findings relative to their fidelity to discuss themes that emerged to address Question 3:

When teachers are grouped by high, moderate, or low fidelity, do common or differential themes emerge about how and why adaptations are made?

Participants

School Divisions in the Sample

To examine the research questions noted above I used data from a purposive criterion-i sample of teachers from three rural school divisions from Virginia participating in the grant described above. Researchers use criterion-i samples "to identify and select all cases that meet some predetermined criterion of importance" (Palinkas et al., 2015). In this study, the criterion of importance was that the school divisions in which the teachers were delivering the curriculum met the requirements of being rural and high poverty. Participating school divisions were deemed rural according to National Center for Education Statistics (NCES) locale codes. School Division 1 was rural-distant, meaning it was located within 25 miles of an urbanized area and within 10 miles of an urban cluster. School Division 2 and School Division 3 were located more than 25 miles away from an urbanized area and more than 10 miles from an urban cluster and were designated rural-remote. All three school divisions also had a free/reduced lunch percentage of 50% or above across the entire division as determined from the data provided by the Virginia Department of Education in 2013-2014, which was the most recent data available at beginning of the study.

Ms. Angelou[1] in School Division 1 taught students in both Cohort 1 (2015-2016) and Cohort 2 (2016-2017), while teachers in School Divisions 2 and 3 joined the project in in 2016-2017. School Division 1 had four elementary schools. School Division 2 had

---

[1] For purposes of anonymity, I refer to the teachers by the pseudonyms found in Table 1.

one centrally located elementary school. School Division 3 had five elementary schools located in the northeast, northwest, central-west, southeast, and southwest corridors of the division.

All school divisions were providing gifted services at the time they agreed to participate in the grant. School Division 1 chose to expand their gifted education centers to provide instruction in a gifted center on separate days for students in grades 3 and 4, when previously students in grades 3-5 had attended on the same day. Both Division 2 and Division 3 made voluntary changes to their service delivery models to accommodate the use of the curriculum. School Division 2 allowed students to receive daily enrichment during resource time when they previously only had afterschool enrichment one day a week. School Division 3 added to their weekly pull-out services by delivering the curriculum in the regular classroom. The gifted administrator in Division 3, Ms. Collins, indicated to staff that she had wanted to include cluster grouping into the services provided previously, but the administration did not approve the use of clustering until the school division became involved with the grant (Ms. Collins, personal communication, 10 March 2018). The service delivery models used to deliver the curriculum are included in Table 1.

Table 1
Overview of Service Delivery Models and Teachers in Participating School Divisions

Division	# of Schools	School Pseudonyms	Service Delivery Model	Number of Teachers	Teacher Pseudonyms	Role of Teachers in Division
1	4 (2 sites for gifted education)	North Elementary South Elementary	Weekly full-day pull-out program (90-120 minutes)	1	Ms. Angelou	Elementary gifted specialist; traveled to both sites
2	1	Central Elementary	Daily pull-out during resource time (30-45 minutes)	1	Ms. Bishop	Para-professional

3	5	Northeast Elementary	Weekly instruction in cluster-grouped classrooms (40-60 minutes)	7 (general) 1 (support)	Ms. Frost Ms. Giovanni	7 general education teachers who had primary responsibility for teaching the curriculum in cluster classrooms
		Northwest Elementary			Ms. Hughes	
		Central-West Elementary			Ms. Joyce	
		Southwest Elementary			Ms. Keats	
		Southeast Elementary			Ms. Dickinson Ms. Eliot	
					Ms. Collins	1 facilitator (Ms. C) who provided support and traveled to all sites

Teachers

The teachers participating in the study were all females and had varying experiences working with gifted third grade students. In Division 1, Ms. Angelou was the elementary gifted specialist and worked with students in grades 3-5. She delivered the CLEAR curriculum during the full-day pull-out sessions at both North and South Elementary. In Division 2, Ms. Bishop was employed as a paraprofessional. She was responsible for teaching the CLEAR curriculum at Central Elementary and she occasionally consulted with the third-grade reading teacher. Her primary paraprofessional assignment was with the third grade. Ms. Bishop delivered the curriculum during a block of time reserved each day for remediation that lasted between 35-45 minutes.

In Division 3, the principals assigned the identified gifted students to cluster groups in the general education classroom. In the cluster group model, administrators assign small groups of students identified as gifted or high ability to the same classroom, but with other non-identified students rather than as a homogeneous classroom of

students (Gentry, 2017). Seven third-grade general education teachers taught the CLEAR curriculum in this division. Two schools had two cluster classrooms with identified students. The other three schools had one cluster classroom with identified students. In addition to the general education teachers, Ms. Collins, the district administrator for gifted programming, monitored the implementation of the CLEAR curriculum in each school, worked with the teachers on planning, and helped teachers with implementation.

Units. Teachers were responsible for implementing two English Language Arts curriculum units to third grade students. The poetry unit was comprised of 19 lessons and the folklore unit contained 20 lessons. The Promoting PLACE staff designed the curricular units using the CLEAR Curriculum Model, with the addition of place-based elements. The CLEAR curriculum design reflects three evidence-based models in gifted education, namely the Schoolwide Enrichment Model (SEM, Renzulli & Reis, 1985, 2000), differentiated instruction (DI, Tomlinson, 1995, 1999), and depth and complexity (DC, Kaplan, 2005). The place-based elements focused on bringing the community into the classroom through critical literacy and appropriate literary selections. Experts in SEM, DI, and DC validated the content of original units before developers began implementation of the curriculum (C. M. Callahan, personal communication, September 2017). After the place-based additions, both an expert in place and an expert in the CLEAR Curriculum Model reviewed the content to ensure that the new units were valid reflections of the CLEAR curriculum and principles of place-based education. See Appendix A for a sample lesson.

Instrumentation/Protocol and Data Sources

The instruments, protocols, and data sources used in this study were measures of structural and/or instructional-process fidelity. All the data sources contained information about the structural fidelity, which described developers' intentions about the CLEAR curriculum's design, organization, and instructional materials. Most sources also contained information about instructional-process fidelity, which connected to the developers' intentions about teachers and students. We received approval from the Institutional Review Board (IRB) prior to data collection for all the instruments used. See Table 2 for a breakdown by source.

Table 2
Instruments and Data Sources

Instruments and Data Sources	Source of Information	Research Questions Addressed	Type of Fidelity Captured	Used to	Frequency
Teacher fidelity log	Teachers	1, 2, 3	Structural and Instructional-process	Record self-reported fidelity Report reasons for adaptations Determine TFS	18 poetry logs per teacher (lessons 17-18 combined into one log) 19 folklore logs per teacher (lessons 19-20 combined into one log)
Observer log	Observer	1, 2, 3	Structural and Instructional-process	Record observed fidelity Record adaptations and whether they are positive/negative Determine OFS	56 observations, 7 with multiple observers (65 observer logs total)
Brief interview protocol used following observation	Observer	1, 2, 3	Structural and Instructional-process	Interview teachers following observation Explain adaptations and decision making	56 discussions

Field notes	Observer	1, 2, 3	Structural and Instructional-process	Record detailed information about trainings, observations, and teachers' questions	3 sets of training field notes (one per division) 65 observer-recorded field notes Various e-mails/documentation of teacher questions (varies by teacher)
Analytic memos	Observer	2, 3	Structural and Instructional-process	Reflect on observations and/or trainings	3 memos
Background information form	Teacher	3	Structural	Record demographic information about teachers' backgrounds	10 (one per teacher)
Follow-up interview protocol	Observer	2, 3	Structural and Instructional-process	Interview teachers after at least one year of implementation Explain adaptations and decision-making	9 (one per teacher who agreed to be interviewed)

Teacher Fidelity Log

The research team for the prior CLEAR curriculum studies designed the teacher fidelity logs (Callahan et al., 2014). The current project team revised the logs based on lesson revisions. The Promoting PLACE staff consulted a member of the original research team as a fidelity expert, who approved the changes made to the logs.

Each teacher fidelity log had two parts: background and implementation. In the background section, teachers recorded their names, their school name, the date/time of the lesson, how long they spent preparing for the lesson, information about how closely they followed the lesson, and broad reasons why they made changes.

The implementation section of the log detailed the critical components of each lesson (see Appendix B). The components consisted of the actions the researchers expected the teachers to complete in the lesson. The logs paralleled the lessons with one log per lesson so that the content, process, and assessments in the curriculum were represented. Teachers marked whether they implemented (*I*), modified (*M*), or did not implement (*N*) each component to provide information on structural fidelity. Teachers were asked to provide an explanation if they chose to modify or decided not to implement a component, which provided information on instructional-process fidelity. The teacher fidelity logs provided the information necessary to calculate the teacher-reported lesson fidelity score (TFS).

Observer Log

The observer logs were comparable to the teacher fidelity logs (see Appendix C). However, the background section did not include information about teacher preparation time or the broad reasons why teachers made changes. The implementation section included a section to mark whether the component was Implemented (I), Modified (M), or Not Implemented (N), which provided information on structural fidelity. There was also space for the observer to provide further detail on the changes that teachers made to the lesson or to make other comments on the implementation of specific components. An additional feature of the implementation section was a column that the observer used to evaluate the modification as positive or negative as they observed the adaptation, which provided information on instructional-process fidelity. The observer logs provided the information necessary to calculate the observed lesson fidelity score (OFS).

Brief Interview Protocol Used Following an Observation

Observers interviewed teachers using semi-structured interview questions after they observed a lesson (see Appendix D). The researchers designed the questions to gather additional information on pre-assessment, how typical the lesson was, and the challenges teachers either anticipated or experienced while teaching the lesson. The observers took notes during the interview and asked follow-up questions as needed to complete the protocol and/or log. For example, if the observer could not determine whether the teacher used the provided formative assessment for grouping, the observer was expected to ask the teacher how she teacher decided to group students. When teachers were not available for in-person interviews, observers sent the interview questions to the teachers via e-mail.

Field Notes

The data also included field notes from teacher trainings, observations, and communication with the teachers (typically via e-mail) that occurred during the 2015-2016 and 2016-2017 school years. These field notes contained information about the divisions, how the teachers implemented the lessons, and the questions that teachers had about the curriculum. The notes were de-identified using the ID numbers created for the master dataset. All references to teachers were replaced with the pseudonyms in this document.

Analytic Memos

I also recorded analytic memos on multiple occasions after an observation or training. The intent of these memos was to capture thoughts and feelings about what I had just seen. I did not use the names of divisions or teachers when I recorded analytic

memos but used the ID numbers created for the master dataset. I transcribed these memos using the pseudonyms created for this study before adding the information to the data corpus.

Background Information Form

Teacher background characteristics captured on the Background Information Form included teachers' gender, race, teaching experience, education, and their relationship to the rural community in which they work (see Appendix E). I submitted an IRB modification form and received approval to use the document because this was an addition to the original IRB grant proposal. This form provided demographic information on the participants that informed my qualitative analysis. I modeled this form after the document used to gather information in the initial studies of the CLEAR Curriculum Model (Foster, 2011).

Follow-up Interview Protocol

I used an additional semi-structured interview protocol to gather more detailed information on teachers' beliefs about students and perceptions of the curriculum (see Appendix F). I submitted an IRB modification form and received approval to use the document because this was an addition to the original IRB grant proposal. I modeled this protocol after the protocol used to gather information in the initial studies of the CLEAR Curriculum Model (Foster, 2011) and adjusted the protocol slightly for each teacher based on areas needing clarification following my analysis of the field notes and fidelity logs.

I conducted interviews with nine of the 10 teachers in January and February of 2018. Ms. Giovanni declined to participate due to family obligations. I recorded the

interviews and had them transcribed. I sought to ensure trustworthiness using member checking. I gave each teacher the opportunity to review the transcripts for accuracy and make corrections/changes to the transcripts as necessary.

Procedures

Data Collection

Trainings conducted prior to implementation helped to familiarize project staff with the school divisions and their surrounding communities. I took notes and occasionally recorded analytic memos. I was responsible for scheduling six observations with each school division, three for each unit (folklore and poetry). During each observation, observers completed the Observer Log and took extensive field notes. Afterward, they interviewed any teachers who were available to meet for 10-20 minutes. Interviews were not recorded, but observers took notes to reflect and summarize the teachers' responses to each question. If the teacher was unavailable for an interview, we sent follow-up questions via e-mail. In total, 56 lessons were observed. Multiple observers observed seven lessons, so the total number of observer logs and field notes was 64. For three meetings, I have recordings of analytic memos that provide additional information about the divisions and teachers.

Teachers accessed the background form via Dropbox so they were able to complete and return them electronically. I conducted follow-up interviews with teachers in January and February of 2018. Nine teachers agreed to complete the forms and completed interviews with me that lasted between 38 and 120 minutes. One teacher agreed to fill out the forms but declined the interview opportunity, stating that she did not

have time for a 60-minute interview due to family obligations (Ms. Giovanni, e-mail communication, 6 February 2018 & 6 March 2018).

Data Analysis

Research Question 1: With what degree of fidelity (high/moderate/low) do teachers implement the place-based CLEAR curriculum units? For Question 1, I first calculated observed lesson fidelity scores (OFS) using the observer logs, which are a combined measure of structural-procedural adherence and instructional-pedagogical quality. The OFS is the percentage of critical components observed to be implemented or modified/omitted in accord with the design principles of the curriculum model. An OFS of 100% would be considered completely in line with the curriculum as written.

Because not all modifications teachers make are bad modifications, I made determinations about the acceptability of omissions or adaptations using a modified version Set of Guiding Principles created by Foster (2011). The modifications to the Set of Guiding Principles reflect the changes made to the curriculum for Promoting PLACE (see Appendix G). These modifications were approved by both PIs on the grant in January 2018, and a team of grant staff completed practice modification coding to ensure that we all understood how they should be used and agreed on how to use the codes. I assigned a point for every item marked *I* (implemented), *M+* (positive modification), and *N+* (positive exclusion). If an *M* or *N* was marked but not scored with a positive or negative valence, I read the notes on the observer log and analyzed the field notes to make a quality determination. If there was no way to determine whether a modification was positive, I considered it negative and did not assign any points. Because not all lessons were observed in their entirety, I divided the total points by the total number of

60

components that were observed to obtain a percentage score for OFS. For example, if 12 of 36 possible lesson components were observed, I only calculated the OFS for the 12 components observed.

After obtaining the OFS scores, I used the teachers' logs that corresponded to the observed lessons to calculate the teacher-reported lesson fidelity score (TFS). The TFS is the percentage of critical components teachers reported that were implemented or modified/omitted in accord with the design principles of the curriculum model. I followed the same procedure as the OFS—the modifications that I coded +/- for the OFS received the same point values on the TFS. If an observer did not observe part of a lesson, I only calculated the TFS for those components of the lessons that were observed to match the procedures for calculating the OFS. For example, if an observer only observed 12 of 36 possible lesson components, I only calculated the TFS for the 12 components observed. For the observations with multiple observers, I compared each observer's OFS to the TFS separately.

After obtaining the TFS scores for each teacher, I examined the relationship between the OFS and TFS by determining the correlation between the two. Before calculating the correlation, I examined the data by creating a scatterplot to look for linearity, homoscedasticity, and outliers to determine that I needed to use Spearman's rank correlation coefficient. The coefficient represents an effect size, so I used Cohen's (1988) conventions to determine whether the relationship between the OFS and the TFS was small (0-.29), moderate (.3-.49) or large (.5-1.0). There was a strong, positive correlation between the OFS and TFS ($r_s(93) = .637$, p < .01).

After determining there was a large, statistically significant correlation, I calculated the TFS for the remaining teachers' logs and used the teachers' TFS to determine degree of fidelity. Because the TFS scores represent all lessons rather than the limited sample of observations, using the TFS scores allowed me to create a more complete picture of each teachers' fidelity.

To determine which teachers had high, moderate, and low TFS scores, I used Foster's (2011) criteria: teachers with a mean score between 85-100% were considered high fidelity, teachers with a mean score between 70-84% were considered moderate fidelity, and teachers with a mean score under 70% were considered low fidelity. Foster explained that, because the items on the logs are essential to the core components of the curriculum, any FOI score beneath 70% would mean the teachers' delivery significantly compromised the integrity of the CLEAR model and the teacher is not in line with the designers' intent.

Research Question 2: How are teachers adapting the place-based curriculum, and why do they make these adaptations? How are their adaptations related to factors that have been identified in prior literature as affecting fidelity of implementation? The qualitative portion of the study involved abductive reasoning, which is when a researcher seeks to make an event or occurrence make sense (Schwartz-Shea & Yanow, 2013). The researcher should go "back and forth in an iterative-recursive fashion between what is puzzling and possible explanations for it, whether in other field situations…or in research-relevant literature" (Schwartz-Shea & Yanow, 2013, p. 27). While deduction and induction have a linear process, abduction is more circular, allowing

the researcher to engage with numerous pieces of data simultaneously (Schwartz-Shea & Yanow, 2013).

I used Dedoose, a qualitative data analysis software, to code the data. The software made the codes easily accessible to my peer reviewers (see Appendix H), as I embedded the reasoning behind the codes into the system. It also allowed me to visualize the data by adding in counts and breakdowns by type of unit, teacher, school, and division so that I could visualize patterns and gain a better idea of how the codes interacted.

How are teachers adapting the place-based curriculum? For the first part of this question, how are teachers adapting the curriculum, I used open coding. First, I examined the fidelity and observer logs and field notes for any changes teachers made to the curriculum. The initial categories were grouped by how teachers marked the items. The focus was on making sure all the comments that teachers made were coded. For example, if a teacher marked an item *I* and noted that she added a mini-lesson on adjectives to help students, I coded it *Implemented—Additional Background*. If an observer marked an item *M* and noted that the teacher did the complete all parts of an activity, I coded it *Modified—Did Not Use Part of an Activity*.

The first round of coding had 10 codes under Implemented, 34 codes under Modified, and 18 codes under Not Implemented. After reading all the logs and coding any instances where I found teachers making changes, I discussed the coding protocol with my external peer reviewer. We agreed to collapse the codes into types of modifications to eliminate some of the overlapping or unnecessary codes and to ensure I was capturing different types of changes. For example, many of the codes in the Modified

and Not Implemented categories were overlapping, because teachers would describe the change in the same way but categorized the change in different ways. I also used memos to describe my thoughts about specific codes and how they were working and to note any questions I had for the teachers. I used these memos to expand the interviews with each participating teacher.

The second version of the coding had three types of modifications: additions, subtractions, and delivery. Additions described the instances where teachers added to and went beyond what was provided in the curriculum. Subtractions described the instances where teachers did not teach all the material written in the curriculum. Delivery described the instances where teachers changed the way they delivered part of the lesson but attempted to maintain the goals of the activity and/or lesson.

Why do teachers make these adaptations? How do their adaptations relate to factors that have been identified in prior literature as affecting fidelity of implementation? For the second part of this question, why are teachers adapting the curriculum and how do the modifications relate to previously established factors, I started by examining the fidelity and observer logs and field notes. Before I analyzed the data, I created a coding protocol based on the factors that affect implementation as described in Chapter 2. I separated the factors into structural and instructional-process categories and ensured that the factors found in general and gifted education were represented in this coding protocol. I used the coding for the first round of coding and used memos to document statements I had about potential alterations and additions.

After I completed the initial coding, I discussed it with my external peer reviewer. He agreed with the additional codes that I created and offered some advice about how to

consider them. Then I returned to the data and reviewed it again as part of the iterative-recursive process specific to abductive reasoning, focusing on how the codes interact and whether new concepts, relationships, or explanations emerged from the process (Schwartz-Shea & Yanow, 2013).

I documented the way I revised the coding protocols for both questions and had the expert peer reviewer analyze it to ensure that I was capturing both the initial codes and that the additions and revisions made sense. The final version of the complete protocol is in Appendix I.

Based on the coding I completed, the interview protocols were adapted for each teacher to reflect the teacher's responses in her fidelity logs and the observation data to ensure that any questions I had were answered. Once the coding protocol was finalized, I used it to code the interviews.

Research Question 3: When teachers are grouped by high, moderate, or low fidelity, do common or differential themes emerge about how and why adaptations are made? I answered Question 3 using a case-oriented approach (Miles, Huberman, & Saldana, 2014). This type of analysis is best for "Finding specific, concrete, historically grounded patterns common to small sets of cases" (Miles et al., 2014, p. 102). As the focus of the study was rural, high poverty divisions, my findings are specific to this context.

I used the findings in questions 1 and 2 to create the cases. Each teacher was a case discussed in terms of her level of fidelity as determined by the analysis in Question 1. I used the cross-case comparisons to determine if the different groups of teachers shared certain patterns. First, I grouped teachers based on their degree of fidelity from

Question 1. Then, I explored the similarities and differences of how and why teachers within each group make adaptations based on the coding and themes from Question 2. Finally, I looked for recurring themes that help to provide an explanation for the similarities and differences between groups. As suggested by Creswell (2013), I created a matrix to help visualize the themes (see Table 16 in Chapter 4).

As with Question 2, I used the Dedoose software to compare the codes across cases to allow patterns and themes to emerge. I discussed my initial findings with both my external and expert peer reviewer and considered their comments before I presented the final themes in my analysis.

Validity

Miles et al. (2014) identify 13 tactics that help researchers ensure the quality of their data and check their findings. These are (1) checking for representativeness, (2) checking for researcher effects, (3) triangulating across data sources and methods, (4) weighting the evidence, (5) checking the meaning of outliers, (6) using extreme cases, (7) following up surprises, (8) looking for negative evidence, (9) making if-then tests, (10) ruling out spurious relations, (11) replicating a finding, (12) checking out rival explanations, and (13) getting feedback from participants. This section detailed how I ensured the quality of my data for each tactic.

Checking for Representativeness

Checking for representativeness required me to address three issues. This study addressed the first issue, sampling non-representative participants, by looking at multiple rural, low-income schools. The school divisions participating came from three different regions of the state: northern (School Division 1), southern (School Division 2), and

eastern (School Division 3). I included all the teachers who were observed teaching multiple lessons in the sample pool. As the teachers were selected to teach the curriculum by administration, they are not necessarily the teachers who are the most cooperative or the "local elite" (Miles et al., 2014, p. 295).

To address the second issue, making generalizations from non-representative activities, I included data from the interview protocol used by observers immediately after an observation that captured information on whether teachers felt that lesson was typical for the classroom. Therefore, any atypical occurrences were documented. In addition, we completed observations of each teacher a minimum of four times. The frequency of the observations allowed me to note any differences between the atypical and typical classes for each teacher.

Researchers can avoid the third issue, drawing inferences from non-representative processes, by "extending the 'universe'" of the study by increasing the number of cases, looking for contrasting cases, ordering the cases in various ways in a matrix, and randomly sampling people and phenomena within the site (Miles et al., 2014, p. 296). The cases (teachers) in the study represented a sample of different rural communities. In addition, the cases represented different service delivery models and teachers with different classroom roles (see Table 1 for details). Finally, I used the quantitative data from Question 1 to help me find contrasting cases.

Checking for Researcher Effects

Miles et al. (2014) state that bias can occur between the researcher and the case, specifically when the researcher's presence causes the participants to act differently. During the trainings provided to teachers implementing the curriculum, the grant staff

explained how we would conduct the observations, that we were evaluating the curriculum not teaches, and that our goal was to be as unobtrusive as possible. Therefore, teachers understood why the other observers and I would be typing and the purpose of the document(s) we completed. The teachers often introduced us to the students and explained that we were there to watch the teacher rather than the students. We typically conducted the post-observation interviews in the teachers' classrooms, but if it was not convenient, they were able to answer the questions via e-mail so that we did not disrupt their day.

Additionally, we worked to avoid researcher effects through prolonged engagement, as observers visited each site multiple times. As I participated in most of the observations, I became a regular presence for the teachers and the students.

The other type of bias is between the case and the researcher, when the researcher goes native after spending too much time with the participants (Miles et al., 2014). The other observers did not visit sites frequently, so they were not in danger of going native. To avoid this for my own data collection, the site visits were distributed over the course of a school year. The data that I used is from the 2015-2016 and 2016-2017 school years, so I have removed myself from the data long enough that I should be able to analyze it with a fresh perspective. I focused on teacher fidelity logs first so that I put the teachers' perspective first when I was coding the information. Using the teachers' logs helped me to triangulate my data collection methods. In addition, I had both an expert peer reviewer in gifted education and an external peer reviewer examine the data and my analysis of it to ensure that I had outside opinions to consider and that my findings were defensible.

Triangulating

Researchers often triangulate data by method, data source, researcher, theory, and data type (Miles et al., 2014). I used multiple data sources from three different school divisions, as well as data from two different school years. My methods included observations, interviews, and teacher self-report. While I collected most of the observation and interview data from the 2016-2017 school year, three other observers completed observations and interviews in School Division 1 in 2015-2016. One of the observers also joined me for a few observations in 2016-2017 in School Division 2. Finally, the mixed methods approach allows me to use both quantitative and qualitative data to draw my conclusions.

Weighing the Evidence

Some data may be stronger than others. Miles et al. (2014) note that some participants are more articulate, knowledgeable, and invested than others and that the circumstances of data collection can strengthen the quality, such as interviewing later in the process when the participants trust the researcher(s). In addition, researchers' validation efforts, such as triangulation, improve the quality of findings. While I had no control over the quality of my participants, I did conduct multiple observations and interviews with each one. In addition, I was able to correlate the teacher logs with the observer logs to strengthen conclusions about teachers' level of fidelity using the teacher self-report data, and thus, was better able to triangulate my findings.

I conducted follow-up interviews with all willing participants so they had the opportunity to reflect on at least one year of teaching the curriculum, and I was able to clarify some questions that I had based on the initial data. I believe my frequent visits had

allowed us to build an appropriate rapport. Finally, I followed Miles et al.'s (2014) advice and created a log of data quality issues, which were documented in memos as I coded the data. The expert peer reviewer had access to the log and was able to offer her perspective on the issues.

Checking the Meaning of Outliers

Miles et al. (2014) assert that researchers should not ignore or explain away outliers so that researchers can best explain their findings better and protect against self-selecting biases. I found outliers in both the quantitative and qualitative data and examined that data so that I could discuss similarities and differences between those cases and the typical cases. The outliers were discussed as part of the results.

Using Extreme Cases

Miles et al. (2014) identified two types of extreme cases: when "there should have been consensus but there wasn't" and when a person is biased (p. 303). To address issues of extreme cases, I analyzed the data for consensus and reported the extreme cases. As I was familiar with all the teachers and their typical behavior, I checked for their potential bias in the follow-up interviews, particularly around questions of teacher buy-in and beliefs about their school and their students. The potential extreme cases I found were related to outliers in the quantitative data and a disparity between the teachers' classroom practices and level of buy-in. I reported the cases to the expert peer reviewer. We agreed that the outliers were coded incorrectly and fixed the issues in the quantitative data. We also agreed that the potential disparity between practice and buy-in was understandable given the teachers' circumstances.

Following up Surprises

Surprises occur when something occurs that is outside the researcher's range of expectations (Miles et al., 2014). The surprising data I found was related to the difference between a teacher's classroom practices and her level of buy-in for both our curriculum and gifted education. As suggested, I reflected on the situation and I did not expect it, considered why I needed to revise my expectations, and used the interview to gather the evidence I needed to support my revised expectations.

Looking for Negative Evidence

I followed Miles et al.'s (2014) suggestion of looking for disconfirming evidence by asking, "Do any data oppose this conclusion or are any inconsistent with this conclusion?" for each of my conclusions. I was careful not to discard the conclusion immediately and made sure that I considered the proportion of negative to positive evidence before making changes. I also spoke with my expert and external peer reviewers to see if my reasoning was justifiable to others.

Making If-Then Tests

Using if-then tests, a "statement of expected relationship," helps a researcher create a foundation for understanding that can lead to a theory of what is happening (Miles et al., 2014, p. 305). Based on my observations, I created a set of if-then tests before I analyzed the data. For example, if the teachers buy-in to the curriculum, then they will have high fidelity. Once I analyzed the data, I modified these statements as necessary. The findings helped me to construct my final themes.

Ruling out Spurious Relationships

Miles et al. (2014) state that spurious relationships occur when researchers

connect data together incorrectly. For example, when two variables are correlated or causally associated, a third variable may be affecting them. To avoid these relationships, I checked all major conclusions for any intervening variables. As with checking outliers and using extreme cases, I continually looked for potential issues in my conclusions. I analyzed the fidelity and observer logs and field notes before I spoke with teachers so that I could check with teachers about areas where I felt I might be making incorrect connections and/or needed additional data to draw a conclusion.

Replicating a Finding

Replication involves reproducing the findings in a different context or other parts of the data (Miles et al., 2014). With my first research question, I replicated the findings of Foster (2011), which allowed me to use the teacher fidelity logs. In addition, the goal of Question 3 was to replicate findings across cases. For example, I hypothesized that high-fidelity teachers in different school divisions would make similar changes to their instruction. Using this approach helped me make a stronger statement about appropriate instructional changes. I was also able to compare the findings in the cases that I observed to the cases that my colleagues observed.

Checking Out Rival Explanations

Miles et al. (2014) suggest that researchers look for rival explanations and consider the alternatives alongside the explanation that makes the most sense to them to avoid bias, especially alternatives relating to disconfirming evidence or surprises. I considered these alternatives in constructing the matrix for Question 3. I reported these alternatives to my expert and external peer reviewers and they agreed with my determinations.

Getting Feedback from Participants

The final tactic is often called member checking, as it involves the researcher asking for the participant's opinion on her findings. This does not have to be after the final analysis—it can occur at any point during the review process (Miles et al., 2014). I engaged in member checking by transcribing the follow-up interviews with the participating teachers. I used the transcriptions for my coding and creation of themes. Once I created my initial themes, I sent the transcriptions back to the teachers with these themes to give them the opportunity to confirm the accuracy of the transcription and to get their opinions on the themes. Most teachers did not respond, but Ms. Frost replied that she "was glad to see that other teachers felt the same" (personal communication, 19 March 2018).

<div align="center">

Researcher Involvement

</div>

Qualifications

My experience in qualitative and mixed methods research includes conducting a yearlong qualitative study, in which I observed and interviewed AP English teachers, as part of my coursework at the University of Virginia. I presented findings from this study at numerous conferences, including the Curry Research Conference (CRC), the annual meeting of the National Association for Gifted Children (NAGC), and the annual meeting of the American Educational Research Association (AERA). In addition, I conducted a mixed-methods study of state policies impact on AP math and literature performance. I began with a quantitative approach, where I used archival data from the College Board to find states that had small and large excellence gaps. After identifying states, I worked with my colleagues to use deductive coding on the state policies related to AP based on

policy recommendations from the Education Commission for the States. Findings from this study were presented at AERA and were included in a chapter published in a state policy monograph.

Researcher as Instrument

I was a participant-observer in this study, as I was heavily involved with Promoting PLACE in Rural Schools as a graduate research assistant from the beginning of the grant, when I assisted in writing the proposal. Since then, I have edited and created teacher and observer logs, trained teachers to use the curriculum and logs, and served as the primary contact for treatment teachers who have questions about using the curriculum and oversee the completion of fidelity logs. I completed most of the observations of the teachers used in this study. In addition, I built relationships with the teachers as I contacted them to ensure that they had the support they needed to implement the curriculum, occasionally participated in lessons by answering teachers' questions, and interacted with students who approached me to show me what they are working on. Because of these relationships, I brought some potential bias into the study.

I took multiple steps to reduce these potential biases. Using a mixed-methods approach gave me a more objective platform to work from, as the teachers' degree of fidelity was determined by their self-reported practices rather than my opinion of their teaching. My background as an English teacher, as well as my training in gifted education, afforded me robust knowledge about what the best practices in gifted language arts curriculum should look like. I addressed the bias created by this knowledge by focusing my analysis on how teachers' practices matched the lesson plans that they were given, as they could not be expected to have the same background. In addition, as an

English teacher I sought to develop clear and detailed rubrics to separate my personal opinions from students' work so that I could grade fairly and consistently. For this study, I used detailed coding protocols that were peer reviewed to help separate my opinions from the reported data. The protocols also allowed me to code the data as impartially as possible. I used peer review to discuss and to validate my interpretations. The considerable amount of time between when the observations were conducted and when I reviewed the data helped reduce the bias I might have had about teachers in the study. Another decision I made to reduce potential bias was to extend my analysis to two Cohorts of data, as other researchers collected a portion of the data for Cohort 1. On the recommendations of my committee, I used both an expert and an external peer reviewer to evaluate my work to add to the trustworthiness of my findings. I also conducted two practice interviews that were recorded and evaluated to ensure that the interviews would add appropriate information to the data corpus and that I could discuss the curriculum with teachers impartially.

CHAPTER 4

RESULTS

The results of this study were organized around the three research questions:

1. With what degree of fidelity (high/moderate/low) do teachers implement the place-based CLEAR curriculum units?

2. How are teachers adapting the place-based curriculum, and why do they make these adaptations? How are their adaptations related to factors that have been identified in prior literature as affecting fidelity of implementation?

3. When teachers are grouped by high, moderate, or low fidelity, do common or differential themes emerge about how and why adaptations are made?

Research Question 1: With What Degree of Fidelity (High/Moderate/Low) Do Teachers Implement the Place-Based CLEAR Curriculum Units?

To answer Question 1, I analyzed the data by calculating the observed lesson fidelity scores (OFS) and the related teacher reported fidelity scores (TFS), which were both reported as percentages of the lesson implemented with fidelity. The OFS was the percentage of critical components observed to be implemented or modified/omitted in accord with the design principles of the curriculum model. An OFS of 100% would be considered completely in line with the curriculum as written. The TFS is the percentage of critical components teachers reported that are implemented or modified/omitted in accord with the design principles of the curriculum model. For the observations with

76

multiple observers, I compared each observer's OFS to the TFS separately. I examined the relationship between the OFS and TFS by determining the correlation between the two. There were 95 teacher fidelity logs that corresponded with observer fidelity logs (*n* = 95). Each of the 95 pairs represents a unique observer, teacher, and lesson pairing. The large number is because for almost every primary teacher fidelity log we observed in Division 3, we also received a log from Ms. Collins, who observed and participated in these lessons as the facilitator of gifted services in the school division.

Before calculating the correlation, I examined the data by creating a scatterplot to look for linearity, homoscedasticity, and outliers to determine whether I should use Pearson's product-moment correlation coefficient or Spearman's rank correlation coefficient (Spearman's rho). A visual analysis of the scatterplot indicated there were outliers and that the distribution was negatively skewed and the skewness values were greater than -1, more than two times the standard deviation value (SD= .247). Therefore, I calculated the correlation using Spearman's rank correlation coefficient.

Spearman's rho is a non-parametric measure of statistical dependence between two variables. The results provided evidence that there was a strong, positive correlation between the OFS and TFS ($r_s(93) = .637$, $p < .01$). The explained variance was $r_p^2 = .406$, meaning that 41 percent of the variance in the TFS is explained by the OFS. I used Cohen's conventions to determine the relationship between the OFS and the TFS was large (.5-1.0), which indicates that teachers were able to report their level of fidelity at a similar level to the observer. This data replicates the findings in Foster's (2011) dissertation that teacher self-report is an acceptable alternative to direct observations when determining FOI for the CLEAR Curriculum Model.

To determine which teachers had high, moderate, and low TFS scores, I used Foster's (2011) criteria: teachers with a mean score between 85-100 percent were considered high fidelity, teachers with a mean score between 70-84 percent were considered moderate fidelity, and teachers with a mean score under 70 percent were considered low fidelity. Foster stated that any FOI score beneath 70 percent would mean the teachers' delivery significantly compromised the integrity of the CLEAR model and their implementation would not be aligned with the designers' intent.

Inter-rater Reliability

I analyzed data for over 400 fidelity logs to determine each teacher's TFS. I checked the reliability of my scoring with the scoring of 151 teacher logs that were scored by a second member of the project staff. To assess inter-rater reliability, I chose to compute a two-way mixed, absolute agreement, single-measures intraclass correlation (ICC, McGraw & Wong, 1996). The results showed a high degree of rater agreement, $ICC = .992$, which is in the excellent range (Cicchetti, 1994). The high single-measures ICC indicated that using the scores of a single rater would be suitable for this study (Hallgren, 2012).

Teacher Fidelity Scores

A summary of the teacher fidelity results for the lessons they taught, broken down by their mean TFS scores in Folklore, Poetry, and Combined, is detailed in Table 3. The N for the units varies based on whether the teacher was responsible for teaching each lesson and if she taught a lesson differently for a particular class. For example, Ms. Angelou submitted separate fidelity data for Folklore Lesson 8 because she made changes at South Elementary that she did not make for North Elementary. Ms. Collins also

submitted multiple logs for numerous lessons based on which teachers she assisted. Ms.

Dickinson, Ms. Eliot, Ms. Hughes, and Ms. Joyce all reported that another teacher[2] was

responsible for their classrooms for lessons within the unit and did not complete the

fidelity logs for those lessons. Because the lessons were taught, they were not considered

missing and were not included in the TFS calculations.

Table 3
Teacher Fidelity Results for Lessons Taught

Teacher Name	Folklore			Poetry			Overall		
	N	*M*	*SD*	*N*	*M*	*SD*	*N*	*M*	*SD*
Ms. Angelou (a)[1]	20	97.26	5.21	17	96.02	6.84	37	96.69	5.96
Ms. Angelou (b)	20	95.89	6.54	16	95.28	10.70	36	95.62	8.51
Ms. Bishop	17	92.51	9.92	5	94.54	9.41	22	92.97	9.62
Ms. Collins	24	90.70	10.49	53	88.19	11.11	77	88.97	10.91
Ms. Dickinson	15	83.79	12.70	16	86.12	15.58	31	84.99	14.07
Ms. Eliot	13	87.30	18.08	17	96.44	5.40	30	92.48	13.13
Ms. Frost	19	91.66	9.63	18	94.12	8.03	37	92.86	8.86
Ms. Giovanni	19	92.59	9.09	18	94.45	9.93	37	93.50	9.42
Ms. Hughes	15	92.21	18.30	17	87.99	16.33	32	89.96	17.13
Ms. Joyce	11	60.69	32.21	13	77.39	18.84	24	69.73	26.62
Ms. Keats	14	60.23	14.07	18	73.65	19.05	32	67.78	18.11

[1] Ms. Angelou taught the unit in (a) 2015-2016 and (b) 2016-2017

The results from the lessons taught indicated that most teachers reported implementing

lessons with high fidelity.

However, every teacher except for Ms. Frost and Ms. Giovanni reported that they

did not teach at least one lesson. To capture teachers' fidelity to the units as a whole,

teachers received a TFS of zero (0) when they reported they did not teach a lesson. Ms.

Collins only submitted logs for lessons she supervised, and therefore was not included in

the analysis that included missing lessons (see Table 4).

---

[2] Either Ms. Collins or the elementary gifted resource teacher delivered these lessons.

Table 4
Teacher Fidelity Results Including Missing Lessons

Teacher Name	Folklore			Poetry			Overall		
	N	M	SD	N	M	SD	N	M	SD
Ms. Angelou (a)[1]	20	97.26	5.21	18	90.68	23.58	38	94.14	16.75
Ms. Angelou (b)	20	95.89	6.54	18	84.69	32.41	38	90.58	23.17
Ms. Bishop	19	82.78	30.63	18	26.26	43.81	37	55.28	46.86
Ms. Dickinson	19	66.15	36.84	17	81.05	25.77	36	73.19	32.53
Ms. Eliot	17	66.76	41.25	18	91.08	23.32	35	79.27	35.00
Ms. Frost	19	91.66	9.63	18	94.13	8.03	37	92.86	8.86
Ms. Giovanni	19	92.59	9.09	18	94.45	9.93	37	93.50	9.42
Ms. Hughes	19	72.80	41.85	17	87.99	16.33	36	79.98	32.90
Ms. Joyce	19	35.13	39.04	17	59.18	37.57	36	46.49	39.17
Ms. Keats	19	44.38	29.76	18	73.65	19.05	37	58.62	28.88

[1] Ms. Angelou taught the unit in (a) 2015-2016 and (b) 2016-2017

Half the teachers with high fidelity in lessons taught had moderate overall fidelity once I accounted for the lessons that were not taught. In addition, it was clear that all classroom teachers had higher fidelity for the unit they taught first in the year. This may be because teachers were more likely to omit a lesson in the units they taught later in the school year due to testing and end-of-the-year activities (e.g., Ms. Hughes, Folklore 16-20 fidelity logs). A breakdown of how the timing affected TFS scores is in Table 5.

Table 5
Teacher Fidelity Results by When They Taught the Unit

Teacher Name	Started in the Fall				Started in the Spring			
	Unit	N	M	Lessons Not Taught	Unit	N	M	Lessons Not Taught
Ms. Angelou (a)[1]	Folklore	20	97.26	0	Poetry	18	90.68	1
Ms. Angelou (b)	Folklore	20	95.89	0	Poetry	18	84.69	2
Ms. Bishop	Folklore	19	82.78	2	Poetry	18	26.26	11
Ms. Dickinson	Poetry	17	81.05	0	Folklore	19	66.15	4
Ms. Eliot	Poetry	18	91.08	0	Folklore	17	66.76	4
Ms. Frost	Poetry	18	94.13	0	Folklore	19	91.66	0
Ms. Giovanni	Poetry	18	94.45	0	Folklore	19	92.59	0
Ms. Hughes	Poetry	17	87.99	0	Folklore	19	72.80	4
Ms. Joyce	Poetry	17	59.18	4	Folklore	19	35.13	7
Ms. Keats	Poetry	18	73.65	0	Folklore	19	44.38	5

[1] Ms. Angelou taught the unit in (a) 2015-2016 and (b) 2016-2017

I chose to use the overall TFS to group teachers because the research question addresses both units and the differences in implementation would best be discussed in Research Question 3, which focuses on patterns of teachers in different fidelity groups. Based on my analysis, Ms. Angelou, Ms. Frost, and Ms. Giovanni were the teachers in the high-fidelity group; Ms. Dickinson, Ms. Eliot, and Ms. Hughes were in the moderate fidelity group, and Ms. Bishop, Ms. Joyce, and Ms. Keats were in the low fidelity group.

Research Question 2(a): How Do Teachers Make Modifications to Curriculum?

To examine how teachers adapted the curriculum, I used open coding. First, I examined the teachers' fidelity logs and coded any changes they made to the curriculum (see Appendix B for sample fidelity log). The initial categories were grouped by how teachers marked the items (*I* for Implemented, *M* for Modified, or *N* for Not Implemented). For example, if a teacher marked an item *Modified* and noted that she did not ask follow-up questions, I coded it *M—Did Not Use Part of an Activity*. If she marked an item *Not Implemented* and explained that they did not use an early finisher activity, I coded it *N—Early finisher*. I also coded any items where teachers marked *I* but the explanation indicated that they had made a modification. For example, if a teacher marked a component *Implemented* and noted that she added a mini-lesson on adjectives to help students, I coded it *I—Additional Background*. My focus was on capturing exactly how teachers described modifying the curriculum.

Once I had completed coding for all the fidelity logs, I then used the codes that I had created to analyze the observer logs and the field notes. The first round of coding had 10 codes under Implemented, 34 codes under Modified, and 18 codes under Not Implemented. I discussed the first coding protocol with my external peer reviewer. We

agreed to collapse the codes into types of modifications to eliminate some of the overlapping or unnecessary codes and to ensure I was capturing different types of changes. For example, many of the codes in the Modified and Not Implemented categories were overlapping because teachers described the change in the same way but categorized the change in different ways. I also used memos to describe my thoughts about specific codes and how they were working and to note any questions I had for the teachers. I used these memos to modify the interviews with each participating teacher to collect more explanatory data.

The second version of the coding had three types of modifications: additions, subtractions, and delivery. Additions described the instances where teachers added to and went beyond what was provided in the curriculum. Subtractions described the instances where teachers did not teach all the material written in the curriculum. Delivery described the instances where teachers changed the way part of the lesson was delivered but attempted to maintain the goals of the activity and/or lesson.

Additions

Additions were codes that described instances where teachers reported that they went beyond what was written in the curriculum. Teachers marked items in the lessons as Implemented but added comments about how they executed the activity that made it clear they did something extra. These modifications fell into three main categories: background material, activities, and amount of time (see Table 6).

Table 6

Additions Teachers Made to Curriculum

Addition Modifications	Background Material	Activities	Amount of Time
Ways that Teachers Made Additions	Additional material	Technology	Extra time to complete activities
	Review material	Connections to other class activities	
	Mini-lessons	Publishing	

Overall, teachers reported adding more small activities, like terminology reviews, than background material or time. However, the most substantial additions were related to background material.

Background material. All teachers added and reviewed material when they felt that students needed more background information to understand the lesson properly. Ms. Angelou also added structured mini-lessons when the students' responses indicated additional instruction would help students grasp a concept. Because the materials supplemented the unit, the additions were positive and did not affect teachers' reported FOI.

Additional material. Most teachers who reported additions read or discussed extra stories with students in the Folklore unit. Many teachers spoke of their students' lack of folktale background, including Ms. Angelou, Ms. Bishop, Ms. Collins, Ms. Hughes, and Ms. Joyce. One example of an addition occurred in Folktale Lesson 2. In this lesson, the direction is to ask student to think of any tales they have heard that carry a moral. Ms. Bishop marked the item as implemented on her log but noted that she gave examples of such tales. In her interview, she explained:

> I think we got something to read almost every day...many of them had not read *Rumpelstiltskin*, or *Thumbelina*, or *The Little Mermaid*, or *Puss in Boots*.... I was amazed at how many of them really didn't have any fairytale background at all. (Ms. Bishop, follow-up interview, 29 January 2018)

Ms. Joyce used visual media to provide added background, like when she showed students a trailer for *The Swan Princess*, a story involving animals who magically change into people that aligned with Folklore Lesson 8. She said, "a lot of times, when students are hearing *Cinderella* or some of the different poems and folklore, sometimes they have not heard of them. You would think they've heard of *Beauty and the Beast* but some haven't" (Ms. Joyce, follow-up interview, 24 January 2018). Teachers consistently described where they added supplemental material even though they were not making modifications to critical components listed on the fidelity logs.

Another way that all teachers provided students with background information was by using additional examples to help students comprehend the material. For example, when they were discussing a quote from George Douglas's *Scottish Fairytales* about changing the way a story is told in Folklore Lesson 17, Ms. Angelou connected it to *Star Wars*:

> [Ms. Angelou] asks if they will no longer watch the old ones [*Star Wars* movies from the 1970s] if they have the new ones [from the 2010s] ...but are the old ones still entertaining? Is the new one entertaining? Back to the quote—the newer ones might be better to some people, but the older ones are still meaningful. (field notes, 13 January 2016)

The teachers felt these additions helped the students connect with the challenging folklore material and made the content more accessible.

Teachers also added supplemental examples to the Poetry unit. The teachers in Division 3, particularly Ms. Collins, often offered examples that connected to the students' community, such as discussing crabbing alongside fishing in Poetry Lesson 8.

Ms. Angelou "g[ave] them examples of what she would put in [a magic box], not necessarily from the poem. It spark[ed] some of the students to brainstorm similar things," and she added guidelines to help students focus when she stipulated that instead of sharing one thing, students share "one thing they are really proud of" (Poetry 4 observer log, 8 February 2017). Ms. Angelou added examples like these to SMARTboard slides, which she shared with the grant staff. These slides were provided to all the teachers as a resource. All the teachers in Division 3 used the SMARTboard slides regularly and were consistently observed using the examples Ms. Angelou built in to her lessons.

The teachers felt the additions they made helped students to connect with the challenging folklore material (e.g., Ms. Collins, follow-up interview, 30 January 2018). Hence, the additional background material additions were in line with the guiding principles and did not impact teachers' reported FOI.

Review material. All teachers added reviews of terminology, definitions, and stories/poems in both units. There are numerous field notes that describe teachers asking students to recall and define terms and give examples, even when the lesson did not call for it specifically. For example, Ms. Keats described repeating material at the end of the poetry unit, reviewing vocabulary and making an anchor chart of all the poems they had written. According to Ms. Keats this addition was necessary "because it has been so long since we have done some of the beginning poems" (Poetry 16 fidelity log). Ms. Keats and the other Division 3 teachers, as well as Ms. Angelou, had week-long gaps between classes and Ms. Bishop's lessons all took multiple days. Adding in review time was necessary to remind students of what they had done, particularly when a single lesson

was taught over the course of multiple weeks (e.g., Ms. Bishop, Poetry 3 fidelity log). Therefore, the additional review described by the teachers and witnessed by observers was meant to remind and not to remediate, which made it a positive modification.

Mini-lessons. Ms. Angelou reported that she added in mini-lessons as "some students come to me as a third grader not knowing what a verb, and adjective, or a noun is. So sometimes I have to go over the basics before I can go into, okay, this is a concrete noun, this is an abstract noun" (follow-up interview, 16 January 2018). For example, when the students were having difficulty with parts of speech in the poetry unit, she had all the students play a game, as I noted in an observation of Poetry Lesson 2:

> [S]he wants them to think of an adjective that describes themselves, and a verb that is something that they do (this is on the board)—she gives them an example "Hello! My name is excellent [Emily] and I teach!"—one student incorrectly IDs the adjective as "[Emily]" and she says no and finds someone to get the adjective "excellent," noun "[Emily]," and verb "teach"—she uses this as a game to go through and say their names. (field notes, 11 February 2016)

In her follow-up interview, Ms. Angelou noted that students struggled with adjectives in Lesson 2, which introduced "The Red Wheelbarrow." "Students would put a noun where it said adjective and they would not get it. So I would have to have mini-lessons here or there and find teachable moments to just go back and hit that" (16 January 2018). She referenced using these types of additions whenever she noticed areas where students were struggling.

Overall, the additions of background material were positive modifications meant to address students' needs and the changes aligned with the guiding principles of the curriculum.

Activities. When teachers added activities, they expanded on the lesson or unit content to help students connect with the material in a different way. All teachers

reported positive examples of additions of technology and connections to other class

activities, while Ms. Angelou and Ms. Giovanni added a publishing component.

Technology. Teachers who made additions, such as videos and music, did so

because they felt it helped the students with the content. For example, Ms. Collins

provided every teacher in Division 3 access to a YouTube video about personification for

Poetry Lesson 11: "the kids were very excited about music so we thought that that would

be helpful in them being able to remember it" (Ms. Collins, follow-up interview, 30

January 2018). Ms. Bishop showed students a video referenced in the Teacher Tips

section of a lesson about how fiction helps the brain to further explicate the concept of

growth mindset to students. Ms. Angelou played the song "Life is a Highway" for

students while they stretched in the morning, then she "later asked them to think about

why I played that particular song during this lesson. We discussed this metaphor while

we discussed the other metaphors" (Ms. Angelou, Poetry 9 fidelity log). The field notes

for the observations of Ms. Angelou's use of music (12 April 2016) and the video Ms.

Collins chose (24 January 2017) indicated that the material fit with the guiding principles

and that students were engaged.

Technology was used for other additions as well. For example, Ms. Angelou both

created material and extended the culture activity in Folklore Lesson 9 by having students

do research using their iPads during her first year using the curriculum:

> I created a class set of culture cards from the Appalachian culture that had a
> picture on and it also stated the component of culture and the name.
> For example:

Natural Resource: Coal

> Students then researched on their culture on their ipads [*sic*] to figure out why it was important to the Appalachian culture and shared it with the class. (fidelity log)

These examples show that use of additional technology was a positive modification that helped teachers expand on the lesson and provided students the opportunity to explore topics more in-depth.

Connections to other class activities. Teachers also supplemented the curriculum with additional examples based on other topics they were discussing in class. For example, Ms. Dickinson said:

> We were talking about something to do with cultures and how more primitive cultures might have an oral tradition and the cultures where people's needs were being met… they'd developed writing and a higher level of civilization. I just used that. There was another time when I brought in a quilt…. and then we got away from the lesson itself because I went on the Internet and we watched women in India making quilts. It was real interesting. It just gave them a different perspective. (Ms. Dickinson, follow-up interview, 5 February 2018)

Ms. Dickinson made many additions like this, including pulling in references from other books they had read in class or her own writing. While not as lengthy as Ms. Dickinson's additions, Ms. Giovanni made connections to other subject areas, like when she had her students practice writing a cinquain based on the ecosystems they were studying in science (field notes, 6 December 2016). Ms. Eliot also noted that "there will be a prefix or a suffix mentioned then I already have that content and we already have that in our curriculum. And there's stuff around the room" that she referenced during the units to reinforce concepts (follow-up interview, 29 January 2018). The connections that most

teachers made were positive, as they fit into the lesson structure neatly. However, in the

lessons where Ms. Dickinson described adding in supplementary material she also

reported excluding other components of the curriculum. While the additional activities

were aligned with the guiding principles, they were negative because affected her overall

fidelity of implementation.

Publishing. Lastly, two teachers made additions that added to the core goal of

having students act as experts. Ms. Angelou and Ms. Giovanni had their students become

"published" authors. Ms. Angelou explained:

> Last year, I added a component where they got to publish their poems in a book,
> and we sent it off, and the book was actually published through Scholastic.…So
> they got to pick their two favorite poems, and then they got to write the poem, and
> then they drew an illustration, and then it was published as a class book. And then
> they got a copy of it. And I think that was cool. I'm like, "Hey, you're an author."
> And that was a cool bonus for them. (Ms. Angelou, follow-up interview, 16
> January 2018)

While my last observation of Ms. Giovanni's class was during a field trip, she asked me

to come by and view the students' book (field notes, 6 June 2017), which I did the

following day (Ms. Giovanni, e-mail communication, 7 June 2017). Both teachers felt

that having an actual book as the final product was important and they did not omit other

parts of the lesson to create the publication.

Amount of time. All teachers reported that they needed to allot more time to

complete parts of the lesson than they had anticipated. Ms. Collins noted that "Even

though we just have an hour, it seemed like those lessons were definitely, for the most

part, a two-time period lesson" (follow-up interview, 30 January 2018). Ms. Bishop

extended lessons: "Some of them stretched out. Some of them for two days and then

some of them might take all week depending on how in detail the information was and

what they had to write or do" (Ms. Bishop, follow-up interview, 29 January 2018). Ms.

Keats also talked of extending the time frame for lessons: "When they have writing, I will

give them a whole week or so to do it. I don't do that in one lesson. We do that over the

course of a week or two weeks if we have to" (follow-up interview, 1 February 2018).

From the teachers' perspective, they were adding more time to deliver the curriculum.

This positive modification resulted in the implementation of more components of the

curriculum.

One lesson that all teachers felt they devoted extra time to was Folklore Lesson

15, which had 34 components. The performance assessment, writing a tale, was only six

components of the lesson, which made it appear as if it would be a small part of the plan,

as seen in Figure 1.

PERFORMANCE ASSESSMENT: Writing a Tale	
10. Instructed students to take out their prewriting notes from previous lesson	I M N
11. Asked students to ensure their stories include descriptions of character, setting, and plot	I M N
12. Gave students the Master Writer Checklist	I M N
13. Provided time for students to finish writing their tales	I M N
14. Encouraged students to revise and edit their tales if they finish early	I M N
15. Optional: If time allowed, permitted students to share their tale with the class	Y N

Figure 1: Folklore performance assessment in the fidelity log.

However, the teachers spent more time on the performance assessment than they

typically spent on an entire lesson. Ms. Hughes wrote that "This writing activity took an

hour longer than I expected!" However, she did make sure students had the extra hour to

finish (Folklore 15 fidelity log). Ms. Angelou explained: "[The folktale] was one lesson

in the curriculum, and I spread that out in multiple lessons. So I had them do a pre-

writing and a drafting, and then I went back and I revised and did the work—made corrections" (Ms. Angelou, follow-up interview, 16 January 2018). As mentioned previously, both Ms. Angelou and Ms. Giovanni added the additional step of publication that extended their time on this activity even further. While these teachers felt they added time, these examples show how they adjusted their schedules to implement the curriculum with fidelity. However, half the teachers did not teach any lessons beyond the folktale because they ran out of time in the school year (Ms. Dickinson, Ms. Eliot, Ms. Hughes, Ms. Joyce, Ms. Keats, fidelity logs). While the extra time helped TFS for individual lessons, most teachers' overall fidelity was negatively impacted by extending time on particular lessons.

Conclusion. The material covered in the additions that teachers made fit with the guiding principles of the curriculum. Most of the additions did not appear to impact teachers' fidelity of implementation. However, the additions that some teachers made— particularly in extending time for some lessons—led to issues with time that led them to subtract elements from the curriculum and had a negative impact on overall FOI.

Subtractions

There were over 200 fidelity logs where teachers reported that they did not teach all the material written in the curriculum. Their subtractions mainly consisted of teachers cutting activities—either the entire activity or part of one. They all reported excluding material such as stories, poems, formative assessments, questions, and information. Unfortunately, seven teachers reported that there were multiple lessons that they did not teach. The different categories and types of subtractions are compiled in Table 7.

Table 7

Subtractions Teachers Made to the Curriculum

Subtraction Modifications	Activities	Materials	Lessons
Ways that Teachers Made Subtractions	Entire activity	Formative assessments	Did not teach entire lesson
	Part of an activity	Questions/ information	

Activities. The most common subtraction that all teachers reported was cutting either an entire activity or part of an activity to shorten lessons.

Entire activity. Teachers who reported that they did not implement an entire activity typically did so at the end of a lesson, particularly in the poetry unit. Examples include a cinquain-writing challenge (Ms. Angelou, Ms. Dickinson, Ms. Joyce, Ms. Keats, Poetry 8 fidelity log), independent poetry exploration (Ms. Collins [Joyce], Ms. Dickinson, Ms. Hughes, Poetry 13 fidelity log), and poetry workshops (Ms. Dickinson, Ms. Frost, Ms. Hughes, Ms. Joyce, Poetry 7 fidelity log). Teachers also reported cutting activities that involved outside speakers visiting the classroom, like the local storyteller in Folklore Lesson 15. These types of exclusions negatively impacted teachers' FOI. The only activities marked *N* that did not negatively impact teachers' FOI was leaving out optional activities (e.g., Ms. Bishop, Folklore 8 fidelity log).

Part of an activity. All teachers reported excluding parts of activities, which they marked on their logs as both modifications and omissions. For example, if there were multiple stories or poems in a lesson, some teachers reported that they only used one. An example of this occurred in Folklore Lesson 11, where in the activity about evocative and limited adjectives, Ms. Giovanni, Ms. Hughes, and Ms. Keats reported that they did not complete the parts of the activity that involved the second story (Folklore 11 fidelity

logs). In another instance all the teachers in Division 3 administered the pre-assessment

for Folklore Lesson 1 but did not review it and discuss it with the students. Sometimes a

modification resulted in the omission of part of an activity, like when Ms. Dickinson and

Ms. Collins modeled an activity that was meant to include the students. The change

resulted in the teachers marking N for students providing the teacher with feedback and

using that experience to complete a practice exercise with their peers (Collins Poetry 5

fidelity log [Dickinson]; Dickinson Poetry 5 fidelity log). Ms. Hughes explained that

these types of changes occurred because "there were probably too many things to

read…we really had to move things long either faster or find out what parts we could

take" (follow-up interview, 4 February 2018). However, the exclusions negatively

impacted teachers' FOI.

Another type of exclusion that teachers made regarded their own writing, as they

did not always document student responses on the board or model writing for students.

While all the teachers have different classroom set-ups, they all had access to a

SMARTboard, whiteboard, chalkboard, or chart paper. However, teachers who made the

omission reported that rather than recording the information, answers were shared orally.

Teachers did not always model writing for students either, as was the case in Poetry

Lesson 6 where Ms. Keats noted in her fidelity log "I probably should have modeled

[writing the poem] looking back on it but instead it was discussed orally with the

students." While this was occasionally attributed to the fact that examples were already

on the SMARTboard slides (e.g., Ms. Joyce, Poetry 11 observer log, 24 January 2017),

teachers were more likely to report that they had discussed how to write instead. Students

technically received the content but these omissions were considered negative because the students were missing the visual component.

Material. Excluding material from the lessons, including formative assessments, questions, and information, was another way that teachers reported modifying lessons.

Formative assessments. Only Ms. Joyce and Ms. Keats reported that they did not complete formative assessments. Ms. Joyce excluded most of these assessments (Folklore 5, 11 fidelity logs; Poetry 1, 5 fidelity logs). Ms. Keats skipped a formative assessment in each unit (Folklore 11 fidelity log; Poetry 5 fidelity log). Ms. Keats also marked that she meant to administer the assessments before the next class, but still marked the assessment as not implemented (Ms. Keats, Folklore 3, 12 fidelity logs). Two teachers did not indicate whether they administered the formative assessment on one log (Ms. Bishop, Folklore 2 fidelity log; Ms. Dickinson, Poetry 5 fidelity log). Anytime teachers did not use a formative assessment, it was considered a negative modification because the use of formative assessments is critical to implementation of differentiation in the CLEAR curriculum.

Questions and information. Teachers reported both positive and negative instances where they excluded questions and information. The omissions were considered positive when teachers excluded material that they indicated students already knew. These positive omissions occurred when teachers were combining lessons (e.g., Ms. Angelou, Poetry 9-10, Year 1) or when the formative assessment indicated that the students were proficient in their understanding of certain concepts (e.g., Ms. Eliot, Folklore 2 fidelity log). Teachers in Division 3 marked that they did not add items to the Word Wall but because Ms. Collins had created anchor charts including the terms for

each classroom so the students were able to see the terminology displayed on those charts. Negative omissions occurred when there was no clear explanation provided as to why teachers chose to modify or omit information or they did not mark items (e.g., Ms. Bishop, Folklore 11 fidelity log). Therefore, the teachers' explanations of why they omitted questions and information were considered positive, but omissions without clear information were negative.

Entire Lessons. Every teacher except for Ms. Frost and Ms. Giovanni reported skipping at least one lesson. Most of these lessons involved the culminating activity—the class poetry reading in Poetry Lesson 19 (Ms. Angelou, Ms. Eliot, Ms. Joyce) or the lessons involving the Folklore Festival and its implementation included in Folklore Lessons 16-20 (Ms. Dickinson, Ms. Eliot, Ms. Hughes, Ms. Joyce, and Ms. Keats). Not all the teachers were concerned with the omissions—Ms. Keats said "There's just so much to do with the folklore, so I didn't know what really needed to be pinpointed, and what could be like, 'Well, if you don't get to it, it's okay' kind of thing" (follow-up interview, 1 February 2018). Ms. Bishop did not teach almost all of poetry—she only submitted five fidelity logs from that unit, though I conducted an observation where she taught parts of two other lessons. However, when I asked her about logs she told me that she had given me everything she had (Ms. Bishop, personal communication, 16 May 2017). Excluding lessons had a large negative impact on teachers' FOI and meant that students were not getting the full benefits of the CLEAR curriculum.

Delivery

Modification of delivery emerged as the final type of adaptation identified in the teacher self-report and observer-collected data. The category developed as the remaining

changes were distinct from the additions and subtractions. As I sought to clarify the ways in which the teachers made changes, I noted that teachers changed the way in which information was delivered but attempted to maintain the goals of the lesson. Teachers reported that the type of delivery that they changed most often involved the supplies they used when delivering lessons, followed by how teachers used grouping and writing activities in the curriculum. Finally, teachers made changes to how parts of the lesson were focused (teacher-led or student-led). Table 8 provides a breakdown of how teachers modified materials, grouping, writing, and focus.

Table 8
Delivery Modifications Teachers Made to the Curriculum

Categories	Material	Grouping	Writing
Ways that Teachers Modified Delivery in Each Category	Supplies	Did not use grouping	Verbal to written
	Order	Individual to group/whole class	Written to verbal
	Content	Group to whole class	
		Whole class to group/individual	

Material. The most common modification teachers made to the delivery of the lesson was to alter the material while still implementing the content. Most of the changes involved altering the supplies teachers used while implementing the lesson.

Supplies. This code described instances where teachers marked modifications or explained changes they made to physical materials used in the lessons. These changes were viewed positively because most teachers described a simple supply switch, such as using loose-leaf paper instead of index cards. Teachers also changed the way a material was used, as was the case for Folklore Lesson 4, where the logs indicate teachers are to

96

distribute precut strips with fairytale openings and direct students to answer a question on an index card. Ms. Collins reported on her fidelity log that Ms. Frost and Ms. Giovanni and "modified the format by not having cut out strips of paper with index cards. She has a sheet that the students can write on with the fairytale starters" (Ms. Collins, Folklore 4 fidelity log [Frost]). All the items on the log about the strips and the index card are marked *M* and she refers to the worksheet. Ms. Frost explained they made these types of changes "to make it flow" (follow-up interview, 28 February 2018). Because the changes did not impact the content of the lesson or guiding principles of the unit they were considered positive modifications.

  Order. Another change teachers made was to the order in which they implemented the lesson. For example, when Ms. Hughes gave students Formative Assessment 4 at the beginning of class rather than the end of Poetry Lesson 13 I marked it as a modification. The change in order gave Ms. Collins time to score the assessments during her visit and the students were able to work on their poems until they had to leave for specials instead of stopping to complete the worksheet (field notes, 23 January 2017). The formative assessment did not contain any information about what students were working on in class, so having students complete it earlier in the lesson did not affect the results. Based on the observation data, it was clear this was a positive modification. However, Ms. Hughes did not mark it as a modification on her fidelity log. Other observations also indicated that teachers changed the order but failed to report it. For example, Ms. Dickinson marked "*I*" for "Gave students the Master Writer Checklist," but she did not distribute the checklist until students completed their stories when the checklists were meant to be distributed as they were writing (field notes, 8 June 2017).

The students only had three minutes to review their stories with the checklist before the stories were collected, which made it clear this was a negative change (field notes, 8 June 2017). Therefore, the changes teachers made to the order of the lesson had both positive and negative effects on FOI.

Content. Teachers also altered content, meaning that the content of the unit was either replaced or not used as intended. When changes to content were smaller in scale the intent of the activities was not altered. The modifications, while not recommended, were not negative. Large changes negatively impacted FOI.

Most of the changes were small and did not change the intent of the activity, such as Ms. Keats having students circle and underline concrete and abstract nouns in the poem "You Can Grow Your Intelligence" rather than "The Farm" (Ms. Collins, Poetry 2 fidelity log [Keats]). The activity, "Students will reflect on which type of noun was used most in the excerpt, and what that might tell us about the poet. If they come across any words they do not know, they look up the definitions," was not changed despite the substitution. While there were more abstract nouns in "You Can Grow Your Intelligence" and more concrete nouns in "The Farm," students would draw different conclusions—the poet who wrote "You Can Grow Your Intelligence" was not a Master like the poet who wrote "The Farm" because of the types of nouns used. Therefore, this modification was positive and did not affect FOI.

Another content change involved the teachers' use of technology. The issues were typically small, such as a SMARTboard malfunction that meant Ms. Giovanni was unable to write down students' thoughts about how they might change *Little Red Cap* for a different audience so they had a verbal discussion (Folklore 10 observer log, 25 April

2017). The changes could also be more problematic, such as when Ms. Keats did not use a rubric because "my computer got updated and I lost the Smartboard presentations so I did not see this" (Poetry 16 fidelity log). Ms. Angelou also had difficulty locating the audio file for the poem "Dirge in Woods" and did not implement an activity on rhythm (Poetry 15 fidelity log), which was intended to focus the lesson. While many of the schools effectively used technology to implement the lessons, when it caused teachers to skip content it negatively affected their FOI.

Other changes were quite drastic and meant the lesson was not delivered properly. Ms. Bishop, for example, marked that she implemented parts of the Folklore Festival but she scratched out items on the log when they did not fit her preference for implementation (Folklore 16 fidelity log) or left them blank (Folklore 17 fidelity log). Ultimately, the students simply created posters to present to their parents rather than acting as folklorists and literary tellers:

> [T]wo of the students really did want to tell a story. And then the rest of them wanted to tell their parents what they had learned, so we wound up letting the two kids who wanted to be storytellers tell a story.… [T]he other groups did presentations on what they learned. (Ms. Bishop, follow-up interview, 29 January 2018)

While Ms. Bishop meant to keep the students interested in the material, they missed the opportunity to engage in real-world experiences that are a critical component of the CLEAR model.

Grouping. One of the most important parts of the CLEAR curriculum is the grouping, which is built in so that teachers are better able to differentiate by learning profile, readiness, and interest. However, many teachers did not use the grouping prescribed in the units, which I coded as whole class, small group, and individual.

Did not use grouping. When teachers did not use grouping, the category that most frequently characterized the delivery modification was not using the differentiated grouping. It is important to note that the absence of grouping does not always mean that teachers did not use formative assessments. Ms. Angelou reported that she did not use the groupings because the students did not score any differently on the formative assessments, noting "Since all my students understood the concept of a compound, I didn't find it was necessary to place them into groups to discuss" (Folklore 2 fidelity log, Year 2). While teachers marked these items modified, in this case they were still using the assessments to make decisions about grouping, which meant they implemented the curriculum with fidelity.

Unfortunately, most teachers who did not use the grouping simply did not see a need for it. Ms. Joyce only used it on occasion and questioned its usefulness: "We did do some [grouping] but depending on the lesson we had the students stay where they were. That was the only thing I would think may not be necessary" (follow-up interview, 24 January 2018). Ms. Keats refrained from using the grouping altogether: "I actually did not group the students, unfortunately, and I feel guilty about saying this, from what you guys wanted us to." When asked to explain why, she described a process that was suggested to her by the reading specialist at Southwest Elementary:

> [I]t's based off their ethnicity, it's based off their ability level…. [M]y groups consist of four to five students and I usually have at least one high student, one low student, one mid student…. I also have students that are English Language Learners, so I always try to group them separate from each other as well…. I always try to make sure there's an African American, Hispanic, and a white. (Ms. Keats, follow-up interview, 1 February 2018)

While Ms. Keats is an extreme example, she is not the only teacher who did not use the differentiated grouping. The changes from individual and small group activities to class activities also affected the teachers' use of differentiated instruction.

Individual to group/class. The most common grouping change teachers reported was turning individual activities into group or whole-class activities. The biggest problem with this change occurred when teachers did not implement the activities properly. In her interview, Ms. Dickinson explained that she would give groups of students different reading assignments but rather than having the small groups complete an activity, they would discuss each story as a whole class. During an observation of Folklore Lesson 8 Ms. Dickinson attempted to use the grouping and had students read differentiated variants of *The Dolphin Wife*. After 10 minutes, Ms. Collins (who was present in the room) indicated to Ms. Dickinson that it appeared students were having difficulty with vocabulary, so Ms. Dickinson asked a student to turn off the lights and proceeded to read all three stories aloud. They did not complete any more of the lesson before the students left for specials (field notes, 24 April 2017), but Ms. Dickinson completed the lesson later and reported that a whole-class discussion of all stories ensued rather than small group follow-up discussions (Folklore 8 fidelity log).

Not all the grouping changes were as drastic as the first example. The most common change occurred when students were to be instructed to write down or think about ideas independently, but teachers directed students to consult with other students at their table or discuss ideas as a class. In Folklore Lesson 14, for example, the lesson includes directions for students to brainstorm adjectives independently for 3-5 minutes, select their five strongest words, create a Word Web, and then circulate around the room

and add to other students' Word Webs. But Ms. Joyce only provided students the opportunity to brainstorm adjectives aloud with a partner and then share them with the whole class (Folklore 14 observer log, 7 June 2017). While the activity was much quicker, it was about word choice and how words have different strengths on a continuum (e.g., Angry: upset—irate—furious—enraged, Folklore lesson 14). The purpose was lost and the modification was negative.

Small group to whole class. Teachers also changed small-group activities to whole-class activities. In this case teachers were making negative changes and losing the impact of differentiated activities. One instance of such negative changes was reflected in modification of the anticipation guides and biographies used in Folklore Lesson 7. In this lesson students would teach each other about famous fairytale authors if the lesson was implemented as intended. Ms. Eliot wrote "I chose to do this as more of a whole group so they would experience all of the biographies. Was able to lead students through expectations better this way" (Folklore 7 fidelity log). Other times the use of groups was intended to differentiate for learning profiles and give students a chance to be more mobile, such as when students rotate to different stations in small groups to complete a worksheet in Poetry Lesson 4. Ms. Keats reported in her fidelity log that "[t]he stations were too much for my students" so they completed the worksheet "in a whole group setting." Both examples indicated that the teachers did not completely understand the intent behind the activity. Ms. Eliot's students would have experienced all the biographies with the differentiated activity as written. While stations might have been challenging, it is impossible to tell how Ms. Keats's limitation impacted students' ability to complete a creative assignment.

Teachers also altered discussions and activities in ways that limited students' opportunities to respond or participate. To implement Folklore Lesson 9 with fidelity, students would have cards taped to their backs and would be instructed to ask each other questions to figure out what was written on the card. Then the teacher would let everyone share and ask students what they learned about Appalachian culture. However, Ms. Bishop debriefed the entire class by giving students two examples and making connections for them (observer log, 29 November 2016). In this example, it is hard to tell whether students attained the lesson purpose of making connections to their community. While teachers who made such modifications did allow for student participation at one level, students had less autonomy and independence. Hence, the modifications were negative.

Whole class to small group/individual. Teachers were less likely to report changing a whole-class activity to a small group or individual activity. These changes did not affect the differentiated instruction but were both positive and negative. Teachers who reported using small groups instead of whole class instruction did so when they were meant to write students' responses on the board, such as when Ms. Joyce had students write down predictions about "The Red Wheelbarrow" and share with a partner rather than making a prediction chart (Poetry 3 fidelity log). These types of changes were negative modifications because there was no clear reasoning as to why the grouping was not implemented as written. In contrast, in Folklore Lesson 9 all students were supposed to participate in a "quick whip-around" after a culture activity. Ms. Bishop wrote in her fidelity log that she had students share in three small groups so she could "talk about

culture items a bit more so they would understand idea better." The intent of Ms. Bishop's modification was positive and aligned with the guiding principles.

With some exceptions, teachers' modifications to grouping were not done in accordance with the guiding principles and had a negative impact on their fidelity of implementation.

Writing. Teachers modified the writing activities in the curriculum. As noted in the grouping section, all teachers reported that on some occasions they opted to have a verbal discussion with students in lieu of requiring written responses. The teachers with lower fidelity rarely asked students to write.

Verbal to written. Only two teachers reported that they utilized writing in place of verbal discussion, which occurred during whole-class instruction. When Ms. Eliot altered the Folklore Lesson 8 differentiated activity so that students read all the materials, she wrote that they took notes about each writer instead of presenting to the class. This modification negatively altered the activity because students were not reading leveled material and working in readiness-based groups. The omission of the leveled group work goes against the guiding principles. Conversely, Ms. Angelou noted that she made a chart on the board to record student responses during the point-of-view exercise in Poetry Lesson 12, which was a positive modification because added structure and a visual component for the students.

Written to verbal. All teachers reported that they changed activities involving writing into verbal discussions. In their interviews, teachers admitted that writing was something that they changed often, even though they did not feel comfortable with the change. Ms. Joyce felt that students wrote in all subject areas so it was an easy way to

deliver the curriculum in a briefer time frame (follow-up interview, 24 January 2018).

Ms. Eliot felt most of her modifications were related to writing as well:

> Mostly it would be where in certain places through the lesson you have students get together in a group, and then you have them write in their journal, and then they share. Sometimes I would just totally cut out the writing part, which I hate to do, but, at the same time, I will go straight from the grouping aspect of it to just verbally sharing it. (Ms. Eliot, follow-up interview, 29 January 2018)

Teachers reported that they did not include writing activities, such as completing journal entries. Some of the codes could be found for multiple activities within a single log.

Teachers also altered writing-based activities in the curriculum. Some of these modifications were related to feedback. Ms. Giovanni reported "we decided to give oral feedback to make sure we had time to complete activities," even though the teachers were meant to encourage struggling writers to use the peer conversation sheets created for the units (Poetry Lesson 13, fidelity log). Ms. Angelou also opted to cut out written feedback following a readers' theater activity: "I asked the audience [to] mentally think of feedback for the performers…. After each performance, I asked the audience to share two positive aspects of the performance as well as one recommendation" (Folklore 12 fidelity log, Year 1). Ms. Angelou's addition of structure was positive but the lack of written feedback meant that the students did not have written feedback to refer to while preparing their festival performances, which made this a negative modification.

The most pervasive change was that teachers, particularly those in Division 3, did not have students complete the folklore journal entries. When asked about writing, the first thing Ms. Keats said was "I know a lot of the journals I did not have them write," (follow-up interview, 1 February 2018). While the topics were always covered, whether it was completing a word sort or thinking about a quote, most of the teachers did not have

the students write out a response. Ms. Frost felt that most of the changes with writing were in response to "the lower kids—it would take them so long to get a thought down that everyone else was waiting on them, so discussion would get everyone participating and they [lower students] would get something by listening" (follow-up interview, 28 February 2018). Both skipping the written responses and the remediation of the whole class for a few struggling students are negative modifications that do not align with the guiding principles.

When teachers decided to have a whole-class discussion in place of small group or individual writing or work time, the classroom became more teacher centered rather than student centered. For example, I noted that Ms. Dickinson marked *M* for items on the Folklore Lesson 1 Log that, based on her description, sounded like she implemented them. Most of the modifications occurred because she was completing something on the board that the students were meant to be doing at their desks. While all the content was being delivered, the change meant that students were not writing, and therefore were not as individually responsible for completing the work as intended in the curriculum. As a guiding principle of the CLEAR model is student autonomy/independence, modifications to independent writing and student-guided small-group work were considered negative.

Conclusion. All teachers made positive and negative modifications to the place-based CLEAR curriculum units. Additions were mostly positive but impacted time, subtractions were mostly negative, and the changes in delivery were positive when the modification were minimal and negative when they were drastic. The next section looks at their reasons for making these modifications, and how these reasons align with the research literature.

Research Question 2(b): Why Do Teachers Make These Adaptations? How Do Their Adaptations Relate to Factors That Have Been Identified in Prior Literature as Affecting Fidelity of Implementation?

For the second part of this question, why teachers are adapting the curriculum and how it relates to previously established factors, I started by examining the fidelity logs. Then, I reviewed observer logs and field notes. I used a coding protocol based on the factors that affect implementation as described in Chapter 2. I separated the factors into structural and instructional-process categories. I used the protocol for the first round of coding and used memos to document statements I had about potential alterations and additions. I discussed the initial coding with an external peer reviewer, then returned to the protocol and revised the codes to reflect the necessary changes. The changes to the protocol are in Table 9.

Table 9
Changes to the Protocol for Discussion

		Original Codes		Revised for Discussion
Structural	Amount of support	- Staff - Financial - Training - Leadership	Amount of support	- Staff - Financial - Training - Leadership
	School culture, morale, and norms	- Community/ program fit - Urbanicity - Relationships with colleagues - Social organization - Shared decision-making - Teacher morale	School culture, morale, and norms	- Urbanicity and community/ program fit - Relationships with colleagues, social organization, and shared decision-making - Teacher morale
	Scheduling and timing	- Amount of time - State testing - Additional expectations	Scheduling and timing	- Amount of time - Service delivery model - State testing - Additional expectations

	Class size	• Number of students • Room layout • Management	Classroom structure	• Number of students • Room layout • Management
Instructional-process	Positive	• Dissatisfaction with current practices • Buy-in • Positive beliefs	Positive	• Dissatisfaction with current practices • Buy-in • Positive beliefs • Student Engagement
	Negative	• Unwilling to change • Satisfaction with current practices • Lack of content knowledge • Negative beliefs		• Satisfaction/ unwilling to change • Lack of content knowledge • Negative beliefs • Lack of Student Engagement

In the original structural protocol, I combined the discussion of codes that overlapped frequently, which were (1) Urbanicity and Community/Program Fit and (2) Relationships with Colleagues, Shared Decision Making, and Social Organization. The code Class Size was changed to Classroom Organization to better address how the teacher's management, room layout, and the number of students impacted delivery. The final change I made was to move the code for Service Delivery Model from Amount of Support to Time. While service delivery models were part of the divisions' organizational structures, teachers typically discussed the models in terms of the time they had with students.

In the instructional-process category, I combined a fourth factor about teachers who are unwilling to make changes with the satisfaction code. I also added codes for student engagement and lack of student engagement to capture how students were interacting with the curriculum. After discussing the codes with my external peer reviewer and conducting interviews, I felt that student engagement fit best in the instructional-process category because teachers responded to their students' engagement.

I used this code on teacher and/or observer reports evidence of students excited about the curriculum and engrossed in the lessons and activities.

Structural

Researchers (e.g., Andrews & Lemons, 2015; Balfanz, Mac Iver, & Byrnes, 2006; Botvin et al., 1992; Johnson, Kraft, & Papay, 2011) reported organizational characteristics influenced how teachers made instructional decisions and implemented curriculum, including scheduling and timing; class size; amount of support; and school culture, morale, and/or norms. I found that teachers overwhelmingly reported that scheduling and timing had the greatest negative impact on their implementation of the curriculum. Class size was not a factor on its own, but classroom management and the established classroom routines impacted the classroom environment.

Scheduling and timing. Codes for scheduling and timing were used for any references to time and any scheduling and expectations that impacted the amount of time teachers had to implement the curriculum. This category had the most codes—teachers and observers made over 700 references to time in the fidelity logs and observation data. Time was also the main reason that teachers cited for making modifications, both on the fidelity logs and in the follow-up interviews. Ms. Collins summed it up well when she said "I feel like a broken record with my logs where I constantly have highlighted time. Time constraints" (follow-up interview, 30 January 2018). No matter what the modification, time seemed to play a role in the teachers' decisions.

Amount of time. I defined amount of time as references to the time available (see Table 1) and how much time was actually required to implement the curriculum, including references to how scheduled (e.g., fire drills) and unscheduled (e.g., school

109

delays) events impact implementation of the curriculum. Teachers reported a discrepancy between the time available and how much time was required to implement the curriculum, which is why most teachers added time to the lessons. Ms. Eliot explained "a lot of times, we'll have to extend one lesson over the course of two weeks…. We do end up achieving the goal of the lesson. It's just a little more prolonged than, I guess, it was originally laid out" (Ms. Eliot, follow-up interview, 29 January 2018). While teachers were willing to spend additional time on the lessons, they also cited time as the reason they made numerous subtractions and changes to the way they delivered the lesson. Table 10 provides a sample of how teachers discussed time-related modifications in her fidelity logs.

Table 10
Teachers' Descriptions of Time-Related Modifications in Their Fidelity Logs

Teacher	Lesson	How the Teacher Modified Content	Comment
Ms. Angelou	Poetry 4	Addition (material)	"We labeled the boxes as a class before the activity began to clear up any confusion and save time at the stations."
Ms. Bishop	Folklore 12	Addition (time)	"Took us 3 ½ days to complete entire story telling exercise."
Ms. Collins	Poetry 16	Subtraction (material— rubric)	"[The] students were just finishing up and did not have time to be introduced to this section [field guides]. Since the students took a lot of time getting engaged into writing the 'How To' guide, we did not use the Summative Assessment Rubric as a reference."
Ms. Dickinson	Folklore 11	Subtraction (did not complete part of activity)	"Because of SOLs, retakes, and other time constraints, I chose one volunteer group. They picked Little Red Riding Hood to perform for the class."
Ms. Eliot	Poetry 13	Delivery (order)	"Completed later in the day due to time constraints."
Ms. Frost	Poetry 1	Delivery (writing, written to verbal)	"I knew we were short on time, so we just had them visualize but not write."

Ms. Giovanni	Folklore 16	Delivery (grouping, individual to group/class)	Changed individual planning activity to a partner discussion "due to time need[ed] for other parts of lesson."
Ms. Hughes	Poetry 3	Subtraction (did not use part of material)	They had the rubric but "did not hold a lengthy discussion" on where the poem fell on it—"Time is always a constraint for these lessons."
Ms. Joyce	Folklore 12, 13, 16, 17, 18, 19-20	Subtraction (did not teach entire lesson)	"Skipped lesson due to time"
Ms. Keats	Folklore 2	Subtraction (part of activity)	"We discussed summarize and talked about it but ran out of time to actually complete the activity."

During the interviews, teachers also tied the omission of writing activities to time as well.

Ms. Joyce said:

> [Writing] shouldn't be cut but I think it's easier because you can shorten it in writing …. [I]t's expected in a sense a lot of time because writing is so universal with everything. Students, they write in every content, so when they have a big writing assignment and there's not a lot of time …. [I]t's expected that they're writing everywhere else. (follow-up interview, 24 January 2018)

One reason that time constraints were mentioned as a reason for modifications was the scheduling of the service delivery model chosen by each division.

Service delivery model (SDM). Teachers discussed their division's chosen service delivery models in regards to scheduling and timing. While each division used a different delivery model, how the schedule worked out impacted the time that teachers had with students. Hence, I moved the code to reflect the teachers' feedback. While Ms. Angelou's services were affected because she had to stop teaching lessons earlier in the year, the length of time in which most teachers had to implement the curriculum impacted their fidelity. Their comments on the time issues with the service delivery model are detailed in Table 11.

Table 11

Teachers' Descriptions of Impact of Service Delivery Model on Time

Teacher	SDM	Source	Comment
Ms. Angelou	Full-day pull-out, once a week	Follow-up interview (16 January 2018)	"[S]tarting two years ago, our director of GT said that there were so many problems in May…. It was becoming more of a headache. So he just said, okay, beginning in the first week in May, GT stops."
Ms. Bishop	Daily pull-out during resource block	Follow-up interview (29 January 2018)	"[E]ven if our schedule said we had 40 minutes, you're going to lose a couple because the transition takes several minutes to calm down, and then again at the end, some of the teachers are a couple minutes early, or finish up, and their kids come in and line up, and so we really end up with 30, 35, probably quiet minutes."
Ms. Collins	Cluster grouping (curriculum once a week)	Follow-up interview (30 January 2018)	"[W]orking with so many different schedules can be a bit crazy."
Ms. Dickinson	Cluster grouping (curriculum once a week)	Follow-up interview (5 February 2018)	"I think last year the problem was that they had their specials, so they would come in from lunch, and we would have 30 to 35 minutes, and then they had to be out the door and somewhere in the school for specials."
Ms. Eliot	Cluster grouping (curriculum once a week)	Follow-up interview (29 January 2018)	"I guess maybe next year I might consider having the time slot that we do it switch around because it's right between lunch and specials. And so we just lose so much time because the kids don't have a bathroom break until later in the day, and they haven't had it since 10:00 that morning. And so I use that time normally as letting them go out to the bathroom a couple at a time."
Ms. Frost	Cluster grouping (curriculum once a week)	Follow-up interview (28 February 2018)	She wants to say the change was bringing in the TAG teachers to help—they had not anticipated that. They wanted to do them 90 minutes in their reading blocks and to transfer some of the information but they had to do it in the afternoon with the TAG teacher in the building. Sometimes it was rushed because of the bus.
Ms. Hughes	Cluster grouping (curriculum once a week)	Follow-up interview (4 February 2018)	"[T]he 45 minutes a week I had planned was not enough…. [The gifted staff] kind of made the schedules so that they could be with each of the teachers at all five of the schools. So they kind of told me what time they were coming. I probably could have thrown in an extra lesson each week if I had the time, but our reading blocks were pretty planned out for us."
Ms. Joyce	Cluster grouping (curriculum once a week)	Follow-up interview (24 January 2018)	"I had half-an-hour my first year teaching [the curriculum], which is not a lot once you pass out folders and you get started. And especially if you have group transitions. It didn't allow a lot of time that the lessons called for."

| Ms. Keats | Cluster grouping (curriculum once a week) | Follow-up interview (1 February 2018) | "So the way we always did it was, if something was revamped in a previous lesson from another school, [Ms. Collins] would let me know about it, and then we would do it for the following week with our lesson…because my days are Fridays.… [O]f course, those are always days that can get mixed up. So I think I was ahead and then I got behind." |

Both the Division 2 and Division 3 schools had specific blocks of time planned for teachers to implement the curriculum, but the time allotted was usually not enough for teachers to complete an entire lesson without making modifications. Ms. Angelou had plenty of time because she had the autonomy to create the daily schedules for her gifted centers; however, she was not allowed to provide services for the entire school year. Ms. Bishop also had a shortened schedule, as the resource block was not used in the first two weeks of school and occasionally she found find that "they would just eliminate the [resource] block and use that as that space to sort of have lots of time for the children to do what they needed to do" (follow-up interview, 29 January 2018). Oftentimes, the reason that teachers lost time dedicated to gifted services was due to testing.

State testing. Testing was a priority in the school divisions and it impacted the time that teachers were given to implement the curriculum in different ways. In Divisions 1 and 2, teachers stopped teaching the curriculum before the end of the school year so that students could be in their regular classrooms preparing for the exams. In Division 3, where the regular classroom teachers were implementing the curriculum, the impact of testing varied. Some teachers described how the tests changed the way they approached lessons: "I think the biggest thing is I do know I will go through the lessons quicker and not elaborate on them as much as we get closer to testing" (Ms. Keats, follow-up interview, 1 February 2018). Teachers were also pulled from their classrooms—the lessons that Ms. Hughes excluded from the Folklore unit were all submitted with the note

"Unfortunately, I have been pulled for grade-level remediation and [test] retakes" (Folklore 16, 17, 18, 19-20 fidelity logs). While most teachers did not like the testing, Ms. Keats noted "unfortunately, my job is not based on your curriculum as much as it is on the other one [testing]" (follow-up interview, 1 February 2018). Hence, testing made it difficult for teachers to implement the curriculum with fidelity.

Even though the actual test occurred at the end of the school year, state testing had a year-round impact on Divisions 2 and 3. Ms. Bishop taught the curriculum during a resource block meant for test remediation for students who struggled on weekly check-ins. She had "four [students] for sure that were pretty regularly getting pulled.… It really wasn't that they didn't have the knowledge. It just was that the question was worded strange or maybe they just didn't understand it" (follow-up interview, 29 January 2018). In Division 3, teachers cited benchmark testing when asked if anticipated any challenges with the lessons because it threw off the students' schedules for the week. Ms. Hughes also felt it impacted the students' mindsets:

> I feel like the kids were already, I don't want to say stressed, but they were already reading a lot of passages, and already being worked pretty hard to get through the benchmarks, and to prep for [the test] that by the time it came down to the folklore lesson, and we were giving them these complex couple page-long stories to read and try to understand, some of them were just kind of done with it. (follow-up interview, 4 February 2018)

These examples indicated that Ms. Bishop's statement about the relationship between testing and curriculum implementation as "a fail" was accurate (follow-up interview, 29 January 2018).

It is worth noting that there were a few positive discussions related to state testing. Ms. Collins noted that the students who received the curriculum had better benchmark and SOL scores than their peers, which their central office liked (follow-up

interview, 20 January 2018). Ms. Frost explained that once the state testing was over, she and Ms. Giovanni had more freedom in their schedules to implement the curriculum like they wanted to and even requested that other teachers re-test students who needed retakes at a different time (follow-up interview, 28 February 2018). However, most teachers felt that state testing had a negative impact on their implementation of the curriculum.

Additional expectations. While not as pervasive as the other scheduling and timing issues that teachers grappled with, the other responsibilities of teachers impacted their FOI. Both Ms. Angelou and Ms. Collins were itinerant and had set schedules to ensure that they were able to implement the curriculum in different parts of their respective divisions. They reported the most time-consuming additional responsibilities (e.g., coordinating all the gifted identification testing for their respective divisions). However, these responsibilities were not noted on fidelity logs because they did not directly impact lessons. Ms. Angelou explained that she completed most of her responsibilities after the gifted centers ended, though she did "cancel GT for an entire week to test" in both the fall and the spring (follow-up interview, 16 January 2018). Ms. Collins oversaw all Pre-K to Grade 12 gifted services, including program budgets, parent advisory board meetings, and teaching (follow-up interview, 30 January 2018). As her role was to support the teachers in Division 3 she was able to adjust her personal schedule to attend lessons when needed. For example, she was observed scoring make-up identification testing while waiting for Ms. Dickinson's students to return from lunch (field notes, 24 April 2016). Both Ms. Angelou and Ms. Collins seemed to have enough autonomy that they were able to separate their responsibilities from their implementation of curriculum.

Of the regular classroom teachers, Ms. Joyce and Ms. Keats had more

responsibilities to navigate. Ms. Joyce's tasks came from the partnership that Central-

West Elementary school had with the state department of education:

> Part of that is we have to really document everything that shows that our school is
> making improvement through our SIT team, the School Improvement Team, as
> well as teachers, we have to constantly check data and provide corrective plans
> based off of benchmark data. (Ms. Joyce, follow-up interview, 24 January 2018)

She cited this partnership as the primary reason she skipped lessons in the poetry unit.

Ms. Keats's extra work came from the various scheduling changes that occurred at

Southwest Elementary, which ended in the third grade departmentalizing in the middle of

the school year. Ms. Keats went from having one group of students all day to different

rotations of students, and for the first month she was also team teaching with the reading

specialist. While Ms. Keats reported that she "really ended up enjoying being

departmentalized" (follow-up interview, 1 February 2018), she admitted that the change

meant "I even have [*sic*] less time with my class so as much as I would like to break the

lesson up and complete more I just don't have that option right now" (post-lesson

interview, 24 March 2017). For both teachers, the extra work meant they were not able to

implement the curriculum as effectively.

For the other teachers, the observations helped to reveal how the idiosyncrasies of

working in a school impacted implementation. Ms. Bishop excused herself from her

primary role as paraprofessional early so she could set-up the lessons. She became so

busy with end-of-the-year activities that grant staff ended up giving the students the

poetry assessments so they could finish the unit (Ms. Bishop, personal communication,

May 2017). As first noted in Table 10, Ms. Eliot's time slot for curriculum

implementation was at a time that students frequently used the restroom. Students kept

this routine during the lessons I observed (e.g., field notes, 6 December 2016). During one observation of Ms. Hughes, students were coming in and out from the nurse's office due to an illness that was pervasive in the school. She noted in a post-lesson interview that these types of absences made the lesson more challenging because she had to try to find a way to get the students caught up while helping the other students advance (field notes, 6 December 2016). While outside support from the grant helped Ms. Bishop, the issues that made implementing the lessons difficult for Ms. Eliot and Ms. Keats were typical situations that make teaching challenging, including implementation of curriculum.

Classroom organization. In the original protocol, the code class size was used. While analyzing the data, I realized that code did not yield results in this data I was analyzing. Classroom organization emerged as a code to better address how the teacher's management, room layout, and the number of students impacted delivery.

Management. Teachers' classroom management had the most codes in this category. Both the teachers' fidelity logs and the observation data revealed teachers' existing classroom routines aided implementation of the curriculum.

For example, teachers who regularly used flexible grouping were more likely to implement the differentiated grouping. Ms. Hughes noted in her fidelity logs that the "students enjoyed the small group activities" (Poetry 2 fidelity log) and that implementing reader's theater was easy because "my students are familiar with the activity and expectations of group reading" (Folklore 12 fidelity log). In the follow-up interview, she specifically mentioned grouping when asked how the curriculum fit with her teaching practices:

I liked how it grouped them differently throughout all the different lessons.…
They're in groups all the time and in my math instruction, the groups change
regularly. So they were already used to working with all kinds of different people
in the classroom. (4 February 2018)

Ms. Eliot mentioned the grouping helped her teaching, and that she tried "to do some
grouping outside of those lessons too so they get the hang of it as well" (follow-up
interview, 29 January 2018). The use of flexible grouping in other areas of the classroom
meant that teachers did not have a problem with implementing this aspect of the
curriculum.

Teachers had classroom routines that they used to keep students on task while
implementing the curriculum. Ms. Angelou typically played music in the background
when students were working, resulting in field notes like "The old lyricless [*sic*] GT
music plays again" (8 March 2017). She also had a ticket reward system that she used to
keep students focused: "[Teacher was] passing out tickets to the students who are on
task" (field notes, 16 November 2016) or "walking around, checking in with students,
passing out some tickets" (field notes, 8 February 2017). She and Ms. Joyce both used
phrases to illicit specific responses to redirect the students' attention back to the lessons,
such as "hocus pocus" (student response: everybody focus). Ms. Eliot and Ms. Dickinson
both had behavior charts in the room that they used for similar purposes so that they
could address behavior without disrupting the lessons (e.g., field notes, 6 December
2016). These examples illustrated how the teachers' routines outside of the curriculum
positively impacted implementation.

Room layout. For most of the teachers, the layout of the room did not directly
impact their instruction, though they occasionally mentioned that they were adjusting
lessons due to space. For example, Ms. Hughes noted she "arranged students into 4

groups because of space" when the directive was to have two groups based on readiness (Poetry 5 fidelity log). Ms. Giovanni also modified an activity "due to visual space in room" because she "wanted children to be able to see the displays so worked in groups with different adjectives for presentation" (Poetry 3 fidelity log). These changes were positive because the teachers restructured the grouping without changing the content of the activities.

Ms. Bishop's "classroom" made it difficult to implement the curriculum. She taught the curriculum in an open area that served as a hub for the five third-grade classrooms:

> [T]here's always those few minutes of transition when people come out of classes, and switch, and do whatever.... So all of the students that we've identified come to me and we would be in the [hub] working, but then as students were crisscrossing the [hub] and going back and forth, and that always happened. Or if we had students who had been absent, and they were making up work there in the [hub]. I thought really that the [hub] being out there in that sort of common area might be a really good thing because they would have the option just because there weren't desks out there to sort of be casual and when they write to sort of sit in the big, nice chairs that were brand new or the red chair. Just that they would have the all the options and that that would be a really positive thing for that group. But it really was—it was not. It truly was a distraction for the kids. (follow-up interview, 29 January 2018)

While Ms. Bishop was able to use all the wall space in the area to display material related to the grant curriculum, the open nature of the space impacted the time she had with the students. The disruptions were also noted during observations: "The students are all cleaning up—the lesson sort of dissolves while they edit.… The [hub] has become a mess of kiddos moving around" (field notes, 6 April 2017). Another issue with the hub was that there was no projector or any other kind of technology, so when the curriculum called for a video to be shown, Ms. Bishop either had them crowd around a laptop screen (field notes, 19 April 2017), borrowed laptops that she set up for students so they could

watch in pairs, or borrowed another teacher's classroom (follow-up interview, 29 January 2018). While Ms. Bishop found ways to manage the situation, she reported that the lack of a typical classroom structure negatively impacted her implementation.

   Number of students. For most of the teachers, the number of students in the classroom was consistent throughout the course of the year, and there was no data that suggested the lessons were difficult to implement because of the numbers. However, three of the teachers dealt with fluctuating numbers that did impact their implementation of curriculum.

   In the first year of implementation, the number of students at one of Ms. Angelou's centers changed. She started the center at South Elementary with seven third graders. However, that class was combined with grades 4 and 5 partway through the year. She discussed that one of the challenges she faced with instruction was "learning how to function in the small room with 19 kids" (post-lesson interview, 1 March 2016). She also reported changes to the curriculum to add in challenge for the older students. For example, in Poetry Lesson 6 she reported a modification because it was too easy for the older students:

> For the Memory Box poem, I allowed the third graders the opportunity to use the Memory Box Poem Guide, "Red Wheelbarrow" model, or free writing, but I did not give my 4th and 5th graders the option of using the "Red Wheelbarrow" model so [*sic*] it was so simplistic. (fidelity log, Year 1)

While she managed the challenge well, Ms. Angelou requested separate centers for the students in Grades 3 and 4 the following year to avoid similar issues.

   Ms. Bishop's problems with numbers of students were related to student absences. There were 12 identified students to whom she taught the curriculum during the resource block, but students often missed that time. My field notes showed that at least

one student was missing from gifted services during five of the six lessons observed, and two students were absent multiple times. As noted previously, any student who did not perform well on a weekly check-in was pulled for test remediation. However, this was not the only reason students did not receive their gifted education services. For example, she mentioned that a student "had to go back to the classroom—he didn't earn it— behavior chart issue, he was crawling on his chair" and that three students had served in-school suspension (post-lesson interview, 29 September 2016). While Ms. Bishop did not mention the frequent absences impacted her implementation, the lessons took longer to complete because students were behind on their work (field notes, 16 February 2017).

Ms. Keats's issues were with fluctuating class sizes, which occurred due to student behavior concerns and the mid-year departmentalization. During the follow-up interview, Ms. Keats acknowledged "I had a different group of kids by the end of year than what I had started with. We had so many within student changes in our classrooms as well, which I also think played a factor" (1 February 2018). In conclusion, teachers' implementation was negatively impacted by the inconsistencies with attendance and inclusion in the instruction rather than the actual class size.

School culture, morale, and norms. Prior research (e.g., Andrews & Lemons, 2015; Datnow et al., 2002) contained evidence that schools' settings, procedures, and atmosphere impacted the implementation of the curriculum. I looked for teachers' statements or actions that provided information about the school's urbanicity and fit between the community and program, as well as the teachers' morale, relationships with colleagues, shared decision making, and social organization. Because of double coding, I

combined the discussion of urbanicity and community/program fit and I combined relationships with colleagues, shared decision making, and social organization.

Urbanicity and community/program fit. The codes in this category focused on the rural locale and how the curriculum fits with the community. The curriculum was designed to be place-based, which allowed for numerous discussions of the different communities. Teachers typically completed the place opportunities in the curriculum if they were in the main section of the lesson, but they were not as likely to add optional discussions located in the teacher notes even though they appeared in the fidelity logs. The connections to place did not happen organically. Rural was a concept that students were unfamiliar with—at the beginning, many teachers used the word "country" to help them connect. Students were more likely to name New York as a rural area at first—they learned the word in the lesson on William Carlos Williams's "The Red Wheelbarrow" that discusses his rural upbringing (e.g., field notes [Dickinson], 27 October 2016). While the addition of place was meant to make the curriculum more meaningful, it started the discussion about where they lived.

When students were asked to write about their community, many of them struggled. For example, Ms. Hughes asked her students to choose concrete nouns that related to their community: "we start with Lamborghini, but then we get farmers, donuts, electricity, school, transportation ('what kind?' 'car'), water, light, friends, trees ('that's important around here for the lumber industry'), tractors, animals ('hunting'), skateboard" (field notes, 27 October 2016). When discussing the students' tenuous connections to community with Ms. Collins, I wrote that the "[s]tudents write about McDonald's, Walmart, ice cream parlor, park—those are their local connections" (field

notes, 6 December 2016). At another point in the unit, Ms. Collins and Ms. Eliot thought the students were familiar with fishing as an occupation and activity—it is a vital industry in the county. The poem "Fishing" seemed like a good fit so that students could share related memories about the outdoors. However, when Ms. Eliot asked, she found that not all the students knew what fishing was and walked them through the word. Ms. Collins told a story about fishing when she was a child, then talked "about putting the chicken leg in the dock—a student raise[d] his hand because he knows that is how you catch crabs; they are sneaky so you have to be quick with the net, and you can't go too far in" (field notes, 6 December 2016). Ms. Collins knew that the students were more familiar with crabbing and used that example to both help the students understand the poem and spark their discussion. Despite these knowledge gaps, teachers continued to implement the mandatory place-based elements of the curriculum.

As for the community, three teachers discussed positive responses from parents about the units. Ms. Hughes mentioned that "The parents all came to a parent night [at Northwest] and looked at the curriculum—they were really excited about it and weren't leaving (8:30 and still asking questions). One mom is an English teacher and loved the curriculum" (Ms. Hughes, post-lesson interview, 27 October 2016). Ms. Angelou held Folklore Festivals for both North and South Elementary both years, noting that "I had some parents tell me how proud they were of their child for stepping out of their comfort zone" (Folklore 19-20 fidelity log, Year 1) and mentioned that parents came during their lunch breaks (Folklore 19-20 fidelity log, Year 2). Ms. Collins mentioned a parent who went to the school board meeting and talked about how the curriculum benefited her child (follow-up interview, 30 January 2018). While there was no clear connection between the

positive community or the place content that suggested they improved teachers' FOI, these factors did not negatively impact implementation.

Morale. Teacher morale describes how teachers feel about their school and community. In prior research, positive morale was associated with higher levels of fidelity. Overall, teachers were very positive about their schools and community and negative about the influence of state testing. Only Ms. Keats mentioned difficulties in her school. She noted that the scheduling changes were "horrible," but that she has perceived improvement over the last two years. She cited more teacher retention and a new administration for helping to improve the climate at the school: "We've had a lot of changes but it's been for the better. And it's definitely a great school in my opinion. A lot [has] changed in the four years I've been there but I don't see myself going anywhere else" (Ms. Keats, follow-up interview, 1 February 2018). In sum, there were no statements that suggested problems with morale negatively impacted teachers' implementation of the curriculum.

Relationships with colleagues, shared decision making, and social organization. The final factors about school culture that potentially impact fidelity related to how teachers felt they fit in at the school: the relationships between teachers and their colleagues, opportunities for collaboration with colleagues and the community, and the social atmosphere that exists in the school and/or grade level teams. As with morale, teachers generally had a positive attitude about their school environments. Some of the teachers expressed that they felt like outsiders on occasion, though this did not directly impact their implementation of the curriculum.

Most classroom teachers reported good relationships among colleagues. While Ms. Bishop taught during a pull-out session, she was trained in the curricular implementation alongside the third-grade reading teacher. When I arrived early to an observation I spoke with the reading teacher, who echoed Ms. Bishop's statements about how challenging folklore was because "students had truly not been exposed to those stories before," so I knew they had communicated about the curriculum (field notes, 6 April 2017). Ms. Bishop also discussed how willing the other third-grade teachers were to help provide her with additional resources (follow-up interview, 29 January 2018). The Division 3 teachers all described a positive relationship with Ms. Collins. For example, Ms. Eliot said "we work together so well, and we're friends outside of school too. So we have that good cohesion going on where anytime I'm unsure of something, I can just shoot her a quick e-mail" (follow-up interview, 29 January 2018).

While Ms. Collins was a strength for Division 3, there were some mentions about room for improvement in each school. Ms. Joyce discussed tension at Central-West:

> There's a stigma… because I have the TAG students, in a sense, it's easier for me, or I'm not, I guess, teaching as hard. Because it's expected that these students are going to do well and carry the class [in state testing], in a sense. So I usually get the comment, "Oh, you have the smart kids." But I also remind them that they're still kids and they still could go down or they could go up.… [W]e still have to make growth, even though they're starting at a higher level. (follow-up interview, 24 January 2018)

Ms. Keats also felt removed from the other teachers implementing the curriculum, but due to geography:

> I'm the only one at my school and I think a lot of the other schools have two people, so they're able to bounce ideas off each other. So for me, it would just be nice to be like, "Hey, what are you doing for this lesson?" kind of thing. You know what I'm saying? "Did you struggle with it?" or that kind of thing. And I don't really have that, so that's what kind of stinks. (follow-up interview, 2 February 2018)

Ms. Eliot and Ms. Dickinson did not discuss working together in their interviews, but they did combine their classrooms at the end of the year for Folklore Lesson 15, where they had a librarian come in to act as a storyteller for the students (field notes, 8 June 2017). However, Ms. Frost spoke at length about how she collaborated with Ms. Giovanni and they made mutual decisions about implementation throughout the year (follow-up interview, 28 February 2018). I also observed the teachers combine classrooms for Folklore Lesson 15, a field trip to hear stories about the community at a local museum (field notes, 6 June 2017). Hence, there was evidence that having relationships with teachers in the schools supported the implementation of the units.

Amount of support. The last structural category, amount of support, focused on references to school organizational structures (including finances) and staff members that have an impact on how teachers implement the curriculum. Because the schools are all part of the grant, I included references to working with the grant staff in the coding.

Financial. There were very few financial codes found in the data, as teachers only occasionally mentioned using a different material because they did not have the supply (e.g., pocket notebooks for poetry in Division 3) or could not make copies because they had gone over their allotment (e.g., Ms. Dickinson, Folklore 7 fidelity log). Teachers did not view these instances as problems and adjusted the curriculum rather than deleting items. Each teacher was aware of what the division was able to offer them and how to work with the limitations. For example, Ms. Collins began making copies for teachers to ensure they had the necessary worksheets. When made aware of the supply limitations, the grant staff provided the materials and resources requested. Based on some of the teachers' comments from their first year of implementation, we made adjustments to

alleviate any financial issues we could. The financial support of the grant helped schools implement the curriculum with fidelity.

    Leadership. Ultimately, discussing administration separate from leadership did not work in this analysis because of the way services were structured. While Ms. Collins technically had a leadership role, the Division 3 teachers viewed her as a colleague and discussed her in this capacity. The Division 3 teachers discussed their principals, while Ms. Angelou, Ms. Bishop, and Ms. Collins all mentioned administrative personnel responsible for gifted services, who were the director of instruction, the supervisor of special education, and the director of elementary education, respectively. An overview of teachers' perceptions of administration are included in Table 12.

Table 12

Teachers' Perception of Administration's Involvement with Implementation

Teacher	Comment
Ms. Angelou	Director of Instruction "has the gifted coordinator hat, but that [gifted education] is not something he is trained in or even particularly familiar with" (post-lesson interview, 13 January 2016).
Ms. Angelou	"[the superintendent] was the one who was really in support of the grant. She was the one who said yes. And even though she's not directly over gifted, she's over the person who is over gifted. So she's still involved. So she still gets the feedback, she's still in touch, she still kind of monitors it." (follow-up interview, 16 January 2018)
Ms. Bishop	"the administration is amazing at the elementary school. [The director of gifted] is just great" (follow-up interview, 29 January 2018)
Ms. Collins	"A lot of my conversations were, 'Is this costing us money?' and 'Don't call me unless there's a problem.' I wanted [central office] to be a little more alert about it.… It's been very hands-off.… They attended some meetings. But I just didn't get the feel that they were engaged in it. I know when we met to review the data there seemed to be a lot of questioning." (follow-up interview, 30 January 2018)
Ms. Dickinson	Pleased the administration was not as strict as other divisions she had worked for in the past (follow-up interview, 5 February 2018)
Ms. Eliot	Went from a very data-driven principal to one who was more laidback mid-year, which did not directly impact the curriculum (follow-up interview, 29 January 2018)
Ms. Frost	While they did change the time of day that Ms. Giovanni and Ms. Frost wanted to use, outside of that decision they "weren't ever involved in it" (follow-up interview, 28 February 2018).

Ms. Hughes	"She kind of just left us to it, our principal did. I mean, she would ask how things are going and was interested in what the kids were learning, but she kind of just let us do what we thought we needed to do with it. Which is nice" (follow-up interview, 4 February 2018)
Ms. Joyce	"[M]y principal and I had an understanding that, in a sense, this comes first too. So on our designated days, I made sure I did our lessons. And if it wasn't done that day, it had to be done within the week or it had to be skipped." (follow-up interview, 24 January 2018)
Ms. Keats	"[My principal] would always talk to me first about [schedule changes] to see how much it would disrupt things" (follow-up interview, 1 February 2018)

While Ms. Collins felt there was a lack of support from central office, there were no concerns from the teachers' perspectives, even though Ms. Joyce's response indicated that the principal was on board with both implementing and skipping lessons. During the follow-up interview, Ms. Keats mentioned the lack of central office support as well because they stopped funding online gifted education courses. She felt that "when I was doing both [the curriculum and online coursework], I was able to really relate and understand everything and I could tell where my kids were coming from and I felt more confident in teaching the lessons" (1 February 2018). While Ms. Angelou's director of instruction was not as knowledgeable about gifted education, she stated that the superintendent used to work with the gifted program and remained involved with the grant (follow-up interview, 16 January 2018). These statements make it clear that the division leadership had an impact on curriculum implementation.

Staff. The code for staff was used whenever a staff member outside of the teachers in the study was discussed. Other staff were mentioned in two main capacities: how they affected scheduling and how they offered assistance.

Scheduling. There were several scheduling changes for the teachers that happened because of other staff, including schedule changes arranged to accommodate observations by project staff. For example, Ms. Angelou noted that she felt the students were less engaged one day because they were having their literacy instruction in the afternoon

when they typically had it in the morning—she had changed her schedule for our visit (post-lesson interview, 11 February 2016). These types of changes also occurred with schools in Division 3. I received schedules from Ms. Collins that typically involved all seven teachers. She shifted the day of the week they did lessons so that I could observe as many schools as possible in two to three days. Because I typically saw teachers at the same time of day, I was unaware that they were regularly changing their schedules until teachers mentioned it.

The biggest change regarding staff was unrelated to the grant. At Southwest Elementary an issue with the instruction in the general education program resulted in major shifts in the instructional day. "There were some issues with a teacher on team—a big issue is, not everyone was on the same page with the curriculum.… [N]ot all the teachers were going through [the regular curriculum] as quickly as they should have" (Ms. Keats, follow-up interview, 1 February 2018). Because of these issues, the decision was made to departmentalize the grade mid-year. The decision contributed to the scheduling changes that negatively impacted Ms. Keats's implementation of the curriculum.

Assistance. Other staff members were present to provide teachers with assistance in various capacities. Occasionally counselors assisted students during a lesson (e.g., Ms. Keats, field notes, 24 March 2017). However, most of the staff members who had a noticeable impact were other gifted education personnel. For example, Ms. Angelou asked the other elementary gifted teacher to provide support while preparing for the Folklore Festival to ensure all the students' needs were met (field notes, 20 December

2016). The staff's presence helped the teachers' keep the class on track and positively impacted the implementation of curriculum.

Unfortunately, teachers reported that the presence of another staff member in Division 3 hindered implementation of curriculum on occasion. While Ms. Collins was the facilitator of gifted services and assisted all the teachers in planning, there was another gifted resource teacher who was mentioned in teachers' fidelity logs and her name occasionally came up during observations. For example, Ms. Dickinson did not use the formative assessments for one of her lessons because the other gifted resource teacher had taken them and never returned them to her (field notes, 24 March 2017). Ms. Collins described the other teacher as an "extra complication:"

> I think [the other gifted resource teacher] kind of struggled with understanding how it was set up. She had a lot of questions. The teachers and I would try to answer her questions. But I didn't feel like she was understanding it, and she was also used to doing something completely different. So I think it was harder for her ... teachers would come to me.… And it caused some problems, and I did feel there were days I needed a striped shirt and a whistle. (follow-up interview, 30 January 2018)

Ms. Eliot was willing to provide some additional insight, stating that the students "didn't respond" to the other teacher's presence, as she talked very fast and did not explain things well enough. The students looked to Ms. Eliot for background, but "the next thing you know, she'd be off on another tangent on something. And then the lesson would be done. And I feel like they got absolutely nothing out of it" (follow-up interview, 29 January 2018). Some of the teachers, like Ms. Hughes and Ms. Frost, reported in their follow-up interviews that they declined her help and taught the lessons themselves. Ms. Keats said "She came in once when Ms. Collins wasn't there to see if I needed help with anything and she just sat on her computer" (follow-up interview, 1 February 2018). Others

declined to speak about her in the interview. While the presence of the other teacher was meant to help teachers, they only reported problems with her presence and negative impacts on implementation of the curriculum.

Conversely, the grant staff was occasionally asked for assistance on site despite our attempts to remain inconspicuous. In most cases, teachers asked questions about lesson material (e.g., when Ms. Giovanni asked me how to pronounce *cinquain*, field notes, 6 December 2016). Other times students approached observers to share things they were working on (e.g., poems, Ms. Bishop, field notes, 6 April 2017) or to avoid doing their work (Ms. Keats, field notes, 6 December 2016). The teachers occasionally spoke to me during lessons, usually about the curriculum. Once Ms. Angelou said a challenge of the lesson was keeping the students on task and that it was probably harder because she was talking to me (post-lesson interview, 26 April 2017). She did not modify or subtract any components from the lesson because of this interaction (Poetry 17-18 fidelity log). Therefore, for most of observations, observers did not have any impact on implementation.

Training. The units were constructed to obviate the need for training or staff development beyond introduction to the units. Only a brief introductory session previewing each unit was provided to teachers. Hence, the issue of training could have been a very large factor affecting fidelity. Both Ms. Bishop (follow-up interview, 29 January 2018) and Ms. Keats (1 February 2018) noted that they would have liked more content information about folklore, but still felt there was adequate information within the lessons so they could implement the curriculum properly.

Modeling the lessons was another area of training that teachers discussed as having a positive impact on fidelity. Ms. Angelou said that having a graduate assistant model a lesson was helpful to her. While Ms. Joyce did not have the same training as the rest of the Division 3 staff, she felt that Ms. Collins covered the material well and did not feel like the change had a negative impact (follow-up interview, 24 January 2018). In summary, teachers felt they had enough training to implement the curriculum with fidelity,

Instructional-Process

Instructional-process factors are primarily related to teachers and how their beliefs and attitudes have an important relationship with the likelihood that a teacher will implement a practice (Dusenbury et al., 2003; Stein et al., 2008). These factors were viewed as positive or negative, depending on whether they helped or impeded the teacher's ability to implement the curriculum. Teachers were generally positive when talking about the curriculum during the follow-up interviews.

Positive. The positive instructional-process fidelity factors were coded when teachers or observers referenced factors that make it more likely for them to implement curriculum with fidelity. In the literature, I found dissatisfaction with current practices, positive beliefs about students and curriculum, and buy-in to the curriculum were positive factors impacting fidelity. I added the factor of student engagement to capture the moments where teachers showed enthusiasm for their students' response to the units.

Dissatisfaction with current practices. Previous research suggested that teachers who want to make changes to their practices are more likely to implement new

interventions. During the interviews, many of the teachers discussed how the curriculum

allowed them to make positive changes to their teaching.

While Ms. Bishop had not taught previously and, thus, had no previous practices

on which to base her teaching behavior, Ms. Angelou discussed how the curriculum was

part of her transition from regular classroom teacher to gifted specialist. She described

using a lot of scaffolding previously, but "through these units I've become more of a

motivator to kind of help them…. So more of a 'I teach, you see, I do, you do' type"

(follow-up interview, 16 January 2018). While Ms. Angelou was not outwardly

dissatisfied with her prior practice, she recognized the curriculum provided an

opportunity for positive change.

There was more discussion of dissatisfaction with prior gifted curriculum in

Division 3. Ms. Collins's goal to improve the gifted services in Division 3 was the reason

the school division became involved in the grant. She explained that, despite a

professional evaluation six or seven years prior that indicated the gifted program had

problems, no one had made any changes:

> We were not basically meeting our student's needs as far as gifted. Some students
> were getting more services where other students were not. There was no
> consistency. Teachers and parents had a lot of opinions about what we were
> delivering and if we were delivering a good product. It brought up a lot of
> questions. (follow-up interview, 30 January 2018)

Even though she liked the curriculum, she admitted that she was nervous because gifted

education is "not something that is strongly mandated" in the division. Still, she was able

to get the administration to agree to implement the curriculum using cluster grouping in

the regular classroom (follow-up interview, 30 January 2018). Ms. Collins's desire to

improve gifted services was a major reason Division 3 agreed to implement the curriculum.

Buy-in. The codes for dissatisfaction overlapped with discussion of buy-in due to teachers' willingness to change their practice. Prior literature included positive discussion of the intervention and examples of how the intervention fit with teachers' personal beliefs. The coding for the interviews included many reflections on why the teachers enjoyed teaching the curriculum or thought it was useful (see Table 13).

Table 13

Teachers' Statements about Using the Curriculum in the Future

Teacher	Statement
Ms. Angelou	I find them very beneficial. I think that the third-grade units are a great place to start.… I think that the whole [CLEAR curriculum] program now just really kind of lets the kids develop into this speaker and grow this confidence. So it's great to see them push themselves just a little bit more, so that's why I use it and am familiar with it. And it incorporates a lot of good lessons that are not typically taught in the classroom that are beneficial. (follow-up interview, 16 January 2018)
Ms. Bishop	I thought they were laid out beautifully, and it made sense, and the content was really great. (follow-up interview, 29 January 2018)
Ms. Collins	I found benefit from them. I found that our students grew from it.… [T]his has really set me to certain tasks to complete, and I think even if we go back to the point of, we're not doing the cluster classrooms and we're just doing a pullout with students, this would be the language arts component that I would cover. It kind of keeps me on track. (follow-up interview, 30 January 2018)
Ms. Dickinson	I certainly would because we have to cover both [folklore and poetry] in our third-grade curriculum anyway. So I would just have even more material to share with them. So yeah, I would [use them again]. (follow-up interview, 5 February 2018)
Ms. Eliot	I really like that because, I mean, that's part of the third-grade curriculum to begin with. And it always seems like it's timed perfectly to match up with what we had already talked about or I'm about to introduce. (follow-up interview, 29 January 2018)
Ms. Frost	As soon as we saw this I looked over at Ms. Giovanni and I said, "We will be saving this poetry unit and even if [the division] never does this again, we will be using the poetry unit." Definitely. (follow-up interview, 28 February 2018)
Ms. Hughes	Yeah, I definitely think I would.… I am just glad that we got to do it. I mean, I feel like the kids really benefited from it. If they didn't fully understand the story, they were still being exposed to it and where they might not have been otherwise. So I think overall it was really good for everybody involved. (follow-up interview, 4 February 2018)

Ms. Joyce	I liked them a lot. I think it provides extra information that we don't cover in our standards. And I like it because I feel like it's challenging to the higher students, which unfortunately, I think it's hard to challenge them all the time. I think a lot of them are able to do the classwork that we have, so it's hard to differentiate. So this kind of gives them just an extra challenge and steps it up more so for them. (follow-up interview, 24 January 2018)
Ms. Keats	I think they're great, and I'm really glad I got to experience this. (follow-up interview, 1 February 2018)

Teachers in Division 3 also felt that the curriculum helped them with different aspects of their teaching. Ms. Joyce said she struggled to use higher-level questions and that the curriculum modeled that practice for her (follow-up interview, 24 January 2018). Similarly, Ms. Keats felt like she had been focusing on low-level students and the curriculum "opened my eyes to the enrichment aspect of instruction.… [N]ow I'm able to give them more independent work, more challenging work, and more writing" (follow-up interview, 1 February 2018). Ms. Hughes and Ms. Eliot both appreciated that the curriculum provided many opportunities for students to write. Ms. Eliot felt that the curriculum helped her be "a better teacher" because it reminded her that students benefited from moving around and doing group work and required her to "mak[e] sure I include time during the day for the students to work with others and share their ideas. So there's not often so much sharing [in the classroom]" (follow-up interview, 29 January 2018). Ms. Frost and Ms. Hughes also felt the poetry unit made them realize they could improve. Ms. Frost realized her previous poetry unit had been too simple and "chopped up" (follow-up interview, 28 February 2018), while Ms. Hughes said it made her think about how she wanted to regularly discuss poetry instead of just during test prep: "Watching the kids get excited when they figured out what a poem was trying to tell them was really neat. So that was eye-opening for me" (follow-up interview, 4 February 2018).

Overall, teachers realized that the curriculum helped them offer the students something they had been unable to provide previously.

Teachers were generally eager to talk about the benefits of the curriculum and how well the students did with the content. Ms. Collins and the teachers consistently mentioned the students receiving the curriculum were improving their benchmark test scores, and Ms. Collins reported the improvements to the school board (field notes, 23 March 2017). There were comments added into fidelity logs that indicated buy-in as well. For example, in the fidelity log for Folklore Lesson 3, Ms. Bishop added the comment "*The Little Match Girl* was a perfect story for this [Word Work: Empathy v Sympathy]." Ms. Angelou is still using both the folklore and poetry units with her third graders this year even though she no longer has a cohort of third grade students involved in the project (follow-up interview, 16 January 2018). These types of comments made it easy to determine that teachers enjoyed using the units. Therefore, the data provided evidence that teachers' buy-in helped with implementation of curriculum during the grant.

Positive beliefs. Researchers previously found evidence that teachers who make positive statements about students and maintain classrooms that have a positive student climate are more likely to implement interventions with fidelity. The fidelity and observation logs, field notes, and interview data aligned with the previous literature, as it was harder to find positive statements and evidence of positive climates in the classrooms with low fidelity. However, positive examples could be identified for every teacher and are included in Table 14.

Table 14

Examples of Teachers' Positive Statements about Students

Teacher	Comment
Ms. Angelou	I have really good participation in my GT students. And a thing that I hear a lot in the community is that the students love coming to GT. So I think it's because it's hands-on, the units are interesting. They enjoy being here, and so I don't have a lot of behavior problems. I don't have a lot of scenes or anything, I mean, because they want to be here. So I think that really helps with my kids is their willingness to come, and they know what's expected, and they work hard. (follow-up interview, 16 January 2018)
Ms. Bishop	They just want to see your brilliant little minds work. (field notes, 29 November 2016)
Ms. Collins	I had one student…all of a sudden just took this love for writing poetry. And he still writes poetry for everyone all the time, using the skills that he learned. And he was someone that the teacher was questioning, why was he in there? (follow-up interview, 30 January 2018)
Ms. Dickinson	And I had, and I have this year too, a broad spectrum. It goes from students who are very, very low to students who are gifted. And that is kind of interesting and challenging to meet the needs of all of these students. But the gifted students that I had last year, they were amazing. (follow-up interview, 5 February 2018)
Ms. Eliot	S was probably one of my favorite students I've ever had just because I feel like he taught me so much. And so each day would be, so I'm giving a lesson on, let's say, the water cycle, and he would bring out this abstract 12th-grade vocabulary that sometimes would even teach me something or make me remember something I thought I had forgotten from my high school days. And so a lot of the kids would be rolling their eyes and be like, "Oh, S, is trying to tell us something again," but some of the kids, I think, really benefitted from having a kid like that in the classroom. (follow-up interview, 29 January 2018)
Ms. Frost	You have some of your real high fliers, we have a lot of kids that are right there on the benchmark level, and then we always have our lower-tier kids that work. But most of the time, very well-mannered, striving to do their best, and involved in whatever we're doing in school. (follow-up interview, 28 February 2018)
Ms. Giovanni	Models writing a cinquain about her class, which goes "students/ good, intelligent/ working, listening, collaborating/ how students can learn/ achievers." (field notes, 6 December 2016)
Ms. Hughes	We had a large population of identified TAG students, but then we had a group of students who were not. And they just all worked together very nicely, I think. The dynamics of my classroom worked well last year. They were eager and ready to try new things. And those who were hesitant were urged along by the more eager learners. And as far as behavior, I didn't have any major behavior problems that threw anything else off. It was a good class. (follow-up interview, 4 February 2018)
Ms. Joyce	They have a discussion about examples of empathy—being sick and wanting to be alone, tired of moving, losing a pet. Yesterday it was cold at recess—they (some students) said they had empathy for the teachers. The discussion is interactive and the students are pretty engaged. The teacher is building off of all their responses, but the kids drive the discussion. (field notes, 23 March 2017)
Ms. Keats	I loved when they realized they made a silly mistake or they didn't really go back and—I'm realizing that this year too. Some of my kids are like, "Oh, if I would have just done that," and I'm like, "Yeah, see, look. You learned." (follow-up interview, 1 February 2018)

For most of the teachers, it was difficult to choose one statement that showed positive views of the students. The statements from Ms. Angelou, Ms. Frost, and Ms. Hughes indicated that their students were well behaved and ready to work, which made it easier for them to implement the curriculum. The poem that Ms. Giovanni created for her class also provided evidence that her classroom had a positive atmosphere. Ms. Collins and Ms. Eliot focused on moments where specific students were successful and contributed to the classroom, while Ms. Dickinson was vague in her praise for her students. It was not surprising to see that teachers with consistently positive beliefs (e.g., Ms. Angelou, Ms. Collins, and Ms. Hughes) had high and moderate fidelity of implementation.

For Ms. Bishop, Ms. Joyce, and Ms. Keats, it was harder to find moments where they were optimistically discussing the students and the curriculum simultaneously. Even if discussion was not as positive overall, Ms. Bishop and Ms. Joyce were consistently positive towards the students when implementing the curriculum, which is why their examples are pulled from field notes. They were constant in their attempts to create a positive classroom environment, even though they were more likely in discussion to focus on negative student behavior. Ms. Keats had a particularly challenging classroom, so she tended to speak positively about the curriculum more than the students. These teachers' experiences are discussed more thoroughly in the negative instructional-process section.

Student engagement. As I reviewed the data, I created a code for student engagement to capture how students were interacting with the curriculum. This included evidence of students excited about the curriculum and engrossed in the lessons and activities. After discussing the codes with my external peer reviewer and conducting

interviews, I felt that student engagement fit best in this category because teachers responded to their students' engagement. As with the positive beliefs, the more teachers discussed engaged students and how they thought the curriculum worked in their class, the more likely they were to implement the lesson with fidelity.

Table 15 contains different examples of student engagement. The interviews and fidelity log excerpts illustrate that teachers either felt that the lessons and content were engaging or that changes needed to be made to get students interested. Since Ms. Dickinson, Ms. Frost, and Ms. Giovanni did not discuss specific examples related to the curriculum, I used field notes to portray a typical experience in their classrooms.

Table 15

Examples of Student Engagement

Teacher	Source	Comment
Ms. Angelou	Poetry Lesson 11 fidelity log, Year 1	This was one of my favorite lessons because the students were able to get really creative while writing this poem….Example: One of my students wrote a poem pretending he was the air vent in the classroom and "vented" about how jealous he was of all the paper in the classroom because it gets used all the time and how cold he is. It was amazing!
Ms. Bishop	follow-up interview, 29 January 2018	I learned pretty quick that if you just said, "No, let's just sit and do this journal prompt" they would phone it in. So if I could give them a partner and throw some colored markers in their hand and be like, "All right, so let's get a big idea and let's put it up, and then I'm going to give you 15 minutes and then you're going to stand up and show us all what you have." And they really got into that.
Ms. Collins	follow-up interview, 30 January 2018	I have kids that are asking me, "Are we doing poetry? Are we going to write some poems?" So it obviously made some sort of impact on them, because they're discussing it. They're still wanting to go back to it, they want to revisit it again.… They love the folklore. The stories and the—children like to be read to. And so, with so much read-aloud within that unit, they were like, "Oh, are you going to read us a story today?" I get that all the time. I had a student this morning pull me aside in the hallway and say, "Are you coming to my class? Are you reading a story?"
Ms. Dickinson	field notes, 27 October 2016	Ms. Dickinson says they are almost ready to finish up—there is a little bit of protesting, but they keep working and the teacher goes to another student, who also seems to have a shopping cart as her topic and she asks "have you ever seen one in a store? What do you see when you look at it?" … Ms. Dickinson goes to check on another student who has his hand up—then she calls everyone's attention. She said what if she picked a car for her subject…. Kids start calling out engine, steering wheel, motor, hood—she tells them they should be doing things like that when they brainstorm their lists.

Ms. Eliot	follow-up interview, 29 January 2018	I know they liked it. I mean, they enjoyed it. They never really been specific as to what it was they enjoyed. I probably should have just asked them more often like, "Are you enjoying this"? Like, "What are you getting out of this?"… I mean, I know they enjoyed it. They never were like, "Ah, great, Thursday. We're going to do this." But they just kind of took it in stride like everything else we do in the classroom. My class last year, I guess, just didn't get too excited over anything.
Ms. Frost	field notes, 5 December 2016	Ms. Frost says once they have written their poem, gotten feedback from their buddy, and made any changes they feel they need to make, they can go to a fresh sheet in their notebooks and write the cinquain down. Students are either quiet or talking about their poems. Ms. Frost has grabbed the thesaurus again because they are "trying to find something really good" when they think of synonyms for their poems. Another student has a five-word phrase and they talk about ways they might be able to shorten it. Ms. Frost clarifies with a student that a shark is a type of fish.
Ms. Giovanni	field notes, 23 March 2017	The students are all working on the worksheet and it is actually really quiet in here.… Ms. Giovanni tells them that she likes how nicely they are all working and that they are doing an awesome job. She checks in with a student to get him on the right track ("that's what you need to be doing"). Ms. Giovanni comes over to the group closest to the closet door and tells them they can write another way a fairytale might begin. She goes over and talks to two students about behavior. Ms. Giovanni starts walking around and tells them that they are doing a really nice job and she sees some really good answers.
Ms. Hughes	follow-up interview, 4 February 2018	I liked the choice of the poems and I was happily surprised to see how into the poetry the students were and that kind of opened my eyes as a teacher as to, "Wow, I should have been including poetry into my instruction more often." Because the kids talked a lot about some of the poems. I think "The Memory Box" was a favorite. I know a couple kids got a kick out of "Tiny" and just thinking about themselves in a different perspective. That was pretty fun for them. And they kept going back to "The Red Wheelbarrow," that was one that they would and the vocabulary throughout the poetry unit was really helpful and I have heard fourth-grade teachers now this year, because I work with a lot of the fourth-graders, expressing their surprise that these third-graders coming up to them already knew what some of these words meant. So that was nice to hear.
Ms. Joyce	follow-up interview, 24 January 2018	I did see them more so engaged with the folklore unit also because they had that experience and we were able to bring in personal experiences, such as using *Beauty and the Beast*, and different movies and different books that they've already heard before.
Ms. Keats	follow-up interview, 1 February 2018	I know I have kids that aren't very good writers so they tend to shut down, and a lot of the times it's just a battle I don't want to fight.… I'd rather have the kids discuss orally than sit there and stare at their blank piece of paper.

Teachers like Ms. Angelou, Ms. Collins, and Ms. Hughes, who were able to articulate specific examples of student interest, were more likely to implement the curriculum with fidelity. Conversely, teachers like Ms. Keats and Ms. Bishop, who felt students were not

engaged, were more likely to make changes to get students to participate. These examples illustrate how important student engagement was to teachers' fidelity of implementation.

In conclusion, I found clear evidence teachers' fidelity logs, observers' logs and field notes, and interview data to support the prior literature that teachers who have positive instructional-process factors were more likely to implement the curriculum with fidelity.

Negative. I also examined the data for references to negative teacher factors found in prior literature that make it less likely for teachers to implement curriculum with fidelity. These factors were negative beliefs about students and the curriculum, lack of content knowledge related to the curriculum, and satisfaction with current teaching practice. I combined a fourth code, Unwillingness to Change, with Satisfaction because of overlap. Finally, I added a category for lack of student engagement.

Negative beliefs. I coded the data for negative statements about the students and/or school and design principles of curriculum. I included evidence of group orientation, which were references to social structure/behavior of the class and examples of teachers who defaulted to whole-class instruction rather than individualizing and teacher dependence.

The most prevalent negative belief code related to students' behavior. Ms. Keats, Ms. Bishop, and Ms. Joyce defaulted to making changes to their implementation of the curriculum based on how the students acted. They also spoke of these behaviors in the interviews more than the content of the curriculum. For example, Ms. Keats noticed her students "don't think they need the breakdown of the instruction.… [S]ome of my kids think they already know everything that they need to know, they don't have to listen to

me" (follow-up interview, 1 February 2018). Both she and Ms. Collins documented

instances of disruptions of lessons because of student behavior, like the following

incident that occurred during the first poetry lesson:

> This group had a difficult time staying on task throughout the lesson. During this lesson one student had a violent outburst and was throwing books, supplies and knocking his desk over. This outburst was not in part to not understanding the lesson but a normal part of his interactions in class. Two of the Therapeutic Intervention counselors came into the classroom to talk with him during the lesson. I have concerns with the ability of the students to retain the information being presented with all of the distractions within the classroom. (Ms. Collins, Poetry 1 fidelity log [Keats])

The frustration this type of behavior caused Ms. Keats was evident during observations as

well. For example, the students were meant to complete a cinquain poem before lunch.

Ms. Keats asked the students if they wanted to write one. When a student declined she

replied "well, you don't have a choice." In the field notes, I noted that the assignment

became punitive when she only let them get into line for lunch if they were done. She

escorted the students to lunch, leaving three students who were not finished in the

classroom with Ms. Collins and me. Clearly, the student behavior had a negative impact

on this lesson and others, as Ms. Keats frequently cited modifications due to student

behavior.

Ms. Collins felt that Ms. Keats's difficulties with behavior were related to

inappropriate use of the cluster grouping model by the principal (field notes, 5 December

2016). Problems with cluster grouping were also believed to have negatively impacted

the behavior in Ms. Joyce's classroom. When asked to describe her class last year, Ms.

Joyce said "The class as a whole had behavior problems listening.… They had problems

with working with one another." When asked to describe these problems, she responded:

> Not allowing each other to speak and listening, a lot of listening skills and being respectful to one another as well as letting each other voice their opinions and ideas. Students are very headstrong in thinking their own opinions and didn't [*sic*] really have much compassion for understanding that there's [*sic*] multiple points of views and multiple opinions. (follow-up interview, 24 January 2018)

During the interview, Ms. Joyce also spoke of being overwhelmed trying to complete the curriculum and adding many extra scaffolds for the lower students. This is reflected in her fidelity logs where she indicated that she consistently had issues with time. While these comments do not include behavior, it is easy to see how behavioral issues may relate to time as time gets diverted from instruction to classroom management. Behavior was an observed obstacle in lesson implementation, even though Ms. Joyce typically had a positive tone. The most egregious student behavior was shouting out answers and giving some borderline inappropriate responses to new adjectives. Behavior was a challenge for Ms. Joyce that negatively affected her implementation of the curriculum.

Ms. Bishop focused on the students' weaknesses with both behavior and writing when discussing the units. She called the students "talkative and really social…they still really are a handful" and blamed the issues with writing on the fact that "our school is weak on writing, and that's just my personal opinion…there just doesn't seem to be a lot of really great writers and a lot of real emphasis on trying to push that (follow-up interview, 29 January 2018). Ms. Bishop consistently logged her modifications, which typically involved additional student collaboration options, modifications of writing assignments, and additional background material. During observations students wandered to different areas of the hub and were social but were still productive (e.g., field notes, 29 September 2016). Ms. Bishop felt that due to the students' behavior and difficulties with writing, she had to make modifications to the curriculum.

Other teachers in Division 3 mentioned negative beliefs about students, but they did not report behavior issues on their logs. For example, Ms. Eliot said she had "a couple behavior issues" and that she felt like time that she wanted to spend working on the curriculum was allocated to "redirecting the students, or writing referrals, or having the principal come in and talk to my students" (follow-up interview, 29 January 2018). The problems were not documented on any fidelity logs, and the only issue observed was a student who was reprimanded and then refused to participate by sticking his head inside his shirt—Ms. Eliot "goes over to [him] and rubs his back encouragingly. He does not de-turtle" (field notes, 6 December 2016). After that exchange she moved on to helping other students and did not let the incident affect the lesson. Ms. Hughes and Ms. Dickinson felt some of their students were weak on writing. While Ms. Hughes wanted to add "structured frames or organizers to get those reluctant writers started a little easier" (follow-up interview, 4 February 2018), Ms. Dickinson was less responsive: "I know that there are some kids who—well, they listen and they take part, but when it comes to writing, that's not their forte. So I don't get much out of them" (follow-up interview, 5 February 2018). These three teachers might have noted there were some challenges that they felt affected their classroom dynamic but did not report that it caused them to make modifications, nor were such modifications attributed to student weaknesses during observations.

Overall, teachers were more likely to make changes to the curriculum if they felt that students' behavior was difficult and if they thought the students struggled with the material. These changes had a negative impact on their FOI.

Lack of content knowledge. Another factor that may cause teachers to make modifications to curriculum is their own content knowledge. Most of the teachers implementing these units reported that while there were unfamiliar poems and/or folktales included in the unit, they felt there was enough background and explanation built into the curriculum that there was not a problem.

Two teachers articulated specific examples that caused them difficulty though it did not cause the teachers to misinform students. Ms. Eliot admitted that she found the objective/ subjective culture lesson in the Folklore unit to be difficult "because I think it's a hard concept for me to understand. And of course, anything that's difficult for me to understand is going to be difficult to introduce to my students" (follow-up interview, 29 January 2018). Ms. Joyce said she felt confident at first, but later admitted that "some of the lessons that were…higher-level thinking that I'm not used to myself." This caused her some stress and she noted that lessons were hard to teach "when I'm not confident in what I knew, more so with poetry." She also mentioned that she felt there were instances where "there were words or instructions that I may not [have] understood that they could have done a better job clarifying for the teacher" though she was unable to cite specific lessons when asked (follow-up interview, 24 January 2018). Ms. Eliot did not exhibit any issues with instruction that were observed by grant staff. For Ms. Joyce, Ms. Collins wrote in her fidelity log that she felt Ms. Joyce "Did not seem to elaborate on the language of the poem" for Poetry Lesson 3. In the field notes, I detailed "They talked about how [the poem] does not give them a clear vision and mostly abstract language, but not with any clear examples. None of the students who had differing opinions speak here, nor are their thoughts acknowledged" (field notes, 26 October 2016). While instruction

was imperfect, the examples provided evidence that teachers were not presenting the incorrect or misleading information to students.

Ms. Keats cited numerous specific instances where she had difficulty with content and made mistakes in her teaching, some of which were observed by grant staff. When asked about this in the interview, she said "the one that I think of right away is the ATU [Aarne-Thompson-Uther folklore classification] typing system. I hate that thing. It's so hard and it's really hard to explain to the kids because they just look at it like, 'What is this?'" (1 February 2018). In her post-lesson interview, she said she felt "it went well" (4 April 2017), but on her fidelity log she admitted "I feel like there are other ways to approach this. I just feel as a teacher the system was hard to understand and follow so I am sure the students struggled." In the observer log, I marked *N* for "Explained that students would only be looking at types from 1-750" and "Told that today's tales were type 400" because "She told them they were more realistic and only went with characteristics from the 800-900s." In other words, she misrepresented the material. On another occasion, she admitted on her log "I actually confused the nouns with adjectives on this part [abstract nouns in "The Red Wheelbarrow"], which I noted during the observation as well—she checked in with Ms. Collins and students were made aware of the correct information (Poetry 3 observer log [Keats]; field notes, 26 October 2016). These interactions suggest that while Ms. Keats did lack some content knowledge, she did not avoid teaching things just because she was uncertain and was aware enough of the problem to get assistance. Still, the lack of content knowledge did cause her to make negative modifications to the curriculum.

Satisfaction and unwilling to change current practices. This combined factor was coded when there was discussion of why teachers preferred another approach or if they felt there was something in the curriculum that did not work. There were few examples of this behavior, and the only teacher who was truly satisfied with another method was Ms. Keats, who greatly preferred her own method of grouping.

> I like it that way. The kids work really well that way too. When they do group work or I have them turn to their partner, it's nice because a lot of the conversation is really—it's not geared where one person is overtaking the other. They both are having an equal share of discussing and talking about the topic. And if I have a high-ability student with a low-ability student, they're able to keep them on task. Or if they're talking way out in left field about the topic and that's not right, they'll guide them back to where they think it should be. (follow-up interview, 1 February 2018)

Ms. Keats's preference meant she was unwilling to change to use the differentiated grouping specified in the grant, which was a major negative modification.

Other than that, Ms. Joyce and Ms. Dickinson reported that some of the modifications they made were due to their satisfaction with current practices. For Ms. Joyce, it was the additions of scaffolds and modeling: "I pretty much think we're doing some things I've done from the lessons but I usually continue to do what I've always done sort of as my teaching practices" (follow-up interview, 24 January 2018). Ms. Dickinson's plentiful additions of outside materials are also a personal preference: "I also like going away from the activity and finding other examples of things to share with them and my background [is] in anthropology, and I just really get into cultural-type things" (follow-up interview, 5 February 2018). While the modifications were not negative, the teachers satisfied with current practices were less willing to implement the curriculum with fidelity because they incorporated materials and/or strategies according to their own preferences.

147

Lack of student engagement. The final negative instructional-process factor is lack of student engagement, which I created as a code to capture the moments where teachers made changes because of student reactions. I looked for evidence of students not enjoying the curriculum and acting off-task/disinterested during the lessons and activities. For the most part, students were focused and engaged in the lessons I observed. In classrooms characterized by behavior problems more students were off-task and disengaged. For example, during an observation of a Folklore lesson in Ms. Joyce's class a student "[came] over and sa[id] TAG is boring, and that it is on the wrong day" and the students proceeded to play with their folders while Ms. Joyce read a story aloud. I noted the folders were "a little distracting" (field notes, 25 April 2017). Ms. Joyce felt the issues were more pervasive during poetry, as "they weren't as engaged or responsive in a positive way to it. Because I think they struggled with it more" (follow-up interview, 24 January 2018). It is worth stating that Ms. Joyce was the only teacher in Division 3 who cut multiple poetry lessons, though she cited time and not the lack of student engagement as a factor in the modification.

While the lack of engagement was not always visible in observations, multiple teachers reported that there was content that was not interesting to students. Ms. Dickinson recalled that there were a few poems that might have been too sophisticated, as students listened to them "but they weren't terribly interested in it," though she was unable to cite specific works (follow-up interview, 5 February 2018). Ms. Collins felt the ATU did not get students' attention: "I think it just kind of went over the kids' heads. It was more of an adult-level thing for them. They weren't interested in it." Naturally, it is also the part of the curriculum she says she wanted to take out of the units (follow-up

interview, 30 January 2018). These examples show a relationship between content the teachers did not like and their perception of student engagement.

The other discussions about lack of engagement all involved writing, which most teachers modified to verbal discussions at some point during the lessons. Ms. Keats cited student engagement as a reason for changing writing to discussion because it was better than having them stare at a blank page (follow-up interview, 1 February 2018). Ms. Bishop changed many of the individual writing assignments to small-group poster projects for similar reasons:

> I think the kids were more engaged. I tried to figure out ways that would bring them around to enjoying what they were doing a little more, maybe, than I thought. It wasn't even really that whatever was in the curriculum wasn't great. But just you sort of look at it and think, "Wow, I think that if they could work with this partner, or if they could stand up and talk about it a little bit more, they might enjoy that more." So it really was just getting them engaged and interested in what they were doing. (follow-up interview, 29 January 2018)

While Ms. Keats and Ms. Bishop were more likely to make a change to engage students more, Ms. Eliot described a situation when she stopped herself from giving students more assistance to get them engaged. A student said "I don't know what to write" and while she wanted to tell him how to start the assignment, "I wanted it to be as limitless as possible, and so I don't want to give too much instruction" (follow-up interview, 29 January 2018). She did not want to make changes because participation was a challenge. Regardless, the examples show that teachers tend to make modifications to curricular interventions to avoid student apathy.

Conclusion. As was true with the positive factors, negative instructional-process factors caused teachers to make modifications to the curriculum. While not all changes made due to negative factors were negative, they impacted teachers' implementation.

Research Question 3: When Teachers are Grouped by High, Moderate, or Low Fidelity, Do Common or Differential Themes Emerge about How and Why Adaptations are Made?

I examined the data from Question 1 on teachers' levels of fidelity by comparing my results with the results on how and why teachers made adaptations from Question 2. The patterns were clearer with why teachers made adaptations than how the adaptations occurred, mainly because not all the teachers were descriptive about what occurred and it was harder to recall those details in the interviews. For example, Ms. Keats had more codes in almost every category due to her thorough documentation of her practices in the fidelity logs. Therefore, simply looking at which teachers had more codes for types of adaptations was not helpful. Instead, I reviewed my coding and focused on the teachers' comments in their fidelity logs to ensure that the patterns had strong support. Ultimately, I found common and differential themes for teachers with different levels of fidelity. The common themes represented the types of adaptations that all teachers made.

Common Themes

There were four major themes that were at the core of how and why teachers made adaptations to the curriculum: (1) adding appropriate material to help students connect with the lessons, (2) changing delivery of material or subtracting activities due to student behavior, (3) subtracting writing or changing delivery to verbal discussion, and (4) subtracting components of curriculum due to time. While these themes captured structural elements, the teachers' decisions incorporated the positive and negative instructional-process factors. Examples of how teachers' adaptations fit each theme are included in Table 16.

150

Table 16

Common Themes about How and Why Teachers Made Adaptations and Examples of Adaptations

Level of Fidelity	Teacher	Theme 1: Adding Appropriate Material to Help Students Connect with the Lessons	Theme 2: Changing Delivery of Material or Subtracting Activities due to Behavior	Theme 3: Subtracting Writing or Changing Delivery to Verbal Discussion	Theme 4: Subtracting Components of Curriculum due to Time
High	Ms. Angelou	Added mini-lessons to ensure students understood content (e.g., Poetry 10 fidelity log)	Created more structure for activities to help students focus (e.g., Poetry 12 fidelity log)	Added time to complete larger writing assignments (follow-up interview, 16 January 2018)	Made modifications/ subtractions to complete units before testing (e.g., Poetry 19 fidelity log)
High	Ms. Collins	Added music and video to help students engage with content (e.g., Poetry 11 fidelity log [Joyce])	Subtracted station activity to avoid potential conflict between students (e.g., Poetry 4 fidelity log [Keats])	Changed journals/ individual writing to whole-group discussions (e.g., Folklore 3 fidelity log [Keats])	Reworked schedules with teachers to accommodate benchmark testing (follow-up interview, 30 January 2018)
High	Ms. Frost	Added option for students to type and display poems (Poetry 3 fidelity log)	Altered activity where students move around to keep them at desks and less distracted (e.g., Poetry 12 fidelity log)	Changed journals to whole-group discussion on occasion (e.g., Folklore 13 fidelity log)	Subtracted some peer editing and role playing at the end of lesson (e.g., Poetry 5 fidelity log)
High	Ms. Giovanni	Created a published book that parents could purchase (Folklore 19-20 fidelity log)	Removed some options from an activity to avoid confusing students (e.g., Poetry 6 fidelity log)	Changed journals to whole-group discussion on occasion (e.g., Folklore 13 fidelity log)	Shortened activities (e.g., Folklore 8 fidelity log)
Moderate	Ms. Dickinson	Added examples from stories they were reading in class (e.g., Folklore 11 fidelity log)	Altered whole-class activity to students who wanted to participate (e.g., Folklore 11 fidelity log)	Changed journals/ individual writing to whole-group discussions (e.g., Folklore 8 fidelity log)	Made modifications/ subtractions but was unable to complete units before testing (e.g., Folklore lessons 16-20)

151

Moderate	Ms. Eliot	Added pictures of authors and locations (e.g., Folklore 14 fidelity log)	Altered differentiated grouping so that student behavior was considered (e.g., Folklore 4 fidelity log)	Changed journals/ individual writing to whole-group discussions (follow-up interview, 29 January 2018)	Made modifications/ subtractions but were unable to complete units before testing (e.g., Folklore lessons 16-20)
Moderate	Ms. Hughes	Added time to discussions when students were confused (e.g., Poetry 4 fidelity log)	Changed the way they discussed material (e.g., Poetry 3 fidelity log)	Changed journals to whole-group discussions (e.g., Folklore 14 fidelity log)	Made modifications/ subtractions but were unable to complete units before testing (e.g., Folklore lessons 16-20)
Low	Ms. Bishop	Read additional stories and repeated activities (e.g., Folklore 4 fidelity log)	Changed assignments so students could make posters and present to engage them (e.g., Folklore 8 fidelity log)	Changed individual writing to group presentations and posters (e.g., Poetry 3 fidelity log)	Made modifications/ subtractions but was unable to complete units before testing (over half the Poetry unit)
Low	Ms. Joyce	Added in personal experiences to help students make connections (Poetry 7 fidelity log)	Changed a differentiated reading activity to story/ movie trailer comparison because they struggled (e.g., Folklore 8 fidelity log)	Shortened and cut writing assignments (e.g., Folklore 9 fidelity log)	Made modifications/ subtractions but was unable to complete units before testing (e.g., Poetry 6 fidelity log)
Low	Ms. Keats	Added modeling and brainstorming before writing (Poetry 16 fidelity log)	Removed parts of lessons when students did not behave (e.g., Folklore 9 fidelity log)	Changed all journal writing to verbal discussion (all Folklore fidelity logs)	Made modifications/ subtractions but was unable to complete units before testing (e.g., Folklore lessons 15-20)

Adding appropriate material to help students connect with the lessons.

Teachers at every fidelity level added material to the units that aligned with the guiding

principles of the units outlined in Appendix G. The main difference between the different

groups was the additions made by high-fidelity teachers did not interfere with the

completion of the rest of the lesson, while the additions made by moderate and low-fidelity teachers ultimately led them to subtract other material from the lessons and/or unit. The number of additions made did not align with teachers' level of fidelity. Ms. Angelou (high fidelity), Ms. Bishop, Ms. Dickinson (moderate fidelity), and Ms. Keats (low fidelity) reported the most additions of material. Ms. Angelou had the most consistent schedule and the most time to implement the curriculum, which likely contributed to her ability to bring in outside material and complete the other components of the lessons. Therefore, while all teachers added appropriate material to the folklore and poetry units, high-fidelity teachers were able to fit the additions into the curriculum without negatively impacting completion of required material.

Altering the curriculum in response to student behaviors. All the teachers altered the curriculum in response to student behavior. The high-fidelity and moderate-fidelity teachers were more proactive in their changes, as they typically made decisions about changes before class. Ms. Angelou consistently created graphic organizers or restructured directions based on student performance so that her students were able to complete activities in an effective manner, while Ms. Collins, Ms. Frost, and Ms. Giovanni took out parts of activities they felt had the potential to cause problems for their students. Ms. Angelou's modifications were positive, as they did not alter the intent of the activities. The changes by the other three teachers limited some of the opportunities that students had to move around the room and choose different types of poems, respectively. While students still received the content, the limitations did not accommodate student differences in learning profile or interest. The high-fidelity teachers made fewer changes in this category than the moderate or low-fidelity teachers

153

The moderate-fidelity teachers' changes relative to student behavior consistently had negative impacts on with fidelity. Ms. Eliot worked to avoid problems in her classroom by reworking grouping to address student behavior, though it meant she was not using the differentiated grouping critical to the curriculum. She reported doing this on more than one occasion; at other times she did not structure the lesson so students moved from their desks when they were meant to move around the room. Ms. Dickinson altered multiple activities to include only the students who volunteered to participate, which meant that most students were not actually completing the activities. Both Ms. Eliot's and Ms. Dickinson's adaptations were negative. Ms. Hughes's changes were positive, as she only worked to clear up confusion. However, she had to extend some of the Poetry lessons to multiple days to accommodate some of the additional time, which resulted in her eliminating some Poetry activities toward the end of the unit, and she was ultimately not able to finish all the lessons in the Folklore unit. While the teachers' decisions did help the lessons go smoothly, the modifications affected the fidelity of implementation.

The low-fidelity teachers reported making modifications due to behavior more often than other teachers, and they were more reactive in nature, at least at first. While Ms. Joyce and Ms. Bishop did not go into detail on their fidelity logs about their reasoning, they described the changes they made (as reflected in Table 14) during their follow-up interviews as necessary so that students were engaged in the work. According to these teachers many of the changes came because of their personal assessment that students were struggling with the material. For example, Ms. Joyce said the students "did not understand this fairytale as much," and then modified the differentiated activity where students compare different stories they have read to an activity in which she read a

154

story aloud and had them compare it to a movie trailer (Folklore 8 fidelity log). In general, once these teachers noticed students having difficulty, they tried to make the material more appealing. Unfortunately, both teachers modified critical components of the curriculum in their attempts to engage students. In a more drastic change, when Ms. Keats noted students' problematic behavior she reported stopping the activity altogether, changing an activity, or eliminating an activity altogether. For example, in Folklore Lesson 9 she wrote "my students did not do well with this activity because of their behaviors and they just wanted to argue and have attitudes during this part of the lesson so we had to cut it short" (fidelity log). The low-fidelity teachers let student behavior dictate the course of the lessons more often, making it difficult for them to implement the content as written.

While all teachers made changes to the curriculum based on student behavior, teachers with high and moderate fidelity did not make the changes as often, their changes were sometimes enhancements to the lessons, and their changes were not as drastic as the alterations made by low-fidelity teachers.

Subtracting writing or changing delivery to verbal discussion. Likewise, high and moderate-fidelity teachers did not make changes to writing as often as teachers with low fidelity. Ms. Angelou reported the fewest number of changes, as she rarely skipped journal entries and even added additional time for students to complete writing assignments. Ms. Collins was not present for the entire Folklore unit, but in the completed logs she reported that teachers were consistently changing the journals and other short writing assignments into whole-group discussion. The remaining teachers, regardless of level of fidelity, consistently reported that they converted the journal entries

to verbal discussions in their fidelity logs. The only exception was Ms. Eliot, who reported this practice in the follow-up interview even though she marked the journals as implemented.

For low-fidelity teachers, they either reported even more adaptations and subtractions to writing activities or took so much extra time on a writing activity that they did not implement numerous other parts of a lesson. For the latter, Ms. Keats had students write ghost stories when they were learning about how to deliver a story. The point of the activity was so that students understood how voices change based on the topic, but the focus on writing meant that students did not complete the rest of the activities. Ms. Bishop and Ms. Joyce tended to omit more of the activities at the end of the lesson, which often involved students applying the information they learned through a writing assignment or a journal prompt. Many of these activities had no verbal equivalent. In Poetry Lesson 5, titled "Poet's Workshop," Ms. Joyce reported that she skipped the three different writing activities involving editing, giving constructive criticism, and converting notes into a poem. Ms. Bishop did not teach any of the workshop lessons. The ways that the low-fidelity teachers adapted the writing-related activities ultimately had a huge impact on their overall fidelity of implementation.

Subtracting components of curriculum due to time. The main reason teachers said they cut writing was time. In fact, time was the main reason reported for adapting the curriculum for every teacher. The high-fidelity teachers taught more lessons than teachers with moderate or low fidelity. Ms. Frost and Ms. Giovanni managed to teach every lesson but did cut a few activities from the folklore lessons they taught in the spring. While Ms. Angelou skipped three lessons over the course of two years and cut a few sections out of

the lessons—all occurred in poetry, which she taught in the spring when gifted services were curtailed as review for testing began. Ms. Collins only completed logs for the lessons and portions of lessons with which she assisted, therefore, there are no records of skipped lesson for her. In summary, teachers with high fidelity were more likely to cut material out of lessons when they taught them in the second half of the year (and they were limited by the school year calendar), and they taught more lessons in each unit than the teachers with moderate or low fidelity.

Skipping lessons due to time was the primary reason there were so many teachers with moderate or low fidelity, and the pattern for time of year held true as well. For example, Ms. Eliot and Ms. Hughes both had high fidelity in the Poetry unit, which they started teaching in the fall. They both skipped multiple Folklore lessons due to the state testing that occurred in the spring. Overall the lessons omitted by Ms. Eliot and Ms. Hughes resulted in overall moderate fidelity for the grade 3 curriculum. Likewise, Ms. Bishop, Ms. Dickinson, and Ms. Keats had moderate fidelity for the units they taught in the fall, but low fidelity for the units they taught in the spring. While Ms. Dickinson adhered to the curriculum enough that she still had moderate fidelity overall; Ms. Bishop and Ms. Keats both had low fidelity. The only teacher with low fidelity in both units was Ms. Joyce. She omitted lessons in both the Poetry and Folklore units and taught fewer of the unit's lesson in the spring. No other factor impacted teachers' fidelity of implementation as much as time.

While teachers made a lot of modifications, many of which did not align with the guiding principles, the teachers felt changes were necessary to make the curriculum work

in their classrooms. Exploring the differential themes helped to bring some of these details out of the data.

Differential Themes

To make sure I understood potential factors that might show differences between the groups, I looked for patterns within each fidelity group. I also considered information on the schools and teacher background for this phase of analysis after speaking with the teachers during interviews. My analysis led me to identify the instructional-process and structural factors related to the differential themes of implementation within each fidelity group (see Table 17).

Table 17
Factors Related to Differential Themes of Implementation within Each Fidelity Group

Degree of Fidelity	Instructional-Process Factors	Structural Factors
High	• Buy-in	• School culture, morale, and norms
Moderate	• None	• School culture, morale, and norms • Scheduling and timing
Low	• Negative beliefs • Lack of content knowledge/teaching experience	• School culture, morale, and norms • Scheduling and timing

The instructional-process factors were endogenous, as they described teachers' beliefs and practices, while the structural factors were exogenous and outside of the teachers' control. The patterns indicated that scheduling and timing were the major issues that caused teachers to have difficulty with implementation. While the high-fidelity teachers had more positive instructional-process factors and the low-fidelity teachers had more negative instructional-process factors, the moderate-fidelity teachers did not have a

158

distinct pattern regarding their endogenous behaviors. However, like the low-fidelity teachers they experienced difficulties with scheduling and timing that caused them to omit lessons and ultimately impacted their FOI.

High-fidelity teachers. High-fidelity teachers were generally teaching in a supportive school environment, setting clear expectations, and engaging students in student-driven discussions. The students in their classrooms were generally excited, well-behaved, and engaged. The themes further explore how these classrooms worked and why high-fidelity teachers were more successful with implementing the curriculum.

Theme(s) specific to high fidelity teachers. High-fidelity teachers were distinguished by one theme related to instructional-process factors and one theme related to structural factors in common. The structural theme involved school culture, morale, and norms, while the instructional-process theme was about buy-in.

School culture, morale, and norms: High-fidelity teachers worked in schools with better student performance, lower poverty, and more parent support. Because the low-fidelity teachers all discussed issues with poverty and student performance, I looked at whether these factors appeared to be a pattern with high and moderate-fidelity teachers as well. In all the participating school divisions at least 50% of the student body received free or reduced lunch (FRL). I further examined data from the department of education to examine the potential impact of poverty at the school level. I also gathered data on accreditation status because Ms. Collins frequently referenced the status of schools when discussing state testing. Table 18 includes data on the percent of students on FRL in the school(s) and the school's (or schools') accreditation status.

Table 18

School Background Information for High-Fidelity Teachers

Teacher	School	Range of Students Receiving FRL	Accreditation Status of School at the Beginning of the Grant
Ms. Angelou	All elementary schools in Division 1	50-60%	3 Partial 1 Full
Ms. Collins	All elementary schools in Division 2	50-90%	2 Partial 3 Full
Ms. Frost	Northeast Elementary	50-60%	Full
Ms. Giovanni	Northeast Elementary	50-60%	Full

Ms. Frost and Ms. Giovanni both worked at Northeast Elementary, which was fully accredited and had the lowest relative poverty numbers of any of the schools we worked with on the grant. While Ms. Angelou and Ms. Collins worked with students from multiple schools, some of which had relatively higher poverty and partial accreditation, they worked with at least one accredited school and schools that were on the lower end of poverty in this study. However, no teachers indicated that having relatively lower poverty helped their implementation. Further it was accreditation and the subsequent emphasis on SOL testing and test preparation that was frequently named by the teachers in the relatively higher poverty schools as impacting FOI through the influence on scheduling and timing. It is important to note that all districts in the sample were selected because they had a FRL rate of over 50%.

Instead, high-fidelity teachers felt that they benefited from parent and community support. When asked to describe her students, Ms. Frost said:

> I think we're probably very fortunate just because of the quality of the kids that we get. That we tend to have more parents, I think, that are more hands-on and involved with their kids' education.… And because we're so small, we really get to know our kids. (follow-up interview, 28 February 2018)

Ms. Collins also mentioned that parents were excited about the curriculum, with one parent "bragging on how much their child had learned through the cluster classroom" (follow-up interview, 30 January 2018). Ms. Angelou did not bring up parents but cited community support for the program and different staff members who talked to her about how "the students love coming to GT" and congratulated her on the Folklore Festival, which was posted on the school division Facebook page by the administration (follow-up interview, 16 January 2018). In conclusion, high-fidelity teachers had more supportive environments with less financial difficulties and stronger test scores. These environments were potentially related to their buy-in.

Buy-in: teachers treated the curriculum as a priority. While many teachers spoke positively of the curriculum, the high-fidelity teachers showed they were committed to implementing it. They focused on helping their students succeed with the curriculum and did not let any struggles become a setback. Most importantly, they devoted time to finishing the units. Ms. Angelou "doubled-up" lessons by teaching two lessons in one literacy period during the spring, when she was notified that she would have to stop teaching at the beginning of May (follow-up interview, 16 January 2018). Ms. Giovanni and Ms. Frost turned their usual writing block into time with the curriculum after state testing had concluded. Ms. Frost explained:

> [I]t was kind of important to Ms. Giovanni and I that, if we were going to start something, we were going to finish it. And so that was kind of a priority for us. And the kids were anxious to get to the sharing at the end and being able to share their folktales and doing the little folktale festival.…We both felt we would be cheating them if we stopped before we got there. (follow-up interview, 28 February 2018)

When I asked her opinion on not completing the festival, Ms. Angelou said she "would be shocked because kind of the whole purpose of the whole [unit]" and described how

much it benefited her students. While teachers with lower fidelity did not attempt to hold the event, the high-fidelity teachers understood the importance.

While Ms. Collins did not have a classroom of students, her influence was notable across classrooms with certain additions, subtractions, and delivery changes. For example, none of the teachers discussed the Folklore pre-assessment results with their students, and they all reported using anchor charts that Ms. Collins created with vocabulary words rather than adding them to the Word Wall as they went through the lessons.

In conclusion, the high-fidelity teachers found a way to complete the units with their students despite any difficulties they had with scheduling and timing.

Themes specific to moderate-fidelity teachers. Two structural factors emerge as themes exemplifying teachers with moderate fidelity: (1) school culture, morale, and norms and (2) scheduling and timing.

School culture, morale, and norms: Teachers worked in schools with better student performance, higher levels of poverty, and more ELL students. All the moderate-fidelity teachers worked in schools that were fully accredited, and the percentage of students receiving free or reduced lunch was higher by about 10%. These numbers are included in Table 19.

Table 19
School Background Information for Moderate-Fidelity Teachers

Teacher	School	Range of Students Receiving FRL	Accreditation Status of School at the Beginning of the Grant
Ms. Dickinson	Southeast Elementary	60-70%	Full
Ms. Eliot	Southeast Elementary	60-70%	Full
Ms. Hughes	Northwest Elementary	70-80%	Full

Within this theme, the major difference between the high and moderate-fidelity groups was not related to poverty but the teachers' focus on the growing population of English Language Learners (ELL). Ms. Hughes explained:

> With ELL students, I know that we've been getting large groups of families of migrant workers coming up into our area, and they're staying. In years past, we've had them come and then they'd go, and they'd come back depending on the season. But the last couple of years, they seem to be staying in our area at least for the entire school year. (follow-up interview, 4 February 2018)

In their follow-up interviews, both Ms. Dickinson and Ms. Eliot mentioned the large number of ELL students in their classrooms. Ms. Eliot said that it occasionally became an issue in the classroom as she tried to determine whether "academic problems [are] a result of their language or …a result of just being behind in general." She noted the added responsibility of ensuring that any notices sent home were translated for parents (follow-up interview, 29 January 2018). While teachers did not report problems with curriculum implementation because of their students' ELL status, they felt the diversity of the student population impacted implementation.

Scheduling and timing: Teachers were preoccupied with testing. Whereas the high-fidelity teachers found a way to complete the units before testing or were used time after testing for concluding the lessons, moderate-fidelity teachers talked about testing impacting both time and students. Ms. Dickinson consistently cited testing as a reason for eliminating parts of lessons (e.g., Folklore 11 fidelity log). Similarly, Ms. Hughes described testing as an influence on her perception of the time to teach the unit: "by the time we were able to start the folklore lesson[s], it was getting into testing time and benchmark, and then the SOLs, and I just felt that that whole unit was rushed for us" (follow-up interview, 4 February 2018). Ms. Eliot also admitted the "automatic pressure"

of testing impacted her teaching: "I'm always thinking, "Okay, well we have benchmarks coming up. I have to make sure I have done X, Y, and Z" (follow-up interview, 29 January 2018). Ms. Hughes noted that there was no opportunity to complete the unit after testing, as her time was re-directed from working with the gifted students to "grade-level remediation and SOL retakes" (Folklore 16-20 fidelity logs). Ms. Dickinson and Ms. Eliot were both observed completing part of Folklore Lesson 15 during their final week of school (field notes, 8 June 2018). For the moderate fidelity teachers, state testing impacted their ability to complete the units.

These teachers also felt that the testing schedule had an impact on the students' engagement in the curriculum. Ms. Hughes claimed that when students were "knee deep in testing mode … they were just not as excited as they were earlier in the year." She perceived that finishing teaching the units before "the craziness of May" would have been helpful (follow-up interview, 4 February 2018). Ms. Dickinson referenced the pressure caused because students must "take those tests and meet those goals" (follow-up interview, 5 February 2018), while Ms. Eliot blamed herself for student anxiety:

> [T]he second we get an e-mail or anything about any sort of benchmark or [state] test it's like automatic pressure and I know my students pick up on that …. [T]hey read my facial expressions and everything so it definitely adds a lot of pressure and it's very stressful…. (follow-up interview, 29 January 2018)

Ultimately, testing impacted moderate fidelity teachers in a variety of ways that did not affect the high-fidelity teachers.

Theme(s) specific to low-fidelity teachers. Themes related to two negative instructional-process factors and two structural factors reflected the struggles low-fidelity teachers had in implementing the curriculum.

Negative: Focus on student deficits. The teachers with low-fidelity scores were more likely to focus on the deficits that students had during class, whether it was a struggle with the content or a behavior issue. While there were strengths for each class, the low-fidelity teachers tended to focus on the content with which students struggled and remediated instruction for the whole group. Ms. Bishop reported that "They have no real exposure to poetry," which was her justification for altering a differentiated activity and having all students complete every part of the re-designed activity (Poetry 2 fidelity log). She also talked at length about how "[t]hey just were not strong writers" and how hard it was for them to write stories (follow-up interview, 29 January 2018). Ms. Keats also noted how students' struggles with writing impacted her teaching: "I know I have kids that aren't very good writers so they tend to shut down, and a lot of the times it's just a battle I don't want to fight" (follow-up interview, 1 February 2018). Ms. Joyce felt poetry was a struggle because "the higher kids usually understood it, but even then, not always. A lot of times they weren't sure of what it meant, so we had to do a lot of scaffolding to help them" (follow-up interview, 24 January 2018). Ultimately, the teachers' beliefs about the students' struggles resulted in negative modifications and lowered their fidelity scores.

Additionally, all three low-fidelity teachers reported struggles with the behavior of students that impacted their implementation of the curriculum. Before my first observation of Ms. Keats, Ms. Collins provided a disclaimer that there were so many behavior issues in the grade that they "spread them out into different classrooms" (field notes, 26 October 2016). Further, Ms. Keats cited student behavior when asked about what part of the lesson was challenging: "My groups of students struggled with working

together, and if I would have maybe broke [*sic*] them into partners instead of groups maybe my issues would have not occurred" (Ms. Keats, post-lesson interview, 24 March 2017). Ms. Keats reported that behavior remained an issue throughout the year that impacted her implementation of the curriculum (follow-up interview, 1 February 2018).

While Ms. Joyce's logs did not reflect on behavior, she discussed behavior as an issue in her post-lesson interviews. For example, the interviewer noted, "she was surprised how into it they were. She usually gets attitude, but they were pretty quiet" and "the kids always say they hate TAG, but they are engaged and enjoy it even though they complain about it. Ms. Collins thinks that it is related to the classroom [dynamic], which Ms. Joyce says is very negative" (post-lesson interview, 25 April 2017). When asked to describe her class in the prior year, Ms. Joyce focused on problematic behaviors, particularly in regards to grouping. She felt that small groups "cause a lot more problems, as far as transitioning, going from groups and staying on task. And students working together with more people—it can cause management problems" (follow-up interview, 24 January 2018). The relationship between students' behavior and Ms. Joyce's approach to teaching was negative and clearly affected Ms. Joyce's implementation of curriculum.

Ms. Bishop described the behavior issues in Division 2 as a lack of motivation. For example, she discussed student dis-engagement:

> You speak with them and get them really involved talking about a game or something that they enjoy doing, they can be pretty articulate about it but then it doesn't always translate into what you think they really do know in their class work. And they don't apply themselves and don't seem to have that sort of drive to… give 100%. They're just going to be there in the moment and they're okay with that. (follow-up interview, 29 January 2018)

Because of the motivation issues, Ms. Bishop focused on what students liked and changed individual student work to group posters. Even then, she noted that "There are a

couple of kids that don't work really well, they're just not able to contribute, and then that irritates and makes the other ones angry" (follow-up interview, 29 January 2018). Even though she made changes to the curriculum to help mitigate the problem, behavior remained an issue.

None of the teachers with low fidelity scores were able to change the pervasive behavior issues; hence, they had difficulty implementing the curriculum with fidelity. One point of note was that teachers who consistently reported behavior issues had less than five years of teaching experience (see Appendix J).

Negative: Lack of content knowledge and teaching experience. As discussed previously, lack of content knowledge was a factor that impacted teachers' fidelity of implementation. This was particularly true for the teachers with lower overall fidelity, who had less than five years of classroom experience. For example, Ms. Bishop reported that a lot of the content was new to her like "the history of the fairytales" and that she "hadn't read the poems, but the poetry that we covered I had seen before, either as a student or just as an adult and helping my kids" (follow-up interview, 29 January 2018). While she reported familiarizing herself with the content before teaching it, her lack of teaching experience played a bigger role in the classroom difficulties. Ms. Bishop does not have a teaching license but worked as a substitute before she was hired as a special education care professional. Before her involvement in teaching the CLEAR curriculum units, her primary responsibility was assisting "students who needed assistance with their IEP goals" (follow-up interview, 29 January 2018). She was trained alongside the Grade 3 reading teacher, and while there was evidence they discussed the curriculum (field notes, 6 April 2017), only Ms. Bishop taught lessons.

While she was dedicated and interested in the material, Ms. Bishop's lack of teaching experience affected her ability to manage the classroom. One issue was time, as she had difficulty figuring out the timing of lessons. For example, she told me her goal was to "get the whole lesson done today" but only managed to complete a small section (field notes, 20 March 2017). When I returned two weeks later, she was still teaching the same lesson thanks in part to testing and spring break (field notes, 6 April 2017). In the follow-up interview she noted her primary concern was student engagement and that she was willing to make a lot of changes if it meant students were enjoying the lessons (follow-up interview, 29 January 2018), but the result was that she did not deliver the content as intended. She also misunderstood the use of differentiated, flexible grouping. Rather than breaking students into small groups by readiness and having them complete different activities, she worked through all the activities with the entire class and marked that she had implemented the activity as written (e.g., Poetry 2 fidelity log). These types of discrepancies between her implementation and explanation indicated that she did not completely understand the curriculum.

Still, having a teaching license does not guarantee comfort in the classroom, as Ms. Joyce and Ms. Keats confessed that they were not confident with all the lesson material. Ms. Joyce reported that there were lessons that she had no trouble with, but for some "I was stressed out and didn't know what to do…. It was hard to teach that when I'm not confident in what I know" (follow-up interview, 24 January 2018). She did not report any issues with confusion on her fidelity logs, but in a post-lesson interview for Folklore she noted that she had focused on not confusing sympathy and empathy for herself so she could get it right for the students (post-lesson interview, 23 March 2017).

She ultimately left out multiple parts of the sympathy/ empathy activity (Ms. Joyce,

Folklore 3 observer log, 23 March 2017). Ms. Keats was more forthcoming with her

difficulties and reported them on the fidelity logs, such as "I did not realize what all this

lesson entailed and the time it took" (Folklore 2 fidelity log) and "We tried to identify the

rhythm but we could not …. I am sure there was one I just couldn't figure it out" (Poetry

15 fidelity log). When asked if her adaptations helped her succeed in achieving the goal

of the lesson, she said that sometimes "when I taught it, I got really more confused looks.

So sometimes yes they were, and sometimes no" (Ms. Keats, follow-up interview, 1

February 2018). The teachers who struggled the most with content knowledge and made

adaptations in response to these struggles were also the ones who had less teaching

experience.

School culture, morale, and norms: low-fidelity teachers worked in schools with

the highest poverty and worst student performance. All the low-fidelity teachers worked

in schools that were partially accredited, and the percentage of students receiving free or

reduced lunch was over 70%. These numbers are included in Table 20.

Table 20
School Background Information for Low-Fidelity Teachers

Teacher	School	Range of Students Receiving FRL	Accreditation Status of School at the Beginning of the Grant
Ms. Bishop	Central Elementary	70-80%	Partial
Ms. Joyce	Central-West Elementary	80-90%	Partial
Ms. Keats	Southwest Elementary	80-90%	Partial

There are several differences between the low-fidelity group and the groups with higher

fidelity, namely the discussion surrounding the high levels of poverty and testing that

stems from the accreditation status.

Poverty and home environment. The challenges associated with poverty was a pervasive topic in the elementary schools where the low-fidelity teachers taught. Ms. Collins explained that the two schools in Division 3 have a lot of students living in rental properties and low-income housing, so the schools have more students in poverty (field notes [Joyce], 7 December 2016; Ms. Collins, follow-up interview, 30 January 2018). Ms. Joyce mentioned that she knew one of her students was well off "because he pays for lunch" and that the "[c]ommunity does not really have anything to offer the students" (Ms. Joyce, post-lesson interview, 7 December 2016). Ms. Bishop described similar issues in Division 2: "we don't really have a grocery store, so folks have to travel 20 minutes either direction […] and there's not an awful lot of jobs in our community, so we have limited, poor students" (follow-up interview, 29 January 2018). Ms. Keats did not talk about the community as much but did mention how her school did not always have resources for students and joked about not having journals last year: "I mean, I'm at Southwest, so I tend to get forgotten sometimes" (follow-up interview, 1 February 2018). While teachers did not report problems with curriculum implementation because of poverty specifically, the difference in low-fidelity teachers' perceptions of the student population (as more "limited") in the relatively higher poverty schools compared to high and moderate fidelity teachers' perceptions of students in schools with relatively lower poverty was worthy of note.

Conversely, the teachers were able to explain instances where students' home environment had an impact on their academics. Ms. Keats felt like the bad behavior was enabled at home and made it more challenging to deal with the students in the classroom (follow-up interview, 1 February 2018). Ms. Bishop felt lack of support was a reason that

students were not motivated, because "maybe nobody at home is really sort of stressing that stuff, be all you can be, and try your best, and really go the extra mile" (follow-up interview, 29 January 2018). She also provided details about divorces and other family situations that might be affecting students' moods when I visited. Ms. Collins described the colorful family history of one of Ms. Joyce's students, whose behavioral issues were disrupting the curriculum: "they [the student's family] know the sheriff's office but they don't work there" (field notes, 23 March 2017). Unfortunately, the teachers seem accustomed to accepting behavior issues that stem from difficult family situations and expect the issues to have an impact on their classrooms. The curriculum actually brought out opportunities for students to talk about their difficult situations, like a student in Ms. Keats's class who "stated that he had empathy for the little match girl because he had something he love very much die in the cold. (His dog). Therefore he experienced the situation" (Ms. Collins, Folklore 3 fidelity log [Keats]). Hence, poverty had an impact on teacher beliefs about students and in the classroom on multiple levels.

Accreditation. Accreditation had a different effect on the classroom—specifically, the amount of testing that occurred in the schools. While Ms. Bishop did not mention the school's accreditation status, she did elaborate on the prodigious amount of testing that occurred:

> [W]e don't start off right away, there's a couple of weeks where there's no [resource block] …. And during that time, they're doing testing…everything happens in pairs. So if you have two days for MAP testing for math, you're going to have two days for MAP testing for reading. MAP testing happens at the beginning of the year and then again at the end of the year, and sometimes in the middle of the year, and then in between all of that you have benchmark testing and then, of course, at the end of the year you have [state] testing. (follow-up interview, 4 February 2018)

The students also must pass weekly check-ins related to the tests and are not allowed to attend gifted services if they need remediation. The resource block itself only existed because it was used for remediation, so anything related to testing received priority.

The stress on test performance was even more pronounced in Division 3, where Ms. Collins explained that "Central-West is [receiving state funding due to low test scores], and those requirements take precedence over this (the project curriculum). Southwest is not [receiving funding] yet, but they might be" (field notes [Joyce], 7 December 2017). Ms. Joyce explained:

> [W]e have to really document everything that shows that our school is making improvement through our SIT team, the School Improvement Team.… [as] teachers we have to constantly check data and provide corrective plans based off of benchmark data. So it's very data driven in the classroom. (follow-up interview, 24 January 2018)

She also explained that the testing takes a lot of time out of the classroom and adds to the students' stress, but they must use the data to create reading and math groups and create corrective action plans. The extensive testing and remediation requirements made it challenging for Ms. Joyce to implement the curriculum effectively.

The pressure of testing was evident in Ms. Keats's Folklore fidelity logs, because "all everyone's thinking come April-May is [state tests]" (follow-up interview, 1 February 2018). She noted that when testing became the priority it was hard to get them to think about the curriculum. For example, "with all the SOL testing strategies the focus is really on that right now so the students are not as easily able to recall these lessons" (Folklore 7 fidelity log), and "Our focus this month has also been to prepare for SOL testing so that is what we have been focusing on" (Folklore 10 fidelity log). Test scores were also the

reason that there were so many scheduling changes at Southwest Elementary, which are discussed in the next section.

Scheduling and timing: teachers lacked consistent schedules. A major problem faced by teachers with low fidelity was the lack of a consistent schedule.

Ms. Bishop taught the curriculum at Central Elementary in a hub area between classrooms, which meant there were a lot of transitions and disruptions. She only was able to teach the curriculum when there was no testing and the block of time there were no school events (follow-up interview, 29 January 2018). Because she only had about 35 minutes to teach the class, lessons lasted multiple days. Ms. Joyce either had to extend the lesson past her time or cut items out because she was given a shorter amount of time for implementation—Ms. Collins reported that because of their accreditation status, they "were not allowed to have as long [to teach the lessons]. And I think that affected some things" (Ms. Collins, follow-up interview, 30 January 2018). She also said that "This program gives them a little consistency because they know they are going to have it every week" (field notes [Joyce], 23 March 2017). Ms. Joyce was also unable to continue teaching the curriculum once testing began (field notes, 6 April 2017).

Ms. Keats had the most difficulties because she did not have a consistent schedule. Ms. Collins remarked "[Southwest] had a hard time keeping schedules. I think their schedule changed at least three times last year. There was not a lot of communication between me and the principal and through central office and trying to be able to make things work" (follow-up interview, 30 January 2018). The changes were made first to the reading block in October because "not everyone was incorporating reading and writing with their instruction"—instead of teachers deciding how to spend

the time, they had to do "shared reading, guided reading, a read aloud, whole group reading, [and] word study time" (Ms. Keats, follow-up interview, 1 February 2018). In January, less-than-stellar benchmark scores led the administration to departmentalize, which meant Ms. Keats "focused on just teaching small group reading and whole group reading" (follow-up interview, 1 February 2018). Ms. Keats felt the effects of the changes in the classroom, reporting that "Again the time of year and focus has changed as well as our schedule multiple times so it [the curriculum] just has not been as easy to implement this semester" (Folklore 7 fidelity log). In conclusion, inconsistent schedules clearly impacted low-fidelity teachers' implementation of the curriculum.

Summary of Results

The following are the key findings from the data analysis:

1. The findings from Foster's (2011) study were replicated. Teachers' fidelity logs for the CLEAR curriculum are an acceptable substitute for classroom observation for measuring fidelity of implementation of the model.

2. Teachers reported a range of fidelity with equal distribution across the categories of implementing the curriculum with high, moderate, and low fidelity.

3. Teachers modified the curriculum both positively and negatively by making additions to the material, subtracting parts of lessons and entire lessons, and/or changing the way they delivered the material to students.

4. The reasons why teachers modified the curriculum largely aligned with the previous literature. They made decisions based on structural and instructional-process factors. The structural factors were amount of support; school culture, morale, and norms; scheduling and timing; and classroom structure. The instructional-process factors

were positive (dissatisfaction with current practice, buy-in, positive beliefs) and negative (unwilling to change/satisfaction with practice, lack of content knowledge, negative beliefs).

5. In addition to factors identified as influencing fidelity identified in the previous literature, two additional instructional-process factors were acknowledged: student engagement (positive) and lack of student engagement (negative).

6. The common themes that were at the core of how and why teachers made adaptations to the curriculum, regardless of their level of fidelity, were: (1) changing delivery of material or subtracting activities due to student behavior, (2) subtracting writing or changing delivery to verbal discussion, and (3) subtracting components of curriculum due to time.

7. High-fidelity teachers treated the curriculum as a priority and worked in schools that were accredited and viewed by teachers as having positive parent/community support.

8. Moderate-fidelity teachers were preoccupied with testing and worked in schools that were accredited and reported more consideration about serving students learning English than the schools of high-fidelity teachers.

9. Low-fidelity teachers were more focused on the deficits of their students, reported more deficits in content knowledge, and had less teaching experience. They worked in schools that were partially accredited, had the highest levels of poverty, and were characterized by inconsistent schedules.

The implications from and significance of the key findings, as well as the limitations and suggestions for future research, are discussed in Chapter 5.

CHAPTER 5

DISCUSSION

While complete fidelity to a curricular intervention is ideal, adaptation is

inevitable. Therefore, researchers and educators should seek to understand which aspects

of an intervention participants implement with fidelity; where and why participants make

adaptations; and what types of adaptations are positive and negative. Understanding the

relationship between fidelity and adaptation is essential if the goal is for teachers to be

able to use a curriculum intervention independently. Therefore, the purpose of this study

was to examine the degree of fidelity of implementation (FOI) with which rural teachers

implemented curricular units based on the CLEAR Curriculum Model and to better

understand the adaptations these teachers made to evidence-based curriculum.

Conclusions

Degree of Fidelity

Teachers can reliably self-report their level of fidelity using a measure

specifically designed for the curriculum. Researchers prefer collecting their own

observation data because it has the best internal validity (e.g., Century et al., 2010; Dane

& Schneider, 1998; Smith et al., 2007), but observations are limited by time and

resources (Skolits & Richards, 2010). Using both researcher observation and teacher self-

report data creates a clearer picture of what is happening in the classroom (Fuchs et al.,

2001; Foster, 2011; Pentz et al., 1990; Webster-Stratton et al., 2011). In her study of the

CLEAR curriculum, Foster (2011) found that a small sample of teachers and researchers who used researcher-created logs reported similar levels of fidelity.

I replicated Foster's results with a larger sample of data, providing further evidence that teacher self-report is a viable alternative to researcher observation. The tool used to capture fidelity was specifically created for each lesson and provided a comprehensive account of what occurred in the classroom. For each component of the lesson, grant staff instructed teachers to mark whether they implemented, modified, or did not implement a component of the curriculum. During training, grant staff showed teachers a fidelity log, instructed them on how to fill it out properly, and asked them to provide an explanation for any modification. These findings on teacher self-report data cannot be extended to surveys, questionnaires, or checklists that are not similarly constructed or completed without training.

The explanations that teachers provided on the logs, coupled with the follow-up interviews and examination of concordance between observations and logs, allowed me to account for discrepancies potentially caused by social desirability bias, which exists when there is evidence that teachers are reporting that they have more fidelity to the model than they do in actuality (e.g., Dane & Schneider, 1998; Ebert-May et al., 2011; Leithwood & Montgomery, 1980). While the scores between teacher and observer fidelity were similar, they were not a perfect match. Viewing the teachers' logs helped me see how this bias may occur, as teachers would mark items *I* but describe what researchers would consider modifications. Teachers used the additional section for teacher notes to describe what was happening in their classrooms. They occasionally described implementation of a component in a manner that researchers would consider an

alteration of the curriculum even if the teacher did not mark the item *M* or *N*. After coding the data for trends, I asked teachers specific questions about common adaptations and how they made them in their instruction to verify that they adapted the components. The qualitative analysis, coupled with the correlation between observer and teacher fidelity scores, provided evidence that teachers provided a reliable account of their implementation of the units.

   Teacher self-report data can provide a more complete representation of FOI. Dane and Schneider (1998) reported five different dimensions of FOI: participant responsiveness, quality of delivery, program differentiation, exposure, and adherence. Researchers (e.g., Justice et al., 2008; Lynch & O'Donnell, 2005; O'Donnell, 2008) reported participant responsiveness and quality of delivery as process dimensions and program differentiation, exposure, and adherence as structural dimensions. In Century et al.'s (2010) framework, adherence captured both structural and instructional-process fidelity by looking at how the developers' intentions matched the teachers' instruction. Adaptations became a natural part of the discussion of FOI as part of program differentiation, which was defined as the development of an intervention over time. My findings supported the assertion that Century et al.'s (2010) framework was a viable way for researchers to discuss FOI. The logs measured adherence of both structural and instructional-process by detailing how the teachers' instruction matched the developers' intentions. The format of the fidelity logs allowed teachers to provide a detailed account of how they implemented each lesson. The teachers took the responsibility seriously and provided explanations about both how and why they made modifications to the curriculum. They also used the space to provide details about materials they liked,

activities to which students responded well, and parts of lessons where they felt students struggled. The comprehensive data showed the development of the intervention over time and made the teachers' adaptations a natural part of the discussion of fidelity. Because the self-report data was correlated with the observation data, I used every log submitted to determine each teachers' fidelity of implementation of each unit of the third-grade curriculum rather than just on the lessons observed. Hence, I was able to provide a complete report on teachers' fidelity to the units rather than what was observed, which is a limitation of using observations done by researchers (Skolits & Richards, 2010).

The teachers with less experience and negative perceptions of parents and students had difficulties with implementation. Previous research evidence (e.g., Azano et al., 2011) indicated that teachers who had negative perceptions of their students' capabilities were less likely to implement the CLEAR curriculum with fidelity. Findings from this study confirmed the previous research, as the teachers with low fidelity had more negative perceptions of their students than teachers with higher levels of fidelity. These teachers also made curricular decisions based on persistent student behavioral issues. The teachers with the lowest fidelity mentioned that they felt parents did not support the students' academic needs at home and connected the challenges of students' home environments to the students' difficulties in the classroom. The teachers in these schools are also less experienced and visibly less comfortable managing a classroom. Given this evidence, it is not surprising that they had difficulty implementing the curriculum.

Researchers should consider teachers' experience and school environment in discussions of fidelity. As noted, the teachers who had the most difficulty implementing the curriculum had less experience—specifically, they had less than five years of teaching experience. This finding contradicts previous research that showed that educational background and experience were unrelated to teachers' fidelity (Durlak, 2010; Stein et al., 2008). I also found that the low-fidelity teachers worked in schools where large proportions of the students received free or reduced lunch (over 70%) and were not fully accredited at the time they began implementing the curriculum. Therefore, teachers with the least amount of experience were implementing the curriculum in the most challenging school environments.

Adaptation

Teachers adapt curriculum by making additions, subtractions, and delivery adjustments regardless of level of fidelity. Previously, researchers reported fidelity data so they could state that the intervention was implemented appropriately, but they typically offered scant details on what changes teachers made. In outcome studies, researchers reported that appropriate adaptations, meaning they were aligned with the core components of the intervention, were associated with positive student outcomes (Azano et al., 2011; Durlak, 2010; McHugo et al., 2007; Simmons et al., 2007; Webster-Stratton et al., 2011) and that teachers who make adaptations are more likely to sustain the practice (Dearing, 2008; Swain, et al., 2010; Webster-Stratton, 2011). However, researchers did not detail how teachers made adaptations.

I found that all teachers, regardless of level of fidelity, made modifications. I categorized these modifications as additions, subtractions, and delivery changes. Within

each category, teachers made positive and negative changes, which was consistent with Azano et al.'s (2011) previous study of the CLEAR curriculum. While Moon and Park (2016) felt that teachers with pull-out classes were more likely to modify the curriculum, I found no qualitative patterns or trends that could be attributed to service delivery model outside of time available for delivery of instruction.

Researchers must be aware that there will always be tensions between wanting teachers to adhere to a scripted curriculum (or even a curriculum with a detailed framework) and treating the teachers as professionals. Giving teachers the opportunity to make independent decisions about modifications inevitably makes establishing high degrees of FOI more difficult. While we used guiding principles to determine whether the modifications were appropriate, we did not share the details with the teachers. Discussing these guiding principles with teachers in this study may have helped improve teachers' degrees of fidelity, considering that they expressed that they were hesitant to make changes they thought would be helpful because they did not want to negatively impact fidelity (e.g., Ms. Collins, follow-up interview, 30 January 2018). While not all modifications were problematic, the decisions that led teachers to omit materials from the lesson decreased teachers' FOI.

Additions. Teachers described additional activities and materials even if they reported that they had implemented everything in the curriculum. The additions either pointed to student weaknesses in mastery of content (e.g., confusion between adjectives and nouns, lack of background knowledge of folktales) or reflected added, related content from other class material or personal interest. The additions were generally in line with the guiding principles of the CLEAR curriculum, meaning they were appropriate

adaptations and potentially more important to positive outcomes than strict fidelity since the "active ingredients" of the practice were still there (Harn et al., 2013).

Subtractions. Teachers also did not teach all elements of the lessons or the curriculum, sometimes a positive adjustment because the students were familiar with the content. However, most of subtractions were negative, such as omitting activities and entire lessons. Eight out of 10 teachers skipped two or more lessons in a unit despite reporting that they felt all the lessons were important and expressed remorse that they did not get to complete them. I was able to confirm Foster's (2011) report that low-fidelity teachers were more likely to omit items completely. Of course, the conclusion that low-fidelity teachers eliminated more lessons was a consequence of scoring fidelity since not teaching part of a lesson would have a notable impact on teachers' fidelity scores. Even Ms. Angelou who had the highest overall fidelity skipped lessons in poetry. However, this finding aligns with previous findings, as Azano et al. (2011) noted teachers with the highest adherence still made negative changes.

Delivery. Teachers changed how they delivered content to the students. This finding was indicative of the flexibility and creativity Azano et al. (2011) felt rural teachers might exhibit. However, teachers also changed the focus of many activities to teacher-led rather than student-led, which characterized two consistent trends across the levels of fidelity: (1) changing individual student writing activities to whole-class instruction and (2) failure to group students as specified in the curriculum. Azano et al. (2011) also noted that teachers would change how students were grouped but attributed the difference to teacher expectations about students. I found that teachers attributed the major delivery changes, as well as most of their adaptations, to time constraints.

Teachers' reasons for adapting the curriculum fit with the prior literature, but time is an all-encompassing factor. Before coding, I identified factors that researchers identified as having an impact on implementation, which fit into the Century et al. (2010) framework categories of structural and instructional-process fidelity. These were edited during the abductive reasoning process into their final form (see Table 21).

Table 21

Review of Structural and Instructional-Process Factors that Affect Curriculum Implementation

Structural		Instructional-Process	
Amount of support	Staff Financial Training Leadership	Positive	Dissatisfaction Buy-in Positive beliefs Student engagement
Scheduling and timing	Amount of time Service delivery model State testing Additional expectations		
School culture, morale, and norms	Community/program fit and urbanicity Relationships with colleagues, Social organization, and shared decision making Teacher morale	Negative	Unwilling to change/satisfaction Lack of content knowledge Negative beliefs Lack of student engagement
Classroom structure	Number of students Room layout Management		

My findings supported prior research suggesting teachers feel pressured for time when implementing curricular interventions (Borman et al., 2007; Klingner et al., 2003; Klingner et al., 2006). There were examples of teachers making modifications for all the factors in the table, but time permeated both structural and instructional-process factors. For example, the leadership changed the schedule at Southwest Elementary, which affected the time teachers had to implement the curriculum. There were even instances where teachers marked *I* for every component but on the log, they noted that they

implement the lesson "very closely" *and* marked time constraints. When I asked Ms. Hughes about this, she explained that while she was completing the items, she still felt incredibly rushed and that she could have implemented the lesson better if more time were available (follow-up interview, 4 February 2018).

The subtractions teachers made also aligned with other research study conclusions that time as a major reason that teachers make changes or stop implementing a curriculum altogether (e.g., Borrego et al., 2013; Lynch & O'Donnell, 2005; Pentz et al., 1990). Many of the subtractions in this study occurred in the spring semester, when schools were preparing for state testing, which has affected the implementation of other interventions (e.g., Andrews & Lemons, 2015; Botvin et al., 1992; Penuel & Means, 2004). The results of my research indicated that the previous concerns (Azano et al., 2014; Rubenstein et al., 2014) about the effect of appropriate grouping, timing, and state testing requirements on gifted students' access to all the important elements of gifted curriculum present persistent problems to FOI.

Rural teachers do not inherently make adaptations that make the units more beneficial to students. In Azano et al.'s (2014) study of rural teachers using the CLEAR curriculum, they hypothesized that rural teachers did not have overall lower fidelity but showed more flexibility and creativity that made the units more beneficial. The goal of incorporating place-based elements was to make the units more engaging for rural students, which would theoretically make it easier for teachers to implement. The results of this study showed that rural teachers varied in their level of fidelity while implementing the CLEAR curriculum. When the directive in the curriculum was for teachers to make connections to the community they did so with ease, and I learned a lot

about the communities during my visits. However, if the texts or activities initially

provided did not fit the context, most teachers did not adjust them before instruction

began. For example, only Ms. Angelou added cards reflecting her community in the

culture card game in the Folklore unit. While most teachers had high or moderate FOI,

the teachers in District 3 failed to replace the Appalachian place-based elements with our

suggestions for that "place." While we provided the teachers with links to alternate

poems and folktales that better suited their coastal region, none of the teachers recalled

seeing the links when I interviewed them. Ms. Collins said they were hesitant to make

any changes to content (follow-up interview, 30 January 2018) but the data clearly

provided evidence that teachers made omissions and modifications that altered content.

The failure of teachers to make substitutions simply based on supplements provided

suggests fidelity is dependent on integration of all options directly into the curriculum on

a lesson-by-lesson basis rather than relying on teachers to remember to adjust their

situation.

Implications

Gifted Education Programs

Gifted education programs, namely in the rural low-income school environments

in this study, may need to contend with minimal support that hinders teachers' abilities to

implement services effectively. Foster (2011) wrote that "implementation of research-

based curricular interventions entails some risk-taking on the part of the teachers and the

school administrators to provide an environment and scheduling conducive to higher

levels of implementation." The administrators in Division 1 provided support for gifted

education before the introduction of the curricular intervention. Divisions 2 and 3

accommodated the curriculum but in such a way that the intervention was secondary to other obligations.

Teachers were more willing to take risks but still needed administrative support, which in this study meant administrators who allowed teachers to have autonomy regarding implementation. My findings aligned with previous research that indicated high-fidelity teachers viewed the intervention as a priority (Andrews & Lemons, 2015; Datnow et al., 2002; Peterson et al., 2013) and implemented the curriculum as they saw fit. Ms. Frost, a high-fidelity teacher in Division 3, felt that the administration's hands-off approach was a form of support that allowed both her and Ms. Giovanni to find the time to finish the unit. However, the moderate and low-fidelity teachers did not view the curriculum as a priority, particularly when compared to the focus their administrators put on testing.

Alignment with State Standards

One of the most common modifications was that teachers adjusted writing assignments into class discussions, especially after teachers mentioned how their students struggled with writing. When I asked about writing in the follow-up interviews, teachers in Division 3 reported that students had a harder time with writing because it was not a focus in the classroom due to a change in state testing requirements. Prior to the 2014-2015 school year, there was a writing test in fifth grade. After a bill was passed to reduce the number of state tests, the writing exam moved to eighth grade (Chandler, 2014). Teachers stated that they often had decreased their emphasis on writing in the classroom outside of the implementation of the CLEAR units as well. (e.g., Ms. Joyce, follow-up interview, 24 January 2018). Teachers also explained that it was much quicker to have

students share through whole class discussion than wait for them to write things down and given the time constraints of the curriculum they would often alter short writing responses. The relative importance of standards like writing in a given state or school division may impede or enhance the FOI of any given curriculum depending on its alignment with the standards being evaluated by the state.

Limitations

Most research on fidelity of implementation includes information about whether teachers with different levels of fidelity had students with different results on outcome measures. At this time, we have not collected student outcome data for the grant, so I could not determine if the modifications impacted students' performance on the language arts outcomes measures. While teachers in Division 3 reported that their students improved their benchmark scores in poetry and folklore, these are anecdotal statements and should not be used as documentation for the effectiveness of the place-based CLEAR curriculum units in improving test scores.

The teachers in this study received money for their participation and were required by grant staff to submit the logs before receiving compensation. It is impossible to determine whether teachers would complete the forms so meticulously in the absence of funding.

The time lapse between when teachers completed the logs and when we spoke for the follow-up interviews may have hindered or colored teachers' recollections. On occasion I was not able to clarify as many details as I would have liked. For example, there were multiple occasions where either the teacher did not complete an item or the

teacher marked a modification or subtraction and did not provide any reasoning. When I queried, it was difficult for teachers to recall specific details and clarify this missing data.

As with most qualitative work, my findings are specific to a specific content and context—gifted language-arts curriculum in a rural, low-income setting—and cannot be generalized. I was also limited in some of my descriptions of the setting so as not to violate the confidentiality of my participants.

Recommendations for Future Research

Connect Comprehensive Data on Teachers' Fidelity to Student Outcomes

Fidelity of implementation is an important part of intervention research that deserves an equal amount of discussion. Previously, researchers typically reported either structural or instructional-process fidelity and offered few details about the nature of the adaptations that caused variations in fidelity or how different adaptations might impact outcomes. This study provided evidence that a single researcher-created measure can provide information on both structural and instructional-process fidelity to construct a more complete understanding of how an intervention works. Connecting detailed and thorough information about teachers' fidelity of implementation to student outcomes will allow researchers to make stronger conclusions about student achievement and how students can achieve maximum benefit of curriculum interventions.

Consider Further Study of the Relationship between Resources, Training, and Fidelity

Training is often discussed as having a potential influence on outcomes, particularly in the gifted literature, where training often took over a week and there were concerns that the curriculum units may not be effective without the presence of research

staff (e.g., Casa et al., 2017; Firmender et al., 2014; Gavin et al., 2009; Reis et al., 2008). The CLEAR curriculum was designed with the resources and directions that teachers needed to implement the curriculum appropriately embedded within the unit so that training would not be necessary to use the units properly. This decision was based on recognition of the increasingly limited funds for professional development in most schools and the negligible budgets for professional development funding in gifted education. Based on the varying levels of fidelity, there is room for improvement. Studying what types of resources and the minimal amount and kind of training— embedded or otherwise—that are directly associated with higher levels of FOI in gifted education curriculum is an area worthy of research. Research of this nature would also help to confirm or refute the preliminary findings on the patterns with teacher experience that emerged. While most teachers were comfortable with the training they received, Ms. Collins suggested including more information about giftedness for regular classroom teachers (follow-up interview, 30 January 2018). Ms. Hughes also felt it would have been useful to model a lesson within the time constraints to provide more insight into how they can get through the material more quickly without sacrificing content (follow-up interview, 4 February 2018). These suggestions, coupled with the findings, indicate research of this nature would be useful in the field.

Consider Shorter Interventions to Increase Potential for Implementation

Teachers reported that time caused most of the adaptations and implementation difficulties in both this study and previous research of gifted curriculum (e.g., Azano et al., 2014; Rubenstein et al., 2014). In this study, teachers were asked to implement 39 lessons. All the teachers in the study had time to meet with students approximately once a

week if there were no additional school functions or if testing occurring. Given that a typical school year has approximately 36 weeks, it is no surprise that teachers had difficulty teaching every lesson.

While the curriculum can be implemented daily, which would alleviate the week disparity, the number of lessons per unit and the expectation that teachers would complete two units was not the only time complication. Teachers were informed in the training that lessons would take approximately 45-60 minutes to implement (as they had in prior implementation studies), but the teachers reported that the majority took closer to 90-120 minutes to teach. Hence, it would make sense for researchers to develop units and/or lessons that were either shorter, provide more direction in ways to complete the lessons within the suggested time frame, or provide clearer directions for determining which aspects of a lesson can be modified if there are time constraints.

Focus on Student Engagement

Previous researchers (Carroll et al., 2007; Dane & Schneider, 1998; Gresham et al., 1993) defined both student outcomes and engagement as a fidelity dimension, while Century et al. (2010) felt that student engagement was a part of instructional-process fidelity but focused on whether students participated in an intervention as expected. Still, most curriculum intervention developers do not specifically report data on this dimension. In this study, student engagement emerged as a reason given by the teachers for making modifications to the curriculum. The findings in this study, coupled with the fidelity research base, make it clear the body of fidelity research would benefit from more research on how student engagement impacts FOI. Researchers need to understand how

190

teachers' perceptions of student responsiveness impact their implementation of research-based curriculum.

Create Research-Practice Partnerships to Match Gifted Education Goals with Schools' Goals

Olszewski-Kubilius and Steenbergen-Hu (2017) described how practice-embedded educational research (PEER), a partnership between schools, teachers, and researchers, allowed the research team on Project Excite led to "more productive research" (p. 7). They believe this approach would help gifted education researchers provide better services for students from all backgrounds (Olszewski-Kubilius & Steenbergen-Hu, 2017). With testing as the priority of many school divisions, the focus is often on students who struggle rather than students that have the potential to excel. There is no information that suggests the testing era of education is ending any time soon. A better solution would be to find a way to work out how gifted curriculum can fit into the modern testing-driven classrooms, which could be accomplished through research-practice partnerships.

Based on my findings, researchers should consider implementing gifted curriculum in a regular classroom setting using PEER to see if the partnerships increase FOI. The teachers in Division 3, who used the curriculum in the regular third-grade classrooms, reported that they felt the units were helping all students raise their benchmark scores (e.g., Ms. Collins, follow-up interview, 29 January 2018). The teachers also articulated how the higher and lower-ability students experienced the curriculum. For example, Ms. Giovanni felt that students at a second-grade reading level did well with the curriculum, but that students at a first-grade level or lower had a harder time

comprehending the material (analytic memo, 7 June 2017). Actively using the teachers'

input alongside research-based curriculum would help researchers ensure the

modifications are positive and could increase teachers' ability to implement curriculum

with fidelity.

Continue to Explore Implementation of Gifted Education Curriculum in the

General Education Classroom

Researchers previously provided evidence that the CLEAR curriculum is an

effective model for the creation of gifted education curriculum (e.g., Azano et al., 2011;

Callahan et al., 2014). In this study, the units were implemented in regular education

classrooms by teachers in Division 3. While most of the schools used the cluster grouping

model to various degrees of efficiency, the principal at Northeast Elementary elected to

have both third-grade teachers implement the curriculum so that all students in the grade

received the curriculum. Ms. Frost and Ms. Giovanni, who worked at Northeast

Elementary, implemented the units with high fidelity and were the only teachers to

complete every lesson. These findings indicated that gifted curriculum does not have to

be used exclusively with identified students in separate instructional settings.

Teachers in Division 3 also attributed use of the curriculum to higher benchmark

test scores for all students in the cluster classrooms, not just the identified students. The

CLEAR curriculum aligned with the state standards and multiple teachers discussed how

it fit into the pacing guides provided by the division to prepare for testing (e.g., Ms.

Keats, follow-up interview, 1 February 2018). Previous researchers (e.g., Andrews &

Lemons, 2015; Datnow et al., 2002; Penuel & Means, 2004) found that teachers focused

on covering the content they were already responsible for in an intervention, particularly

if there was a connection between the content and mandatory state testing. These studies as a group suggest that when curriculum for gifted students is implemented in the general education classroom and is aligned with state tests gifted curriculum has the potential to help all students succeed.

Summary

Adaptation of evidence-based curriculum is inevitable. The teachers involved in this study made positive and negative changes to the curriculum, regardless of their level of fidelity. Negative changes may have helped teachers manage their classroom and complete material in a timely fashion but did not align with the guiding principles of the curriculum, whereas positive changes helped students comprehend the material better and/or made the activities run more smoothly in their classrooms. Teachers with higher levels of fidelity were able to make the units a priority and found a way to complete most of the lessons despite obstacles like testing. The teachers with low fidelity had more difficulty balancing completion of the units with other obligations, including student behavior.

Overall, the results were promising. This study replicated work done by Foster (2011), who established a solid foundation for fidelity research of gifted curriculum. The guiding principles developed for the initial study were easily adapted to include place-based elements, and the teachers' fidelity logs were correlated with researcher observations. Most teachers implemented the curriculum with high to moderate fidelity, both of which are associated with positive outcomes. Teachers were diligent about completing their logs which allowed for a comprehensive examination of structural and instructional-process fidelity factors. Lastly, I felt the use of structural and instructional-

process factors from Century et al.'s (2010) framework helped to make the study of

fidelity of implementation more cohesive. Ultimately, this study added to the empirical

base for understanding FOI and how teachers make adaptations to evidence-based

curriculum in the classroom.

References

Adams, C. M. (2017). Pull-out programs as a service delivery option. In C. M. Callahan
    & H. L. Hertberg-Davis (Eds.), *Fundamentals of gifted education: Considering*
    multiple perspectives (2nd ed., pp. 187-199). New York, NY: Routledge.

Al Otaiba, S., & Fuchs, D. (2006). Who are the young children for whom best practices
    in reading are ineffective? An experimental and longitudinal study. *Journal of*
    Learning Disabilities, *39*, 414-431. doi:10.1177/00222194060390050401

Allen, J. P., Philliber, S., & Hoggson, N. (1990). School-based prevention of teenage
    pregnancy and school drop-out: Process evaluation of the national replication of
    the teenage outreach program. *American Journal of Community Psychology*, *18*,
    505-524. doi:10.1007/BF00938057

Ambrose, D., VanTassel-Baska, J., Coleman, L. J., & Cross, T. L. (2010). Unified,
    insular, firmly policed, or fractured, porous, contested, gifted education? *Journal*
    for the Education of the Gifted, *33*, 453-478. doi:10.1177/016235321003300402

Anagnostopoulos, D., & Rutledge, S. A. (2007). Making sense of school sanctioning
    policies in urban high schools. *Teachers College Record*, *109*, 1261-1302.

Anagnostopoulos, D., Sykes, G., McCrory, R., Cannata, M., & Frank, F. (2010). Dollars,
    distinction, or duty? The meaning of the national board for professional teaching
    standards for teachers' work and collegial relations. *American Journal of*
    Education, *116*, 337-369. doi:10.1177/0013161X10375605

Anderson, E. R. (2017). Accommodating change: Relating fidelity of implementation to program fit in educational reforms. *American Educational Research Journal*, July 14, 2017, doi:10.3102/0002831217718164

Andrews, T. C., & Lemons, P. P. (2015). It's personal: biology instructors prioritize personal evidence over empirical evidence in teaching decisions. *CBE Life Sciences Education*, *14*, 1-18. doi:10.1187/cbe.14-05-0084

Andrews, T. M., Leonard, M. J., Colgrove, C. A., & Kalinowski, S. T. (2011). Active learning not associated with student learning in a random sample of college biology courses. *CBE Life Sciences Education, 10*, 394–405. doi:10.1187/cbe.11-07-0061

Appleton, J. J., Christenson, S. L., & Furlong, M. J. (2008). Student engagement with school: Critical conceptual and methodological issues of the construct. *Psychology in the Schools*, *45*, 369-386. doi:10.1002/pits.20303

Azano, A., Missett, T. C., Callahan, C. M., Oh, S., Brunner, M., Foster, L., & Moon, T. R. (2011). Exploring the relationship between fidelity of implementation and academic achievement in a third-grade gifted curriculum: A mixed methods study. *Journal of Advanced Academics*, *22*, 693-719. doi:10.1177/1932202X11424878

Azano, A. P., Callahan, C. M., Missett, T. C., & Brunner, M. (2014). Understanding the experiences of gifted education teachers and fidelity of implementation in rural schools. *Journal of Advanced Academics*, *25*, 88-100. doi:10.1177/1932202X14524405

Balfanz, R., Mac Iver, D. J., & Byrnes, V. (2006). The implementation and impact of evidence-based mathematics reforms in high-poverty middle schools: A multi-site, multi-year study. *Journal for Research in Mathematics Education*, *37*, 33–64. doi:10.2307/30035051

Bellg, A. J., Borrelli, B., Resnick, B., Hecht, J., Minicucci, D. S., Ory, M., ... Czajkowski, S. (2004). Enhancing treatment fidelity in health behavior change studies: Best practices and recommendations from the NIH behavior change consortium. *Health Psychology, 23*(5), 443–451. doi:10.1037/0278-6133.23.5.443

Benner, G. J., Nelson, J. R., Stage, S. A., & Ralston, N. C. (2011). The influence of Fidelity of implementation on the reading outcomes of middle school students experiencing reading difficulties. *Remedial and Special Education, 32,* 79-88. doi:10.1177/0741932510361265

Berman, P., & McLaughlin, M. W. (1976). Implementation of educational innovation. *The Educational Forum*, *40*, 347-370. doi:10.1080/00131727609336469

Blakely C. H., Mayer, J. P., Gottschalk, R. G., Schmitt, N., Davidson, W. S., Roitman, D. B., & Emshoff, J. G. (1987). The fidelity adaptation debate: Implications for the implementation of public sector social programs. *American Journal of Community Psychology*, *15*, 253-268. doi:10.1007/BF00922697

Borrego, M., Cutler, S., Prince, M., Henderson, C., & Froyd, J. E. (2013). Fidelity of implementation of research-based instructional strategies (RBIS) in engineering science courses. *Journal of Engineering Education*, *102*, 394–425. doi:10.1002/jee.20020

Botvin, G. L., Baker, E., Filazzola, A. D., & Botvin, E. M. (1990). A cognitive-behavioral approach to substance abuse prevention: One year follow-up. *Addictive Behaviors*, *15*, 47-63. doi:10.1016/0306-4603(84)90051-0

Botvin, G. J., Dusenbury, L., Baker, E., James-Ortiz, S., & Kerner, J. (1989). A skills training approach to smoking prevention among Hispanic youth. *Journal of Behavioral Medicine*, *12*, 279-296. doi:10.1007/BF00844872

Botvin, G. J., Dusenbury, L., Baker, E., James-Ortiz, S., Botvin, E. M., & Kerner, J. (1992). Smoking prevention among urban minority youth: Assessing effects on outcome and mediating variables. *Health Psychology*, *11*, 290-299. doi:10.1037/0278-6133.11.5.290

Callahan, C. M., & Hertberg-Davis, H. L. (2017). Contexts for instruction: An introduction to service delivery options and programming models in gifted education. In C. M. Callahan & H. L. Hertberg-Davis (Eds.), *Fundamentals of gifted education: Considering multiple perspectives* (2nd ed., pp. 169-172). New York, NY: Routledge.

Callahan, C. M., & Moon, T. R. (2007). Sorting the wheat from the chaff: What makes for good evidence of effectiveness in the literature in gifted education? *Gifted Child Quarterly*, *51*, 305-319. doi:10.1177/0016986207306317

Callahan, C. M., Moon, T. R., Oh, S., Azano, A. P., & Hailey, E. P. (2014). What works in gifted education: Documenting the effects of an integrated curricular/instructional model for gifted students. *American Educational Research Journal.* Advance online publication. doi:10.3102/0002831214549448

Carroll, C., Patterson, M., Wood, S., Booth, A., Rick, J., & Balain, S. (2007). A conceptual framework for implementation fidelity. *Implementation Science, 2*(40), 1-9. doi:10.1186/1748-5908-2-40

Casa, T. M., Firmender, J. M., Gavin, M. K., & Carroll, S. R. (2017). Kindergarteners' achievement on geometry and measurement units that incorporate a gifted education approach. *Gifted Child Quarterly*, *61*, 52-72. doi:10.1177/0016986216671806

Castro, E. G., Barrera, M., & Martínez, C. R. (2004). The cultural adaptation of prevention interventions: Resolving tensions between fidelity and fit. *Prevention Science,* 5(1), 41-45. doi:10.1023/B:PREV.0000013980.12412.cd

Century, J., Rudnik, M., and Freeman, C. (2010). A framework for measuring fidelity of implementation: A foundation for shared language and accumulation of knowledge. *American Journal of Education*, *31*, 199-218. doi:10.1177/1098214010366173

Chandler, M. A. (2014). Virginia students will take fewer Standards of Learning tests next year. *Washington Post*. Retrieved from: https://www.washingtonpost.com/local/education/virginia-students-will-take-fewer-standards-of-learning-tests-next-year/2014/04/05/eea18666-bb46-11e3-9a05-c739f29ccb08_story.html?utm_term=.45ecbf58f84f

Chen, H. T. (2005). *Practical program evaluation: Assessing and improving planning, implementation, and effectiveness*. Thousand Oaks, CA: Sage.

Cho, S., Yang, J., & Mandracchia, M. (2015). Effects of M^3 curriculum on mathematics and English proficiency achievement of mathematically promising English

language learners. *Journal of Advanced Academics*, *26*, 112-142. doi:10.1177/1932202X15577205

Cicchetti, D. V. (1994). Guidelines, criteria, and rules of thumb for evaluating normed and standardized assessment instruments in psychology. *Psychological Assessment*, *6*, 284-290. doi:10.1037/1040-3590.6.4.284

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage Publications, Inc.

Dane, A. V., and Schneider, B. H. (1998). Program integrity in primary and early secondary prevention: Are implementation effects out of control? *Clinical Psychology Review*, *18*, 23-45. doi:10.1016/S0272-7358(97)00043-3

Datnow, A., Hubbard, L., & Mehan, H. (2002). *Extending educational reform: From one school to many.* New York, NY: Routledge.

Davidson, M. R., Fields, M. K., & Yang, J. (2009). A randomized trial study of a preschool literacy curriculum: The importance of implementation. *Journal of Research on Educational Effectiveness*, *2*, 177-208. doi:10.1080/19345740902770028

Dearing, J. W. (2008). Evolution of diffusion and dissemination theory. *Journal of Public Health Management and Practice*, *14*(2), 99-108. doi:10.1097/01.PHH.0000311886.98627.b7

Dumas, J., Lynch, A., Laughlin, J., Smith, E., & Prinz, R. (2001). Promoting intervention fidelity. Conceptual issues, methods, and preliminary results from the early

alliance prevention trial. *American Journal of Preventive Medicine, 20*, 38–47.

doi:10.1016/S0749-3797(00)00272-5

Durlak, J. A. (2010). The importance of doing well in whatever you do: A commentary

on the special section, "implementation research in early childhood education."

Early Childhood Research Quarterly, 25, 348-357.

doi:10.1016/j.ecresq.2010.03.003

Durlak, J. A., & DuPre, E. P. (2008). Implementation matters: A review of research on

the influence of implementation on program outcomes and the factors affecting

implementation. *American Journal of Community Psychology*, *41*, 327-350.

doi:10.1007/s10464-008-9165-0

Dusenbury, L., Branningan, R., Falco, M., & Hansen, W. B. (2003). A review of research

on fidelity of implementation: Implications for drug abuse prevention in school

settings. *Health Education Research Theory and Practice, 18*, 237–256.

doi:10.1093/her/18.2.237

Ebert-May, D., Derting, T. L., Hodder, J., Momsen, J. L., Long, T. M., Jardeleza, S. E.

(2011). What we say is not what we do: effective evaluation of faculty

professional development programs. *BioScience*, *61*, 550–558.

doi:10.1525/bio.2011.61.7.9

Elliott, D. S., & Mihalic, S. (2004). Issues in disseminating and replicating effective

prevention programs. *Prevention Science*, *5*(1), 47-53.

doi:10.1023/B:PREV.0000013981.28071.52

Fagen, A. P., Crouch, C. H., & Mazur, E. (2002). Peer instruction: results from a range of

classrooms. *The Physics Teacher*, *40*, 206–209. doi:10.1119/1.1474140

Felner, R. D., Brand, S., Mulhall, K. E., Counter, B., Millman, J. B., & Fried, J. (1994). The parenting partnership: The evaluation of a human service/corporate workplace collaboration for the prevention of substance abuse and mental health problems, and the promotion of family and work adjustment. *The Journal of Primary Prevention*, *15*, 123-146. doi:10.1007/bf02197143

Felner, R. D., Philips, R. S. C., Dubois, D., & Lease, A. M. (1991). Ecological interventions and the process of change for prevention: Wedding theory and research to implementation in real world settings. *American Journal of Community Psychology*, *19*, 379-387. doi:10.1007/BF00938030

Feng, A. X., VanTassel-Baska, J., Quek, C., Bai, W., & O'Neill, B. (2005). A longitudinal assessment of gifted students' learning using the integrated curriculum model (ICM): Impacts and perceptions of the William and Mary language arts and science curriculum. *Roeper Review*, *27*, 78-83. doi:10.1080/02783190509554294

Firmender, J. M., Gavin, M. K., & McCoach, D. B. (2014). Examining the relationship between teachers; instructional practices and students' mathematics achievement. *Journal of Advanced Academics*, *25*, 214-236. doi:10.1177/1932202X14538032

Flay, B. R. (1986). Efficacy and effectiveness trials (and other phases of research) in the development of health promotion programs. *Preventive Medicine*, *15*, 451-474. doi:10.1016/0091-7435(86)90024-1

Forgatch, M. S., Patterson, G. R., & DeGarmo, D. S. (2005). Evaluating fidelity: Predictive validity for a measure of competent adherence to the Oregon model of

parent management training. *Behavior Therapy*, *36*(1), 3-13. doi:10.1016/s0005-7894(05)80049-8

Foster, L. H. (2011). *Fidelity: Snapshots of implementation of a curricular intervention.* (Unpublished doctoral dissertation). University of Virginia, Charlottesville.

Fuchs, L. S., Fuchs, D., & Karns, K. (2001). Enhancing kindergartens' mathematical development: Effects of peer-assisted learning strategies. *Elementary School Journal, 101*, 495–510. doi:10.1086/499684

Gavin, M. K., Casa, T. M., Adelson, J. L., Carroll, S. R., & Sheffield, L. J. (2009). The impact of advanced curriculum on the achievement of mathematically promising elementary student. *Gifted Child Quarterly*, *53*, 188-202. doi:10.1177/0016986209334964

Gavin, M. K., Casa, T. M., Adelson, J. L., Carroll, S. R., Sheffield, L. J., & Spinelli, A. M. (2007). Project M^3: Mentoring Mathematical Minds—A research-based curriculum for talented elementary students. *Journal of Advanced Academics*, *18*, 566-585. doi:10.4219/jaa-2007-552

Gavin, M. K., Casa, T. M., Firmender, J. M., & Carroll, S. R. (2013). The impact of advanced geometry and measurement curriculum units on the mathematics achievement of first-grade students. *Gifted Child Quarterly*, *57*, 71-84. doi:10.1177/0016986213479564

Gearing R. E., El-Bassel, N., Ghesquiere, A., Baldwin, S., Gillies, J., & Ngeow, E. (2011). Major ingredients of fidelity: A review and scientific guide to improving quality of intervention research implementation. *Clinical Psychology Review*, *31*, 79-88. doi:10.1016/j.cpr.2010.09.007

Gentry, M. (2017). Cluster grouping. In C. M. Callahan & H. L. Hertberg-Davis (Eds.),

    Fundamentals of gifted education: Considering multiple perspectives (2nd ed., pp.

    213-224). New York, NY: Routledge.

Gersten, R., Fuchs, L. S., Compton, D., Coyne, M., Greenwood, C., & Innocenti, M. S.

    (2005). Quality indicators for group experimental and quasi-experimental

    research in special education. *Exceptional Children*, *71*, 149-164.

    doi:10.1177/001440290507100202

Gess-Newsome, J. (2015). A model of teacher professional knowledge and skill including

    PCK: Results of the thinking from the PCK summit. In A. Berry, P. Friedrichsen,

    and J. Loughran (Eds.), *Re-examining Pedagogical Content Knowledge in Science*

    Education, (pp. 28-42). New York: Routledge.

Gresham, F. M., Gansle, K. A., Noell, G. H., Cohen, S., & Rosenblum, S. (1993).

    Treatment integrity of school-based behavioral intervention studies: 1980-1990.

    School Psychology Review, *22*, 254-272.

Gresham, F. M., MacMillan, D. L., Beebe-Frankenberger, M. E., & Bocian, K. M. (2000).

    Treatment integrity in learning disabilities intervention research: Do we really

    know how treatments are implemented? *Learning Disabilities Research &*

    Practice, *15*, 198-205. doi:10.1207/sldrp1504_4

Hall, G. E., & Loucks, S. F. (1977). A developmental model for determining whether the

    treatment is actually implemented. *American Education Research Journal*, *14*,

    263–276. doi:10.2307/1162291

Hall, G. E., & Loucks, S. F. (1978). *Innovation Configurations: Analyzing the Adaptations of Innovations*. Austin: University of Texas, Research and Development Center for Teacher Education.

Hallgren, K. A. (2012). Computing inter-rater reliability for observational data: An overview and tutorial. *Tutorials in quantitative methods for psychology*, *8*, 23-34. doi: 10.20982/tqmp.08.1.p023

Harn, B., Parisi, D., & Stoolmiller, M. (2013). Balancing fidelity with flexibility and fit: What do we really know about fidelity of implementation in schools? *Exceptional Children*, *79*, 181-193. doi:10.1177/001440291307900204

Henderson C., & Dancy, M. H. (2007). Barriers to the use of research-based instructional strategies: the influence of both individual and situational characteristics. *Physical Review Special Topics—Physics Education Research*, *3*, 1-14. doi:10.1103/PhysRevSTPER.3.020102

Hennessey, M. L., & Rumrill, P. D. (2003). Treatment fidelity in rehabilitation research. *Journal of Vocational Rehabilitation, 19*, 123–126.

Johnson, S. M., Kraft, M. A., & Papay, J. P. (2012). How context matters in high-need schools: The effects of teachers' working conditions on their professional satisfaction and their students' achievement. *Teachers College Record*, *114*(10), 1–39.

Justice, L. M., Mashburn, A. J., Hamre, B. K, & Pianta, R. C. (2008). Quality of language and literacy instruction in preschool classrooms serving at-risk pupils. *Early Childhood Research Quarterly, 23,* 51-68. doi:10.10l6/j.ecresq.2007.09.004

Kaderavek, J. N., & Justice, L. M. (2010). Fidelity: An essential component of evidence-based practice in speech-language pathology. *American Journal of Speech-Language Pathology, 19,* 369-379. http://dx.doi.org /10.1044/1058-0360(2010/09-0097

Kaplan, S. (2005). Layering differential curricula for gifted and talented. In F. Karnes & S. Bean (Eds.), *Methods and materials for teaching gifted students* (pp. 107-132). Waco, TX: Prufrock Press.

Kovaleski, J. E, Gickling, E. E., Morrow, H., & Swank, P R. (1999). High versus low implementation of instructional support teams: A case for maintaining program fidelity. *Remedial and Special Education, 20,* 170-183. doi:10.1177/074l932599 02000308

Kutash, K., Duchnowski, A. J., Sumi, W. C., Rudo, Z., & Harris, K. M. (2002). A school, family, and community collaborative program for children who have emotional disturbances. *Journal of Emotional and Behavioral Disorders*, *10*(2), 99-107. doi:10.1177/10634266020100020401

LaChausse, R. G., Clark, K. R., & Chapple, S. (2014). Beyond teacher training: The critical role of professional development in maintaining curriculum fidelity. *Journal of Adolescent Health*, *54*, 53-58. doi:10.1016/j.adohealth.2013.12.029

Lastica J., & O'Donnell, C. (2007). Considering the role of fidelity of implementation in science education research: Fidelity as teacher and student adherence to structure. Paper presented at the Annual Meeting of the American Educational Research Association, held 15–18 April 2007, in Chicago, IL.

Lee, O., Penfield, R., & Maerten-Rivera, J. (2009). Effects of fidelity of implementation on science achievement gains among English language learners. *Journal of Research in Science Teaching, 46*, 836–859. doi:10.1002/tea.20335

Leithwood, K. A., & Montgomery, D. J. (1980). Evaluating program implementation. *Evaluation Review, 4*, 193-214. doi:10.1177/0193841X8000400202

Leventhal, H., & Friedman, M.A. (2004). Does establishing fidelity of treatment help in understanding treatment efficacy? Comment on Bellg et al. (2004). *Health Psychology, 23*, 452–456. doi:10.1037/0278-6133.23.5.452

Linton, D. L., Farmer, J. K., Peterson, E. (2014). Is peer interaction necessary for optimal active learning? *CBE Life Sciences Education, 13*, 243–252. doi:10.1187/cbe.13-10-0201

Lund, T. J., & Stains, M. (2015). The importance of context: an exploration of factors influencing the adoption of student-centered teaching among chemistry, biology, and physics faculty. *International Journal of STEM Education, 2*, 1–21. doi:10.1186/s40594-015-0026-8

Lynch, S., & O'Donnell, C. (2005, April). *"Fidelity of implementation" in implementation and scale-up research designs: Applications from four studies of innovative science curriculum materials and diverse populations.* Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.

Malvin, J. H., Moskowitz, J. M., Schaeffer, G. A., & Schaps, E. (1984). Teacher training in affective education for the primary prevention of adolescent drug abuse.

American Journal of Drug and Alcohol Abuse, *10*, 223-235.

doi:10.3109/00952998409002782

McGraw, K. O., & Wong, S. P. (1996). Forming inferences about some intraclass

correlation coefficients. *Psychological Methods*, *1*, 30-46. doi:10.1037/1082-

989X.1.1.30

McHugo, G. J., Drake, R. E., Whidey, R., Bond, G. R., Campbell, K., Rapp, C. A. …

Finnerty, M. T. (2007). Fidelity outcomes in the national implementing evidence-

based practices project. *Psychiatric Services, 58,* 1279-1284. doi:10.1176/appi.ps

.58.10.1279

Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis: A*

methods sourcebook (3rd ed.). Washington, DC: Sage.

Missett, T. C., Brunner, M. M., Callahan, C. M., Moon, T. R., & Azano, A. P. (2014).

Exploring teacher beliefs and use of acceleration, ability grouping, and formative

assessment. *Journal for the Education of the Gifted*, *37*, 245-268.

doi:10.1177/0162353214541326

Missett, T. C., & Foster, L. H. (2015). Searching for evidence-based practice: A survey of

empirical studies on curricular interventions measuring and reporting fidelity of

implementation published during 2004-2013. *Journal of Advanced Academics*,

26, 96-111. doi:10.1177/1932202X15577206

Moncher, F., & Prinz, R. (1991). Treatment fidelity in outcome studies. *Clinical*

Psychology Review, 11, 247-266. doi:10.1016/0272-7358(91)90103-2

Moon, T. R., & Park, S. (2016). Fidelity of intervention of English/language arts

elementary curriculum for gifted students: An exploratory investigation in

different service delivery models. *Journal for the Education of the Gifted*, *39*, 62-79. doi:10.1177/0162353215624161

Mowbray, C. T., Holter, M. C., Teague, G. B., & Bybee, D. (2003). Fidelity criteria: Development, measurement, and validation. *American Journal of Evaluation, 24*, 315-340. doi:10.1177/109821400302400303

Nelson, M. C., Cordray, D. S., Hulleman, C. S., Darrow, C. L., Sommer, E. C. (2012). A procedure for assessing intervention fidelity in experiments testing educational and behavioral interventions. *The Journal of Behavioral Health Services & Research*, *39*, 374–396. doi:10.1007/s11414-012-9295-x

O'Donnell, C. L. 2008. Defining, conceptualizing, and measuring fidelity of implementation and its relationship to outcomes in K-12 curriculum intervention research. *Review of Educational Research, 78,* 33–84. doi:10.3102/0034654307313793

Odom, S. L. (2009). The tie that binds: Evidence-based practice, implementation science, and early intervention. *Topics in Early Childhood Special Education*, *29*, 53-61. doi:10.1177/0271121408329171

Odom, S. L., Fleming, K., Diamond, K., Lieber, J., Hanson, M., Butera, G., ... Children's School Success Project. (2010). Examining different forms of implementation and in early childhood curriculum research. *Early Childhood Research Quarterly*, *25*, 314-328. doi:10.1016/j.ecresq.2010.01.001

Olszewski-Kubilius, P. & Steenbergen-Hu, S. (2017). Blending research-based practices and practice-embedded research: Project Excite closes achievement and

excellence gaps for underrepresented gifted minority students. *Gifted Child Quarterly*, *61*,1-8. doi:10.1177/0016986217701836

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health*, *42*, 533-544. doi: 10.1007/s10488-013-0528-y

Pentz, M. A., Trebow, E. A., Hansen, W. B., MacKinnon, D. P., Dwyer, J. H., Johnson, C. A., ... Cormack, C. (1990). Effects of program implementation on adolescent drug use behavior. *Evaluation Review, 14*, 264-289. doi:10.1177/0193841X9001400303

Penuel, R., & Means, B. (2004). Implementation variation and fidelity in an inquiry science program: Analysis of GLOBE data reporting patterns. *Journal of Research in Science Teaching, 41,* 294–315. doi:10.1002/tea.20002

Peterson, A. E., Bond, G. R., Drake, R. E., McHugo, G. J., Jones, A. M., & Williams, J. R. (2013). Predicting the long-term sustainability of evidence-based practices in mental health care: An 8-year longitudinal analysis. *Journal of Behavioral Health Services & Research, 41*, 337-346. doi:10.1007/s11414-013-9347-x

Pianta, R. C., & Hamre, B. K. (2009). Conceptualization, measurement, and improvement of classroom processes: Standardized observation can leverage capacity. *Educational Researcher, 38*, 109-119. doi: 10.3102/0013189X09332374

Power, T. J., Blom-Hoffman, J., Clarke, A. T., Riley- Tillman, T. C., Kelleher, C., & Manz, P. H. (2005). Reconceptualizing intervention integrity: A partnership-based

framework for linking research with practice. *Psychology in the Schools, 42,* 495-507. doi:10.1002/pits.20087

Reis, S. M., Eckert, R. D., McCoach, D. B., Jacobs, J. K., & Coyne, M. (2008). Using enrichment reading practices to increase reading fluency, comprehension, and attitudes. *The Journal of Education Research*, *5*, 299-315. doi:10.3200/JOER.101.5.299-315

Reis, S. M., McCoach, D. B., Coyne, M., Schreiber, F. J., Eckert, R. D., & Gubbins, E. J. (2007). Using planned enrichment strategies with direct instruction to improve reading fluency, comprehension, and attitude toward reading: An evidence-based study. *The Elementary School Journal*, *108*, 3-23. doi:10.1086/522383

Reis, S. M., McCoach, D. B., Little, C. A., Muller, L. M., & Kaniskan, R. B. (2011). The effects of differentiated instruction and enrichment pedagogy on reading achievement in five elementary schools. *American Educational Research Journal*, *48*, 462-501. doi:10.3201/0002831210382891

Renzulli, J. S., & Reis, S. (1985). *The schoolwide enrichment model: A comprehensive plan for educational excellence.* Mansfield Center, CT: Creative Learning Press.

Renzulli, J. S., & Reis, S. (2000). The schoolwide enrichment model. In K. Heller, F. Monchs, R. Sternberg, and R. Subotnik (Eds.), *The International handbook of giftedness and talent* (2nd ed.) (pp. 367-382). Oxford, England: Elsevier Science, Ltd.

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

Rogers, E. (2003). *Diffusion of innovation*. New York: Free Press.

Rubenstein, L. D., Gilson, C. M., Bruce-Davis, M. N., Gubbins, E. J. (2015). Teachers' reactions to pre-differentiated and enriched mathematics curricula. *Journal for the Education of the Gifted, 38*, 141-168. doi:10.1177/0162353215578280

Ruiz-Primo, M. (2006). A multi-method and multi-source approach for studying fidelity of implementation. CSE: Technical Report 677. Los Angeles, CA: Center for Research on Evaluation, Standards, and Student Testing/ University of California, Los Angeles.

Sanchez, V., Stekler, A., Nitirat, P., Hallfors, D., Cho, H., & Brodish, P. (2007). Fidelity of implementation in a treatment effectiveness trial of Reconnecting Youth. *Health Education Research, 22*(1), 95–107. doi:10.1093/her/cyl052

Schinke, S. P., Gilchrest, L. D., & Snow, W. H. (1985). Skills intervention to prevent cigarette smoking among adolescents. *American Journal of Public Health, 75*, 665-667. doi:10.2105/AJPH.75.6.665

Schwartz-Shea, P., & Yanow, D. (2012). *Interpretive research design: Concepts and processes.* New York, NY: Routledge.

Simmons, D. C., Kame'enui, E. J., Harn, B., Coyne, M. D., Stoolmiller, M., Santoro, L. E., … Kaufman, N. K. (2007). Attributes of effective and efficient kindergarten intervention: An examination of instructional time and design specificity. *Journal of Learning Disabilities*, *40*, 331-347. doi:10.1177/0022219407040004001

Skolits, G. J., & Richards, J. (2010). Designing and applying project fidelity assessment for a teacher implemented middle school instructional improvement pilot intervention. *The Canadian Journal of Program Evaluation*, *24*, 133-156.

Smith, S. W., Dunic, A. P., & Taylor, G. G. (2007). Treatment fidelity in applied educational research: Expanding the adoption and application of measures to ensure evidence-based practice. *Education and Treatment of Children, 30*(4), 121–134. doi:10.1353/etc.2007.0033

Stains, M., & Vickrey, T. (2017). Fidelity of implementation: An overlooked yet critical construct to establish effectiveness of evidence-based instructional practices. *CBE Life Science Education*, *16*, 1-11. doi:10.1187/cbe.16-03-0113

Stein, M., Berends, M., Fuchs, D., McMaster, K., Saenz, Yen, L., . . . Compton, D. L. (2008). Scaling up an early reading program: Relationships among teacher support, fidelity of implementation, and student performance across different sites and years. *Education Evaluation and Policy Analysis, 30,* 368 - 388. doi:10.3102/0162373708322738

Swain, K., Whitley, R., McHugo, G. J., & Drake, R. E. (2010). The sustainability of evidence-based practices in routine mental health agencies. *Community Mental Health Journal, 46,* 119-129. doi:10.1007/s 10597-009-9202-y

Swanson, E., Wanzek, J., Haring, C., Ciullo, S., & McCulley, L. (2011). Intervention fidelity in special and general education research journals. *The Journal of Special Education, 45,* 1-11. doi:10.1177/0022466691l4l9516

Tomlinson, C. A. (1995). *How to differentiate instruction in mixed-ability classrooms.* Alexandria, VA: Association for Supervision and Curriculum Development.

Tomlinson, C. A. (1999). *The differentiated classroom: Responding to the needs of all learners.* Alexandria, VA: Association for Supervision and Curriculum Development.

Valentine, J. C., & Cooper, H. (2008). A systematic and transparent approach for assessing the methodological quality of intervention effectiveness research: The Study Design and Implementation Assessment Device (Study DIAD). *Psychological Methods, 13*, 130-149. doi:10.1037/1082-989X.13.2.130

van Otterloo, S. G., van der Leij, A., & Veldkamp, E. (2006). Treatment integrity in a home-based pre-reading intervention programme. *Dyslexia, 12,* 155-176. doi:10.1002/dys.311

VanTassel-Baska, J. (2013). Matching curriculum, instruction, and assessment. In J. A. Plucker & C. M. Callahan (Eds.), *Critical Issues and Practices in Gifted Education* (pp. 377-385). Waco, TX: Prufrock Press.

VanTassel-Baska, J., Avery, L. D., Little, C., & Hughes, C. (2000). An evaluation of the implementation of curriculum innovation: The impact of the William and Mary units on schools. *Journal for the Education of the Gifted, 23*, 244-272. doi:10.1177/016235320002300201

VanTassel-Baska, J., Bass, G., Ries, R., Poland, D., & Avery, L. D. (1998). A national study of science curriculum effectiveness with high ability students. *Gifted Child Quarterly, 42*, 200-211. doi:10.1177/001698629804200404

VanTassel-Baska, Bracken, B., Feng, A., & Brown, E. (2009). A longitudinal study of enhancing critical thinking and reading comprehension in title I classrooms.

Journal for the Education of the Gifted, 33, 7-37.
doi:10.1177/016235320903300102

VanTassel-Baska, J., & Brown, E. F. (2007). Toward best practice: An analysis of the
efficacy of curriculum models in gifted education. *Gifted Child Quarterly, 51*,
342-358. doi:10.1177/0016986207306323

VanTassel-Baska, J., Feng, A. X., Brown, E., Bracken, B., Stambaugh, T., French, H., ...
Bai, W. (2008). A study of differentiated instructional change over 3 years. *Gifted
Child Quarterly, 52*, 297-312. doi:10.1177/0016986208

VanTassel-Baska, J., Johnson, D. T., Hughes, C. E., & Boyce, L. N. (1996). A study of
language arts curriculum effectiveness with gifted learners. *Journal for the
Education of the Gifted, 19,* 461-480. doi:10.1177/016235329601900405

VanTassel-Baska, J., Robinson, N. M., Coleman, L. J., Shore, B. M., & Subotnik, R. F.
(2006). A report card on the state of research in the field of gifted education.
Gifted Child Quarterly, 50, 339-355. doi:10.1177/001698620605000407

VanTassel-Baska, J., & Stambaugh, T. (2008). *What works: 20 years of curriculum
development and research for advanced learners.* Center for Gifted Education:
Williamsburg, VA.

Vaughn, S., Cirino, P. T., Linan-Thompson, S., Mathes, P. G., Carlson, C. D., & Hagan,
E. C. (2006). Effectiveness of a Spanish intervention and an English intervention
for English-language learners at risk for reading problems. *American Educational
Research Journal, 43,* 449–487. doi:10.3102/00028312043003449

Walsh, R. L., Kemp, C. R., Hodge, K. A., & Bowes, J. M. (2012). Searching for
evidence-based practice: A review of the research on educational interventions for

intellectually gifted children in the early childhood years. *Journal for the Education of the Gifted, 35,* 103-138. doi:10.1177/0162353212440610

Waltz, J., Addis, M. E., Koerner, K., & Jacobson, N. S. (1993). Testing the integrity of a psychotherapy protocol: Assessment of adherence and competence. *Journal of Consulting and Clinical Psychology, 6,* 620-630. doi:10.1037//0022-006X.61.4.620

Webster-Stratton, C., Reinke, W. W., Herman, K. C., & Newcomer, L. L. (2011). The Incredible Years Teacher Classroom Management training: The methods and principles that support fidelity of training and delivery. *School Psychology Review, 40,* 509-529.

Wiese, M. R. R. (1992). A critical review of parent training research. *Psychology in the Schools, 29,* 229-236. doi:10.1002/1520-6807(199207)29:3<229::AID-PITS2310290305>3.0.CO;2-Q

Yeaton, W. H., & Sechrist, L. (1981). Critical dimensions in the choice and maintenance of successful treatments: Strength, integrity, and effectiveness. *Journal of Consulting and Clinical Psychology, 49,* 156-167. doi:10.1037/0022-006X.49.2.156

Ysseldyke, J., Spicuzza, R., Kosciolek, S., Teelucksingh, E., Boys, C., & Lemkuil, A. (2003). Using curriculum-based instructional management systems to enhance math achievement in urban schools. *Journal of Education for Students Placed at Risk, 8,* 247–265. doi:10.1207/S15327671ESPR0802_4

Zvoch, K., Letourneau, L. E., & Parker, R. P. (2007). A multilevel multisite outcomes-by-implementation evaluation of an early childhood literacy model. *American Journal of Evaluation, 28,* 132-150. doi:10.1177/1098214007301138

Zvoch, K. (2009). Treatment fidelity in multisite evaluation: A multilevel longitudinal examination of provider adherence status and change. *American Journal of Evaluation, 30,* 44-61. doi:10.1177/1098214008329523

Example Lesson

LESSON 4: "Once Upon a Time …"

MATERIALS:
- <u>Exit Slip</u> from last class (one per student)
- <u>Once Upon a Time Openings</u> cut into strips (one set per group)
- <u>Jane Yolen Once Upon a Time Quote</u> (teacher copy)
- <u>Character Types</u> (one set per group)
- Word Wall card (stereotype)
- Index cards (one per student)

Folktales have recognizable, formulaic elements:
- **Folktales have stock or set <u>openings</u> and <u>closings</u>.**
- **Folktales have generic, unspecified <u>settings.</u>**
- **Folktales have stereotyped <u>characters.</u>**

BIG IDEA

OBJECTIVES:
- Students will be able to read a wide range of literature to build an understanding of human experience.
- Students will be able to apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate texts.
- Students will be able to apply knowledge of language structures, language conventions, and genres to create, critique, and discuss print and non-print texts.

Key Terms:
- Stereotype

LANGUAGE

SEQUENCE

WARM-UP: Review Exit Slip from Last Class
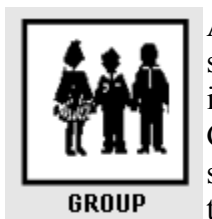
According to the student scores on the exit slip from the last lesson, place students into three groups: Group 1 (a score of 3/3), Group 2 (a score of 2/3), or Group 3 (a score of 1/3 or less) and give students back their exit slips.

GROUP

CL
CRITICAL LITERACY
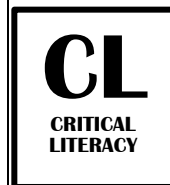
Teaching empathy is an important life skill. This activity encourages students to consider the context in which the text is

Then, ask the students to do a jigsaw: one student from each of the three groups should partner to create a group of three, consisting of one person each from Group 1, 2, and 3 to create a heterogeneous group consisting of three students. In their groups, ask students to compare answers and to discuss any differences in their responses. Students can make a list of reasons why they agree or disagree on responses. Ask students to consider: *Why may you have the same or different responses to the same story?* Students should tell their partners about a character they either **empathized** or **sympathized** with and explain why. If a student did not empathize or sympathize with any of the characters, they should explain why. During this time, the teacher can monitor the groups or work with individual students who are still struggling with the vocabulary/concepts.	situated by making personal connections with the characters.
ACTIVITY: Fairytale Openings/Settings Review the Word Splash activity from the previous lesson that showed fairytales have formulaic elements (i.e., wicked, wishes, the woods, the number 3, "happily ever after," etc.). Fairytales have formulaic **openings**, **settings**, and **characters**. A formula is conceptually similar to a pattern. Fairytales have similar characters (i.e., beauty, wicked, greedy) and similar settings (i.e., the woods). In particular, fairytales also have formulaic beginnings. Group students into three small groups (A, B, or C) according to results from Formative Assessment 1 (Lesson 2) and distribute the Once Upon a Time Openings strips of paper to each group, as well as an index card. Students should each take a slip, read it silently, and then pass it to the person next to them. This should continue until all of the strips have been read. Display Once Upon a Time strips. Ask: *Why do you think fairytales start like this?*	You need to make multiple sets of the Once Upon a Time Openings and precut them for your groups before teaching the lesson. The individual responses from student index cards will help teachers to monitor student progress by providing insight into students' complexity of thought. Teachers could use these responses to identify areas where students may be struggling as well.

Independently, students should write their own answer on an index card. Then, in their groups, students can share their ideas and pick their favorite or best answer to share with the class (students turn in individual cards to the teacher as a means of informal assessment). The more advanced group should also be asked to generate more ways a fairytale could begin that follows the same idea as the ones they read.

Display Jane Yolen's Once Upon a Time quote. Ask: *How is this quote similar to the answers we came up with?*

Explain that these openings signal that we have entered a fairytale place. They also tell us we are in a place that could be anywhere—even though it is set a long time ago, the woods are so general, they could be our woods.

"The forest is a recurrent image in German fairy tales, in part because over a quarter of the country is comprised of forest land. In the Grimm's' tales, the forest is a supernatural world, a place where anything can happen and often does."
*(*From *Hansel and Gretel* annotations, SurLaLunefairytales.com*)*

PLACE

Ask students if they have a wooded area or forest near their homes, or perhaps a place they have visited. Did that wooded place have any fairytale like qualities? Or, if students have ever visited the city, ask how the tall buildings could be like the forest or woods.

ACTIVITY: Character Types

I

INTEREST

Allow students to break up into groups according to their interest in character types (i.e., the youngest girl, the beautiful princess, the youngest boy, the wicked stepmother, or the ogre) from the Character Types handout.

Then, give each group the appropriate passage. Two excerpts will have very similar, stereotypical characters (i.e., a handsome prince, a greedy witch, or a beautiful, sweet daughter). The third excerpt will feature a non-stereotypical character.

Students should share the passages using the "Say Something" strategy in their groups: One student should read his or her excerpt aloud and the other students should then say something at the end of the passage. The statement can be factual, inferential, even an opinion. The

TOOLS

Why do fairytales have stock settings and characters? One reason is listeners can personalize the stories more easily. Another is that they are easier for storytellers to remember (this will be explained further in the Storyteller lessons).

TIP

The "Say Something" strategy can be used in partner reading while rereading for fluency.

only restriction is that they not repeat what another child says. This should continue until all three excerpts are read.

If students finish early, encourage them to create a Venn diagram to compare and contrast the characters in the three excerpts.

DISCUSSION/WORD WORK: Stereotype

Once the students have completed the activity, ask the class: *What kinds of characters did you encounter in your tales* (i.e., a princess)? Record the types of characters on the board. These will become word webs, so make sure they are spread out.

Ask: *What adjectives would you use to describe the characters* (i.e., a princess is beautiful, pure, kind, etc., while an ogre is mean, huge, angry, green, violent, etc.)? Record answers on the web, with the character in the center circle, and the adjectives stemming from the center circle like a spider web.

Ask: *In which of the three excerpts is the character a little different?* In each of the passages, excerpt C has a non-stereotypical character.

Explain that most characters in fairytales are **stereotype**s. They appear over and over in different tales—a formulaic type. Since these character types are very predictable, they are called **stereotypes**.

KID-FRIENDLY DEFINITION: Stereotype

A **stereotype** is a character that is simple, usually described with one or two words.

Tell students that the word **stereotype** is a noun, which can be a person, place, or thing. Add the word **stereotype** to the Word Wall and write the following sentence on the board:
- *Fairytales often reinforce the stereotype of a beautiful princess.*

Stereotype: *(n)* A conventional, formulaic, and oversimplified conception, opinion, or image. (v) To give a fixed, unvarying form to. (*American Heritage Dictionary*)

At this age students may not yet be saturated with character types, so they may not easily choose the "odd" character in these passages; this is fine.

Encourage students to connect this activity with other stereotypes we have in our culture. Why is it important for us to examine stereotypes? Can we assume stereotypes are always correct?

Students may need a prompt for this activity. You might start by

Explain that **stereotype** can also be a verb (some words can be both): You can stereotype someone when you make an overly simplified judgment about someone. Write the following sentence on the board: • *People stereotype princes as handsome and brave.* Explain to students: *stereotypes can be harmful because they can affect how we view people. Think about the stepmother in* Cinderella. *What kind of a character was she? Do you think after hearing that story they could stereotype all stepmothers as being evil? Would that be accurate?* *Stereotypes also go beyond fairytales. For example, if we have a stereotype that people from the city are rude, we might have a bad idea when we meet someone new from the city. The same goes with stereotypes about intelligence. For example, if we think girls are bad at math and boys are bad at English, it might let girls actually believe they aren't good at math, and boys might actually believe they aren't good at English.* *This, of course, isn't true. Anyone who works hard enough can be good at anything they want. The brain never stops learning, so it's important that we don't lead others to think their abilities are limited by using stereotypes. Therefore, we shouldn't use stereotypes to limit someone or to spread negative images about a certain group of people.*	putting "football player," "cheerleader," or "nerd" on the board.
CLOSE/JOURNAL ENTRY: Unfair Stereotypes Ask students to think about where they live: *What stereotypes are there for people who live in the county? What about people who live in the city?* Ask the students if they have ever made assumptions about someone based on what they looked like, how they talked, what they wore, or where they were from. Have they stereotyped before? Was it fair?	

WRITING	Ask students to take out their Folklorist Journals and respond to the writing prompt: *Can you think of a time that you stereotyped a person then found out there was more to him or her? Why is it so unfair to stereotype?*	

Appendix B

Example Teacher Fidelity Log

Folklore: Teacher Log_Lesson 4

LESSON 4: "Once Upon a Time…"

Name of Teacher: ___ Ms.Angelou   School: _____North & South Elementary
Date: **October 4ᵗʰ & 5ᵗʰ, 2016**   Class Time: **Tuesdays & Wednesdays**

   a. How much time did you spend preparing for the lesson? <u>30</u> minutes
   b. How well do you feel you followed the lesson as written? (**Circle your response**)

Exactly as written   ==Very closely==   Closely   Not very closely   Did not follow plan

   c. If modifications were made to the lesson, why were modifications made (check all that apply)?

☐ Time constraints   ☐ ==Student ability (too tough, too easy)==   ☐ Did not see the relevance
☐ Could improve the topic   ☐ Students already familiar with the topic   ☐ Other class requirements
☐ Material/resource availability   ☐ Other:_____

DIRECTIONS: Please indicate (by circling the appropriate letter) whether you **I: Implemented the activity as written, M: Modified the activity, or N: Did not implement the activity.** If the activity was optional, please indicate whether you **Y: Used the activity** or **N: Did not use the activity**

   Use the section **Teacher Notes** to describe any modification or deletions and **WHY** they were made. Feel free to include any additional comments. You may use the back of the sheet if needed.

SEQUENCE		TEACHER NOTES
WARM-UP: Review Exit Slip from Last Class 1. Grouped students based on previous exit slip	**I** M N	
2. Gave students back their Lesson 3 exit slip	**I** M N	
3. Put students in groups to compare and discuss answers from exit slip responses	**I** M N	
4. Asked students to consider why they may have had the same or different responses	**I** M N	
5. Asked students to tell about a character with whom they either **empathized** or **sympathized** and why **OR** why they didn't feel either emotion	**I** M N	
6. Monitored groups and/or worked with individuals who were struggling	**I** M N	
ACTIVITY: Fairytale Openings/Settings 7. Reviewed the Word Splash activity from previous lesson	**I** M N	
8. Pointed out that fairytales have formulaic openings, settings, and characters	**I** M N	
9. Reminded students that a formula is like a	**I** M N	

1

pattern		
10. Precut multiple sets of the Once Upon a Time Openings slips	I M N	
11. Grouped students by ability based on Formative Assessment 1	I M N	
12. Gave each group a set of the opening slips and index cards, and instructed them to read one silently and pass it on to the next person in the group until all of the slips were read	I M N	
13. Displayed Once Upon a Time Openings and asked why they thought fairytales started that way	I M N	
14. Asked students to answer independently on an index card	I M N	
15. Had students share in their groups and select a best answer to group share	I M N	
16. Had advanced group generate more ways that a fairytale could begin	I **M** N	I had everyone in the class generate their own fairytale opening on their note card.
17. Let groups share their best answer with class	I M N	
18. Collected individual index cards	I M N	
19. Displayed Jane Yolen's quote	I M N	
20. Asked how the quote is similar to the answers shared in class	I M N	
21. Explained that the openings signal that the reader has entered a fairytale place	I M N	
ACTIVITY: Character Types 22. Allowed students to get in groups according to interest in character type	I M N	
23. Gave each group the appropriate Character Types handout (three readings)	I M N	
24. Instructed students to read aloud one passage at a time (different reader each passage) in their groups, having others in group "say something" at the end	I M N	
25. **If applicable**: Had early finishes create a Venn diagram to compare/contrast the characters in the three excerpts	Y **N**	
DISCUSSION/WORD WORK: Stereotype 26. Asked students what kinds of characters they encountered in their tales	I M N	
27. Recorded answers on board so as to make word webs	I M N	
28. Asked students what adjectives were used to	I M N	

2

describe the characters		
29. Recorded answers on board within each character web	I M N	
30. Asked in which excerpt the character was different	I M N	
31. Explained that most characters in fairytales are stereotypes, appearing over and over in tales—a formulaic type	I M N	
32. Informed that since character types are very predictable, they are called **stereotypes**	I M N	
33. Defined **stereotype** as a character that is very simple, usually described with one or two words	I M N	
34. Told students that the word is a noun	I M N	
35. Added the word **stereotype** to the Word Wall	I M N	
36. Wrote the following on the board: *Fairytales often reinforce the stereotype of a beautiful princess.*	I M N	
37. Explained that the word can also be a verb	I M N	
38. Wrote the following on the board: *People stereotype princes as handsome and brave.*	I M N	
39. Explained, with examples, how harmful some stereotypes can be because they can limit someone or spread negative images about a certain group of people	I M N	
CLOSE/JOURNAL: Unfair Stereotypes 40. Asked student to think about where they live	I M N	
41. Asked what stereotypes there are for people who live in the country or city	I M N	
42. Asked students if they have ever made assumptions about someone based on what they looked like, how they talked, what they wore, or where they are from	I M N	
43. Had students respond in their Folklorist Journals to the writing prompt	I M N	

3

Appendix C

Example Observer Log

Folklore: Observer Log_Lesson 4

LESSON 4: "Once Upon a Time…"

Name of Teacher: Ms. Angelou	School: South Elementary
Date: 4 October 2016	Class Time: 12:00 – 1:30 p.m.

How well do you feel the teacher followed the lesson as written? (**Circle your response**)

shifted some elements in organization to meet the students' needs

Exactly as written   (Very closely)   Closely   Not very closely   Did not follow plan

DIRECTIONS: Please indicate (by circling the appropriate letter) whether the teacher
 I: Implemented the activity as written
M: Modified the activity
N: Did not implement the activity.

If the activity was optional, please indicate whether the teacher
Y: Used the activity
N: Did not use the activity

Use the +/- column to note whether modifications were positive or negative.

Use the section **Observer Notes** to describe any modification or deletions and **WHY** they were made. Feel free to include any additional comments. You may use the back of the sheet if needed.

SEQUENCE		+/-	OBSERVER NOTES
WARM-UP: Review Exit Slip from Last Class 1. Grouped students based on previous exit slip	(I) M N		went over objectives first
2. Gave students back their Lesson 3 exit slip	(I) M N		
3. Put students in groups to compare and discuss answers from exit slip responses	(I) M N		mixes them up so that students from the exit slip groups are in each of th 4 group
4. Asked students to consider why they may have had the same or different responses	(I) M N		
5. Asked students to tell about a character with whom they either **empathized** or **sympathized** and why **OR** why they didn't feel either emotion	(I) M N		more toward the end of activity as whole group / shoulder partner thing
6. Monitored groups and/or worked with individuals who were struggling	(I) M N		monitored, maybe more time w/ some groups than others
ACTIVITY: Fairytale Openings/Settings 7. Reviewed the Word Splash activity from previous lesson	(I) M N		Briefly mentioned what they did…
8. Pointed out that fairytales have formulaic openings, settings, and characters	I (M) N	+	in the objectives BEFORE warm-up activity
9. Reminded students that a formula is like a pattern	(I) M N		

1

10. Precut multiple sets of the Once Upon a Time Openings slips	(I) M N		
11. Grouped students by ability based on Formative Assessment 1	I (M) N		check on use of FA 1 — there are 4 different groups
12. Gave each group a set of the opening slips and index cards, and instructed them to read one silently and pass it on to the next person in the group until all of the slips were read	(I) M N		
13. Displayed Once Upon a Time Openings and asked why they thought fairytales started that way	(I) M N		
14. Asked students to answer independently on an index card	(I) M N		At first groups had them, but she gave all students one...
15. Had students share in their groups and select a best answer to group share	(I) M N		
16. Had advanced group generate more ways that a fairytale could begin	I (M) N	+	Did not see this until after they shared — all students did it
17. Let groups share their best answer with class	I (M) N		
18. Collected individual index cards	(I) M N		
19. Displayed Jane Yolen's quote	(I) M N		
20. Asked how the quote is similar to the answers shared in class	(I) M N		
21. Explained that the openings signal that the reader has entered a fairytale place	(I) M N		
ACTIVITY: Character Types			
22. Allowed students to get in groups according to interest in character type	(I) M N		
23. Gave each group the appropriate Character Types handout (three readings)	I (M) N		as they chose the group
24. Instructed students to read aloud one passage at a time (different reader each passage) in their groups, having others in group "say something" at the end	(I) M N		projected on board
25. **If applicable:** Had early finishers create a Venn diagram to compare/contrast the characters in the three excerpts	Y (N)		even though some + were + done a little early = was on board but NOT discussed
DISCUSSION/WORD WORK: Stereotype			
26. Asked students what kinds of characters they encountered in their tales	(I) M N		
27. Recorded answers on board so as to make word webs	I (M) N		
28. Asked students what adjectives were used to describe the characters	I (M) N		

29. Recorded answers on board within each character web	(I) M N		
30. Asked in which excerpt the character was different	I (M) N		Did this FIRST
31. Explained that most characters in fairytales are stereotypes, appearing over and over in tales— a formulaic type	I (M) N	+	jumped more into the terminology/definition
32. Informed that since character types are very predictable, they are called **stereotypes**	I (M) N	+	
33. Defined **stereotype** as a character that is very simple, usually described with one or two words	(I) M N		
34. Told students that the word is a noun	(I) M N		
35. Added the word **stereotype** to the Word Wall	I (M) N		at the end, with journals & personal word walls
36. Wrote the following on the board: *Fairytales often reinforce the stereotype of a beautiful princess.*	(I) M N		
37. Explained that the word can also be a verb	I (M) N		
38. Wrote the following on the board: *People stereotype princes as handsome and brave.*	(I) M N		
39. Explained, with examples, how harmful some stereotypes can be because they can limit someone or spread negative images about a certain group of people	I (M) N		Football player Cheerleader
CLOSE/JOURNAL: Unfair Stereotypes 40. Asked student to think about where they live	I (M) N		both county and rural
41. Asked what stereotypes there are for people who live in the country or city	(I) M N		Projected on board
42. Asked students if they have ever made assumptions about someone based on what they looked like, how they talked, what they wore, or where they are from	I (M) N		why all stepmothers are not evil Used city as an example, then
43. Had students respond in their Folklorist Journals to the writing prompt	(I) M N		partr worl (had discuss

Appendix D

Example Interview Protocol

Promoting PLACE: Teacher Observation Protocol

Follow-Up Questions

DIRECTIONS: As you discuss the indicators in your observation with the teacher, note his/her responses to the questions below.

1. How and when did you pre-assess students for this lesson/activity?

   Formative Assessment 1, from Lesson 2

2. What information did you learn from that pre-assessment?

   • more kids that need more help here than last year + than the Curry Center.
   • need more prompting

3. How did you use that information to plan this lesson/activity?

   → based on CLEAR groupings

4. How typical was this lesson?

   • hard to tell which passage is the "different" one
   • pretty typical, mostly engaged for the whole lesson.

5. What challenges did you anticipate before teaching this lesson?

   • nervous about dangerous stereotypes

6. What challenges did you actually experience in teaching this lesson?

   → getting them to realize 3rd passage was different

7. Do you have any documentation of this lesson that you would be willing to share with us?

Appendix E

Teacher Background Characteristic Form

Name:

_____

School:

_____

Gender (check appropriate category):

      Male _____
      Female _____
      Other _____

Race (check appropriate category):

      American Indian or Alaska Native _____
      Asian or Pacific Islander   _____
      Black, non-Hispanic   _____
      Hispanic   _____
      White, non-Hispanic   _____
      Other   _____

Teaching Experience:

      Years teaching third grade (including current year):

      _____
      Years teaching gifted education classes: _____
      Total years teaching experience (excluding student teaching): _____

Place:
      Total years teaching in the current school division: _____
      Years lived in the current school division: _____
      Years lived in the surrounding counties of the school division: _____
      Did you attend the primary/elementary/secondary school in the division where
      you currently work? _____

Education (check all the apply):

      Bachelor of Arts degree: _____
      Bachelor of Science degree: _____

Endorsement in Gifted Education: _____

Master's degree in Gifted Education: _____

Other (please describe):

_____

Appendix F

Follow-Up Interview Protocol

Introductory Questions

1. Tell me about your school. Think about what you think I should know if I had never visited before.

2. How would you describe your students?

3. Before you worked with the curriculum, how did you structure your language arts class?

(Probes: *What kinds of poems/stories did you read? How often were students given the opportunity to write?*)

Curriculum and Instruction

4. How useful was the preparation you were given to implement the poetry unit?

5. How useful was the preparation you were given to implement the folklore unit?

(Probes: *Are there any areas where more training would have been helpful or useful to you? Was any of the poetry/folklore content new to you? Do you feel that there was adequate explanation within the poetry/folklore unit(s) so that you felt comfortable teaching the content? Did you feel confident in your ability to deliver the poetry/folklore curriculum?*)

6. What do (did) you like about the poetry unit?

7. What do (did) you like about the folklore unit?

8. What do (did) you not like about the poetry unit?

9. What do (did)you not like about the folklore unit?

(Probes: *Do you have any concerns about the poetry/folklore curriculum? Would you use the poetry/folklore units if you were not assigned? Why or why not? What might the*

students need that is not in the poetry/folklore curriculum? Is there another approach that you think might be a better fit for you students—why?)

10. What, if any, challenges have you faced with instruction?

(Probes: *When faced with challenges, do you feel that you have adequate support to work through them?*)

11. How do you feel your students responded to the poetry unit?

12. How do you feel your students responded to the folklore unit?

(Probes: *How would you describe students' attitudes? How well did they comprehend the content? Do you feel that all the students were able to be successful? Describe some of the feedback you have received from students.*)

13. How has the use of curriculum impacted your teaching?

(Probes: *Did you feel like the curriculum fit with your teaching practices? Do you feel that using the curriculum has resulted in a change to your teaching practice?*)

Adaptations

14. How would you describe the adaptations you made to the curriculum as you implemented it—in either the poetry or folklore unit?

(Probes: *Describe some of the alterations you made in regards to grouping students. Describe the adaptations you made in regards to students' writing.*).

15. Why do you typically make adaptations?

(Probes: *Can you tell me more about how time impacted your fidelity of implementation? Describe the factors that you feel influence your ability to implement the curriculum. You mentioned testing—describe how that impacts your teaching. Describe any other school policies/mandates that affect your teaching.*)

16. Are there other areas in which you made adaptations today or in other lessons? Why?

(Probes: *Describe some of the content and/or materials you added and how they helped the students. Describe any content and/or materials that you did not use and why they were not necessary*).

17. Do you feel your adaptations helped you succeed in achieving the goal of the lesson? Why?

(Probes: Refer back to the specific examples as needed, using one of the completed teacher fidelity logs.)

18. Were there any adaptations you would have liked to have made but did not because you were concerned about fidelity?

Wrapping Up

19. Is there anything else you would like to share with us about the lessons and/or the poetry and folklore units?

Appendix G

Guiding Principles for Determining Modifications or Omissions that are Representative
of the Intent of the CLEAR Curriculum Model with Place-Based Pedagogy

Design Principles

These components are integrated into the curriculum. Not every lesson contains every
component.

Differentiation of Instruction
- Continuous assessment with multiple modes of assessment
- Tasks based on student
  - Readiness
  - Interest
  - Learning style
- Flexible grouping
  - Whole group, small group, independent
  - To facilitate group work, provide multiple modes of group work and
    instruction
- Quality curriculum with clear learning goals
- Student centered learning environment
- Student autonomy/independence

Depth and Complexity
Depth
- Exploration of detail, patterns, rules, ethics, and unanswered questions
- Exploration of generalizations and big ideas
- Facilitation of language of the discipline
Complexity
- Facilitation of multiple perspectives
- Facilitation of inter/intra disciplinary connections
- Facilitation of connections over time

Schoolwide Enrichment
- Facilitation of materials and tools of the discipline
- Facilitation of real-world application (Authentic Products)—acting as an expert
- Broad range of grouping arrangements
- Facilitation of self-directed study

Literary Focus
- Word study
- Reading comprehension
- Writing

Directions

Modifications or omissions of the Design Principles or content of the Poetry and Folklore units should not be made. Under certain circumstances addressed below, appropriateness of modification or omission will be considered.

Before you begin, remember:

- Coding teacher logs is not a process of evaluating the *teacher*, but an evaluation of *fidelity* to the curriculum
- Examination of modifications to the curriculum and resulting codes are on a per item basis (i.e., one single item noted as not implemented [0] or modified not positively [0] reflects fidelity to that item, not the curriculum as a whole)
- We aren't grading or "scoring" teachers; a score of "0" does not mean a teacher is "bad," it just means they did not have fidelity on that one item, for that one lesson.

Guiding Principles for Scoring Item Modifications

1. All grouping should be followed. All elimination and/or modification of grouping written into the lesson counts as a "0" for rating the modification unless a teacher provides a clear rationale (meaning that it cannot be interpreted differently). If there is any debate/argument, then it is not clear and must be coded "0".

Acceptable grouping modifications:
- With multiple modes of instruction, there are three students and it is a paired activity
- With grouping by reading, there are five students and four are in one group while one would be left to work alone
- Can still differentiate but let one group work with teacher supervision
- Extremes in class dynamics (learning profile differences)
- Whole-group instruction instead of small-group exploration (okay only if teacher can clearly indicate a need for this change, including discipline issues—if no explanation is provided, it is unacceptable)
- Small-group exploration instead of whole-class discussion (okay if the teacher is monitoring the responses and does a check at the end—if the teacher does not check in, it is unacceptable)

Unacceptable grouping modifications:
- Proximity seating (unless indicated)
- Student selected (unless indicated)

2. Grouping or activities based on readiness, especially those determined by formative assessments, should always be followed.
- If the teacher has used the formative and/or pre-assessments and indicates that all the students performed the same on those assessments and the unit did not specify alternate methods of grouping when there is no variation in the formative assessments, then it is acceptable for there to be whole-class instruction.

3. Expanded differentiation based on readiness or learning profiles is allowable if differentiation provided by the curriculum to accommodate a student's reading level is not sufficient (i.e., more or less scaffolding is needed)

4. Student interest and choice are preferred.
- Limiting range of topics for writing, mode of presentation for synthesis, or types of poems to include in the anthology when these options are not spelled out in the curriculum is understandable, but not acceptable.
- Not providing students with place-based opportunities and ideas for exploration when they are embedded in the curriculum is not acceptable.
- Providing students with place-based opportunities and ideas for exploration when they are not embedded in the curriculum is acceptable.

5. Offering an additional presentational venue is acceptable as long as content and processing of information would not be altered.
- Putting information (outline of lessons, parts of lessons, readings, poems) on an overhead projector, SMARTboard, poster paper, whiteboard/chalkboard, etcetera are all acceptable.

6. Accommodations in accordance to a student's Individual Education Plan (IEP) or 504 Plan, or allowances for Culturally and Linguistically and Diverse Learners (CLDL) are acceptable.

7. Prior knowledge is an acceptable reason for omitting an item.
- Skipping a section with a clear reference to when students had discussed the content recently is acceptable.
- When lessons are combined, omitting a section that reviews information from a previous class is acceptable.

8. Providing pictures for some of the poems when students may not have prior knowledge necessary for understanding, relating, or visualizing is acceptable.
- For example, showing students a picture of a wheelbarrow before or after reading "The Red Wheelbarrow" will help them to connect with the usefulness of the items and write their own poems.

9. Delivering additional explanation of concepts and ideas if students do not show comprehension (i.e., inclusion of additional mini-lessons on grammar, differences in concrete/abstract nouns, examples of folktales and fables) is acceptable.

10. A review of concepts and/or ideas, when there has been an extended time lapse between meetings, is acceptable.

11. Lack of time and logistical inconvenience are not acceptable reasons for omitting content, presentations, all grouping, or core components of activities.
- If project staff was contacted about the issue and could not help the teacher come up with a feasible solution, then it is acceptable. For example, if the teacher asked for

help finding a local storyteller in the folklore unit and the project staff could not find one, the omission is acceptable.

12. Lessons and activities within the lessons should be delivered in the specified sequence, unless the resources to complete the activity (computer lab, library) are not available at the time of delivery.
- If a teacher can provide a valid reason for changing the sequence (for example, giving a formative assessment about an upcoming lesson at the beginning of class in case they run out of time before the students must go to specials), it is acceptable.

13. Changing a definition to fit the readiness level of a student or even class when necessary is appropriate.

14. Allowing students to complete any pre- or formative assessments outside of class is not acceptable.

15. Modification or omission of the Big Ideas is not acceptable.

16. Omission of place-based readings and discussions is not acceptable.
- Teachers may switch out folktales/poems based on the place-based recommendations for each division, which is acceptable.
- Adding additional place-based examples is acceptable.

17. Modification or omission of any of the elements or procedures that facilitate the Design Principles or critical components should be linked with how it would interfere with readiness or grouping based on formative assessments. Otherwise, it is unacceptable.

Appendix H

Qualifications of Peer Reviewers

Expert Peer Reviewer

Dr. Annalissa V. Brodersen is a research associate with the National Center for Research on Gifted Education. She has worked with Promoting PLACE in Rural Schools for the past four years. She received her PhD in gifted education from the University of Virginia in 2016. She has done work with both inductive and deductive coding on various research projects, including her dissertation. She has presented her qualitative work at numerous conferences, including the annual meetings of both the National Association for Gifted Children and the American Educational Research Association.

External Peer Reviewer

Wesley J. Wilson is a graduate research/teaching assistant in kinesiology. He won an award from the Shape America Research Council for his qualitative study on socialization of pre-service teachers. He has presented his qualitative work at national and international conferences, including the North American Federation of Adapted Physical Activity.

Coding Protocol (Revised)

Structural (STR)			
Amount of support (ASP) References to school organizational structures and staff members that have an impact on how teachers implement the curriculum.	Staff	SF	Discussion about the impact other staff members may have on implementation of curriculum. Includes references to the role of grant staff.
	Financial	F	Discussion about the divisions' finances and how they may impact implementation of curriculum.
	Training	T	Discussion about training, including teachers use the fidelity logs or if they have received training in gifted education.
	Leadership	L	Discussion about who has a leadership role in gifted education and his/her effectiveness. This may refer to the teacher and/or administrative figures (superintendents, principals, school psychologists, etc.), depending on how the divisions have chosen to provide services.
School culture, morale, and norms (SC) References to how the schools' settings, procedures, and atmosphere may	Community/program fit	CPF	How the curriculum fits with the community, which would include the place-based pedagogy.
	Urbanicity	U	The rural locale and how that impacts the implementation of the curriculum.

impact the implementation of the curriculum.	Relationships with colleagues	RC	Relationships between teachers responsible for teaching the curriculum and their colleagues.
	Social organization	SO	The social atmosphere that exists in the school and/or grade level teams.
	Shared decision-making	SD	Opportunities the teachers have to collaborate with colleagues and the community.
	Teacher morale	TM	How teachers feel about their school and community.
Scheduling and timing (ST) References to time and any scheduling and expectations that impacts the amount of time available to teach the curriculum.	Amount of time	AT	The time available and how much time is actually required to implement the curriculum. Includes references to how scheduled (e.g., fire drills) and unscheduled (e.g., school delays) events impact implementation of the curriculum.
	Service delivery model	SDM	The division's chosen service delivery model.
	State testing	STT	The influence of state testing on the classroom.
	Additional expectations	AE	The other requirements that the teachers of the curriculum must fulfill. Includes discussion of travelling to provide services or discussion of other job requirements for teachers whose primary role is not gifted education.
Classroom structure (CM)	Number of students	NS	The number of students present that day or in

References to how the classroom is structured and how it impacts delivery of curriculum.			the class and how that impacts implementation.
	Room layout	RL	The set-up of the room.
	Management	M	How the teacher handles the students' behavior and manages the different groupings. May include references to or examples of teachers' classroom routines that exist outside of use of the curriculum.
Instructional-Process (IP)			
Positive (P) References to positive teacher factors that make it more likely for them to implement curriculum with fidelity.	Dissatisfaction	D	Evidence that teachers want to make changes to their practices.
	Buy-in	B	Positive discussion of the curriculum and how it fits with their personal beliefs/ research-based evidence they are aware of. Includes information about why they enjoy teaching the curriculum or think it is useful.
	Positive beliefs	PB	Positive statements about students and examples of how teachers maintain classrooms that have a positive student climate. Includes evidence of individual orientation (personalized pacing and ability grouping) and teacher autonomy.
	Student Engagement	SE	Evidence of students being excited about the curriculum and being

			actively engaged in the lessons and activities.
Negative (N) References to negative teacher factors that make it less likely for them to implement curriculum with fidelity.	Unwilling to change	UC	Discussion of why they would not do something in the curriculum or why something in the curriculum will not work.
	Satisfaction	ST	Discussion of why other aspects of their class are working better than what is provided in the curriculum. Must directly reference why another approach is preferred for it to be considered satisfaction.
	Lack of content knowledge	LK	Instances where the teacher makes errors or is confused by the curriculum.
	Negative beliefs	NB	Negative statements about the students and/or school, design principles of curriculum, etc. Includes evidence of group orientation (focused on social structure/behavior of the class and doing everything for everyone rather than individualization) and teacher dependence.
	Lack of Student Engagement	LSE	Evidence of students not enjoying the curriculum and acting off-task/disinterested during the lessons and activities. NOT necessarily when students struggle.

Ways in Which Teachers Make Modifications			
Additions (A) When teachers add to/go beyond what is written in the curriculum. This includes additions that occur even when teachers have all items marked I, and NOT when teachers make changes to the material.	Activities	AA	Examples of teachers adding in additional activities, mini-lessons, games, materials, etcetera.
	Background	AB	Examples of teachers adding in background information to help clarify information for students.
	Time	ADT	Examples of teachers giving students additional time to complete activities or tasks written in the curriculum.
Subtractions (S) When teachers do not teach all the material written in the curriculum.	Activities	SA	Examples of teachers cutting either an entire activity or part of an activity from the lessons.
	Material	SM	Examples of teachers excluding material from the lessons, including stories, poems, formative assessments, questions, displays, etcetera.
Alterations (A) When teachers change the way part of the lesson was meant to be delivered but maintained the content.	Grouping	AG	Examples of teachers not using the grouping (e.g., whole-group, small group, partner, individual) described in the lesson. Includes when teachers do not group using formative assessments.
	Writing	AW	Examples of when teachers choose to have students respond verbally rather than written, or vice versa.

	Focus	AC	Examples of when teachers have changed student-centered/student-led discussions to teacher-centered/led discussions, or vice-versa.
	Material	AM	Examples of when teachers made changes to the material being used but still implemented the activity. Includes when they change to other material in the curriculum (e.g., having a discussion on stanzas about a poem they read previously rather than the one in the lesson) AND if they change to alternate material.

Appendix J

Teachers' Background Information

Level of Fidelity	Teacher	Years of Teaching Experience	Years Teaching in the Division	Years of Gifted Ed. Experience, including cluster classroom	Years Lived in the Area	Degrees (as reported on background form)
High	Ms. Angelou	6	6	3	6	Bachelor of Science Gifted Endorsement
	Ms. Collins	20	10	14	41	Bachelor of Science Gifted Endorsement
	Ms. Frost	23	23	1	45	Master of Science (admin.) Bachelor of Science
	Ms. Giovanni	6	6	1	13	Master's degree (Elem. ed) Bachelor of Science ESL Endorsement
Moderate	Ms. Dickinson	23	5	3	5	Master's degree in Elementary Education
	Ms. Eliot	3	3	1	25	Bachelor of Science
	Ms. Hughes	11	7	1	7	Bachelor of Arts Master's in Reading (in progress)
Low	Ms. Bishop	3	3	1	9	Bachelor of Business Administration
	Ms. Joyce	4	2	1	2	Bachelor of Science Master's in Reading (in progress)
	Ms. Keats	4	3	1	3	Bachelor of Arts Master's degree in Special Education

Appendix K

Example of Use of Coding Protocol

Teacher: Ms. Keats
Date: 24 March 2017
Number of Students: 21 (she is up to 24 total students—a few new ones since last time)

Follow-Up Questions
(from e-mail)

DIRECTIONS: As you discuss the indicators in your observation with the teacher, note his/her responses to the questions below. If there are any elements of the observation protocol you would like to clarify with the teacher do this as part of the interview and add any relevant questions.

1. How and when did you pre-assess students for this lesson/activity?

I did not use the exit slips because I did not get to them but additionally I had new students added to my room this week so that also put a spin on things. However, the students are grouped based on high, mid, and low reading abilities so I feel that they are about the same with who is understanding the lessons and the terminology.

2. What information did you learn from that pre-assessment?

The information I have learned is from the note cards from lesson 1 on who understands what folklore. Many students have an understanding of fairytales already. The types of folklore students seem to have the most difficulty understanding are the myths and legends.

3. How did you use that information to plan this lesson/activity?

I went through the Smartboard presentation and just really looked over the material before teaching the lesson. One thing I have noticed is that I wish I could have more time with these lessons because there is so much more I would like to add and include with my original planning and I just don't have enough time to.

4. How typical was this lesson?

This lesson was actually the most that I got through so far. This lesson I tried to keep a faster pace to get through as much as I could. Also with benchmarks and SOL testing it is just hard to use more than one day and with being departamentalized I even have less time with my class so as much as I would like to break the lesson up and complete more I just don't have that option right now. I know if the departments continue I am going to have to figure out how to work more of the lessons in to my instruction because they are good lessons and there is so much I could do with them.

5. What challenges did you anticipate before teaching this lesson?

The challenges I faced was having enough time to teach everything in the lesson.

6. What challenges did you actually experience in teaching this lesson?

In teaching the lesson I experienced that the behavior of my students. My groups of students struggled with working together and if I would have maybe broke them into partners instead of groups maybe my issues would have not occurred.

7. Do you have any documentation of this lesson that you would be willing to share with us?

Logs!

8:30 We get here and the students are finishing a math packet or reading. Ms. Keats tells us she has new students; there are also three kiddos on out of school suspension, one student that will be leaving this morning for something (sounds behavior related—I am not sure). Ms. Keats also says that there will be students leaving for something so the class will be small. Km wins something for positive behavior and leaves the room. According to the announcements, they give out birthday pencils. Ms. Keats and Ms. Collins talk about the benchmarks—most of the students improved, so positive.

8:36 Ms. Keats shuts the door and sorts out some of the details for lunch. Then students are asked to clear off their desks. Two of our ID'd students (L and H) are going to be pulled, and Ms. Collins notes that is because they are making up benchmark testing.

8:38 Review of last week's folklore lesson—what did we talk about? *The Little Match Girl*. Who remembers what it was? She sold matches. What kind of story was it? She had a horrible life (the student who mentioned this apparently brought this up a lot—Ms. Collins notes that it was a big deal for him). Ms. Keats lists the kinds of stories they have been talking about (these are also on the easel pad)—she tells a couple people "no" when they get the answer wrong and then a student says the correct answer—fairytale. Ms. Keats asks about vocabulary from last class—sympathy (she helps them with pronunciation—"not symphony but…") and empathy. What was our sympathy last week? When someone is sad for you? What is empathy? J—when you felt bad because you had the same thing happen to you.

8:41 Is it possible for you to feel sympathy for a character but another person to feel empathy instead? Talk about this in your groups. The students discuss it—Ms. Keats talks with the group near the board; the student who is sitting by himself at a desk in the back does not speak with anyone. After a minute, she asks one person from each group to respond. Ms. Keats mixes up the question a bit and the student rephrases it, and she tells him he is correct and he answers the question—you might have different feelings. Another student says you might feel bad for them but you might not. La—(I don't quite catch her response). Ms. Keats is reading off the board and after she says "why may you have the same or different responses to the same story?" a student says huh and she decides to skip it. (*At least that is how I interpret it, given that they stop discussing it.*) They start giving examples of stories—Frozen, Shrek, How to Train Your Dragon, etc.—and then she asks them if they sympathize or empathize with any of the characters.

8:46 What character could you sympathize with? She calls on J, but she is quiet. She eventually gets her to say *Frozen* and Anna—she is so quiet that I cannot hear her responses. A male talks about *Shrek* and how he has never been a monster, so he cannot empathize but he can feel bad. A girl says *Cinderella*—she said empathy because she has never been through that (not being able to go to the ball). A girl—*Shrek*, why did you feel bad for him—I can't hear the answer. Another boy says he had something taken from him so he did feel the same as *Shrek*. K says *Beauty and the Beast* and it sounds like she is making connections between how the beast feels when Belle arrives.

8:49 Do we really empathize with fairytale characters—no, we sympathize (some student agreement—mostly teacher led—talk in your groups about why. They talk for less than a minute—Ms. Keats gets a couple examples—I hear "never been a princess"—other fairytale elements. She has them list a couple elements—e.g., princesses—and then lets them discuss it in their groups. She checks in with the student who has not been working with anyone (isolated at seat by teacher's desk). They list number 3 and number 7—some of the students' responses are not on the list or technically correct (e.g., superheroes) but she acknowledges it as part of the lesson. They do get at most of them, and she brings up the ones they do not mention as she goes through the ones on the board. When she brings up beauty, she mentions that it is crazy how the princesses always stay so beautiful.

8:55 (ish) They all get a sheet with the fairytale openings and are told to talk about them and why they think fairytales start like this. They have a discussion about how they are taking place in a different time (for the first one). For the second one—what is the key word? Wishing—good, talk about that in your groups. Stories that we read today might have been written when? K talks about back in the day (olden times) and how fairytales would help people? And more about wishing but I don't catch everything—Ms. Keats asks if they think people wished more back then for things to happen—do we wish a lot today? These were written so long ago maybe wishing was a more common thing back then. Ms. Collins notes that she is going to be working more strongly with Southwest and Central-West on grouping next year. Ms. Keats had students discussing and then asks why they would have a castle in a wild place—something might happen to a princess/hiding from someone who is trying to hunt someone/not easy to get to for hiding (I'm extrapolating this a bit—the other ones were straightforward)/might just like the woods/like in *Tangled*—Ms. Keats "protected by a dragon?"—boy—"like in *Shrek*."

9:06 Look at the quote—she reads the Jane Yolen quote. Has the students discuss it—Ms. Collins notes that Ms. Lear (the GRT for the division) is not here today as scheduled; the students are still talking. Ms. Keats asks them about how their answers are similar to what they looked at—get the answers from their groups—Ms. Collins notes that the boy who was sitting by himself is really participating, which is true—he is definitely engaged which is not his usual state of being. J is not as on top of things as Ms. Collins expects. Ms. Keats is working on the "not pertain to the here and now that we know" with the

students—if it is about the past, does that mean that it is the same as the here and now. It said something about animals talking—are they talking now? J—does that mean dinosaurs talked back then? Ms. Keats—I don't know—I wasn't around back then.

9:11 Ms. Keats says she is going to give each group a character type. She hands them out and says each group is going to read the passages—one person from each group (meaning that three different people in each group will read them) and think about the character that they are reading—what they feel about each character. The groups start reading things out loud, except for the table in front of us. One boy is sort of trying to read. Ms. Keats comes over and asks two of the students in the group what is wrong with them—the girl says he is making fun of her, Ms. Keats tries to get information but no one is saying anything. Ms. Keats moves the girl's seat permanently, the boy puts his head down and refuses to participate, the other two boys read their passages. There is a Venn diagram on the board, but no directions about anything. Until I hear Ms. Keats tell one group to create a Venn diagram and helps him draw out the circles. The boy leaves and Ms. Collins notes that his counselor is out there, so it was a good decision for him— she also thinks the fact that they departmentalized is a factor. The kids are working; the upset girl has a counselor come with her as well. We have a conversation about departmentalization and how it might work. (*I think all the students are doing Venn diagrams on the back.*) It seems like a lot of the students are done; the counselor comes in to get more information and Ms. Keats is explaining that situation.

Melanie Caughey
STR-CS-CM

They are already grouped and this way they do not have to move

Melanie Caughey
IP-N-NB
STR-CS-CM

Behavior and social structure of the class are more important than grouping as per curriculum.

Melanie Caughey
IP-N-LK

This was an extension activity that all students ended up being responsible for.

Melanie Caughey
STR-ASP-SF

Melanie Caughey
STR-ASP-SF