

A PHENOMENOLOGICAL STUDY OF STUDENT ENGAGEMENT IN
AN URBAN K-8 SCHOOL

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Dedication

I dedicate this study to my family who supported me through this entire leadership journey, and my students from all stops on my teaching journey who encouraged me to empathize, ideate, and prototype my solutions. I believe in the power of human-centered design and acknowledging perspectives of all stakeholders. I chose this topic so that teachers continue to place students' needs first and listen to their perspectives.

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Abstract

Student engagement is an indicator of student achievement. For students living in poverty it is difficult to engage in a school that is not relatable to their own cultural norms and values. This phenomenological study sought to understand the lived experiences of these students and their teachers related to student engagement. The purpose of this study was to provide insights and perspectives of students' and teachers' personal experiences within a mathematics classroom. The key research questions targeted understanding student perceptions of their own level of engagement—behaviorally, emotionally, and cognitively; teacher perceptions of their students' levels of engagement; instructional factors that the students and teachers perceived as influential to student engagement; and determining whether students' perceptions of their engagement related to assessments of learning and growth in math class. The study relied on interviews, classroom observations, and assessments of learning and growth. There was considerable overlap between teacher and student reports of influential instructional factors. Student perceptions of their own engagement did not conclusively correlate to growth, and neither students nor teachers had a shared definition of each component of engagement. In fact, a major finding was that participants had very different perception about what student engagement looks like in a classroom. Teacher perceptions of student engagement were highest for cognitive engagement and lowest for behavioral engagement, and assessment of learning and growth scores did not consistently align with teachers' perceptions of student engagement. To effect change appropriately, it is critical to connect with the stakeholders most affected; in this case, a tremendous amount can be gleaned from their lived experiences to influence future policy.

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CHAPTER 1

INTRODUCTION

Background

Schools are expected to provide learning opportunities that ease students' assimilation into society, but students are alarmingly "suffering from a wide range of educational distracters, such as frustration, disinterest, and disenchantment, thus widening the achievement divide" (Carter, 2016, p. 3). The academic losses are more profound during the transition from middle school to high school, and the problem is especially severe for children from minority and disadvantaged groups (Fredricks, Blumenfeld, & Paris, 2004). Students who feel engaged and discover connections within their daily school life achieve more academic success and are less susceptible to the pitfalls of adolescence (Skinner, Furrer, Marchand, & Kindermann, 2008). Unfortunately, researchers have found students are less engaged, express less interest and enthusiasm for learning, and demonstrate deteriorating intrinsic motivation to try harder (National Research Council & Institute of Medicine, 2004). Instead of students building their academic confidence, more often they are losing interest in learning.

Realizing that student satisfaction, interest in school, and the feeling of belonging are all trending downward, schools must proactively seek to reverse antiquated instructional models. To do so, schools must develop ways to address student needs appropriately, consider student voice as a viable option to help shape instructional decisions, relentlessly work to make school more meaningful and relatable to students, and strive to increase student agency. Urban schools charged with discovering ways to combat the decrease in institutional respect, the need for more

supportive and restorative school structures, and the need to establish more control within the classroom environment should focus on increasing student engagement (Manigault, 2014).

The achievement divide between White students and their Hispanic and Black peers continues to exist (Carter, 2016). While considerations from the home and contributions of the school—from the teacher and curriculum—affect student achievement (Hattie, 2009), school conditions might have a more significant impact on minority and disadvantaged youth than family characteristics (Barbarin & Aikens, 2015). Contributions from home play a vital role in preparing students for school and providing extended access to learning experiences after a school day. However, for purposes of this study, I focused primarily on conditions that can be controlled for within a classroom. Researchers suggest that long-term student engagement indicators might have a strong predictive effect on academic resilience, attendance, retention, and graduation (Skinner et al., 2008). School staff must collectively demonstrate concern for relationships, student motivation, and engagement in the school experience.

The concept of engagement is rooted in the belief that learning experiences that are of interest or have substantive meaning and relevance to the student lead to greater academic achievement (Schlechty, 2004). If supporting the efforts of young people by creating engaging learning experiences helps to lower student drop-out rates and increases student achievement levels, then we must investigate the characteristics necessary for students to experience engagement. This study gathered the thoughts, feelings, and beliefs of participants that help to inform the relationship between perceptions of student engagement and perceptions of academic success.

Engaged students attend school at a higher rate when learning options seem limitless, their actions feel appreciated, their voice has a platform, and their identity is accepted and

cherished. Overwhelmingly, for minority and disadvantaged groups, school has not always been a desirable, relatable, and supportive place (Fredricks, 2011). Students begin their schooling experiences with an eagerness to learn and discover meaning, but “liking school, compliance with school routines, marks and academic self-image all spiral downward the longer the children are in school” (Alexander, Entwisle, & Horsey, 1997, p. 2). Students who are disengaged cite “their ‘dislike for school,’ a lack of ‘being heard’ and being treated unjustly as their main reasons for wanting to leave school” (Baroutsis, McGregor, & Mills, 2016, p. 126), resulting in lifelong consequences including a high likelihood of unemployment, having lower earning, and accumulating less lifelong wealth (Lamb & Rice, 2008).

Enjoyment and engagement wane as students’ progress through school for a high percentage of low-income children (Aikens & Barbarin, 2008) and those furthest from privilege. Within an average yearly school calendar, a public-school student is suspended every 4 seconds, a high school student drops out every 33 seconds, and a child is arrested every 68 seconds (McLaren, 2015). Suspensions, drop outs, and arrests are directly correlated to perceived levels of student engagement, academic achievement, student efficacy, attendance, and behavior (Rumberger, 2011). Furthermore, researchers have argued that academic achievement, attendance, and behavior are dependent on a culture of engagement developed at the school site (Sinclair, Christenson, Lehr, & Reschly, 2003).

Student engagement. Researchers agree that student engagement is critical to academic success but do not share a clear definition of student engagement. Student on-task behaviors and active participation in the learning environment (Harris, 2008), the degree of social interactions and peer/instructor relationships, the continuum of student discipline, and motivation and drop-out rates (Fredricks et al., 2011) have all been suggestive factors related to student engagement.

Other researchers argue that the way in which students assign importance to academic success and their degree of participation in in-school and out-of-school activities is indicative of engagement (Willms, 2003). The literature review in Chapter 2 details the components of student engagement as they relate to this study.

Conceptual Framework

A student's ability to identify with school, internalize a degree of belonging within the school environment, and assess a value for success on school relevant goals provides evidence that the student is engaged to some degree (Finn, 1989). The individual relationships between student engagement and caring, high expectations (Brewster & Bowen, 2004), strength of teachers, and the use of action and reflection periods related to students' degree of engagement and learning (Marzano, 2004) are foundational premises that supported this study. To measure student engagement, researchers have used tools such as teacher observations, student observations, self-report perceptions, achievement data, anecdotal records, and student demographic data, among others. Behavioral engagement involves observable or self-reported degree of participation, effort, interaction, persistence, and academic involvement of students (Finn & Voelkl, 1993). This study sampled both teachers and students. Student behavior in relation to academic performance engagement is a strong predictor of academic success.

Additionally, school characteristics such as level of organization, established environment, and overall structure impact student engagement. Fredricks et al. (2004) argued that precursors to student engagement include: school level factors, relationships built within classrooms, and attending to the individual student needs. Within their three-factor model, the researchers suggest that engagement is a multidimensional construct whereby *emotional engagement* encompasses interests, values, and overall emotions; *cognitive engagement*

considers motivation, effort, and persistence; and *behavioral engagement* includes following rules, directions and principles of the work and instructor. Similarly, the four-factor model by Appleton, Christenson, Kim, and Reschly (2006) addresses *affective engagement*, *cognitive engagement*, *behavioral engagement*, and *academic engagement*. Aligning well to the Fredricks et al. (2004) model, this four-factor model also includes an academic engagement component, which considers whether students remain on task during instructional activities as well as academic goal setting and achievement.

Observation of teaching practices represents different approaches to engaging students—*connective instruction practices*, *academic rigor practices*, and *lively teaching practices* (Cooper, 2014). Connective practices accentuate individual students, promote identity development, and help students make personal connections to the class. When engagement, motivation, and achievement are enhanced, students are likely experiencing meaningful relationships with teachers (Martin & Dowson, 2009). These teaching practices consider work that students perceive to be relevant. Teachers feel connected socially through a strong teacher-student relationship and students make active connections between instruction and their lives. Connective practices honor the lives, interests, feelings, and opinions of students by “promoting relevance, conveying care, demonstrating understanding of students, providing affirmation, relating to students through humor, and enabling self-expression” (Cooper, 2014, p. 368). Academic rigor practices place an emphasis on the academic dimension of classrooms. These practices emphasize the academic dimensions of a class including tasks and learning environments that demand high levels of cognition and focus as evidenced by challenging student work. Lively teaching practices consider optimal ways to elicit active learning opportunities by means of using fun activities, student groupings, and student-centered projects.

In Figure 1, the Conceptual Framework considers the relationship between student engagement, the learning environment, and student outcomes. Teacher and student perceptions are codified for both student engagement and the learning environment.

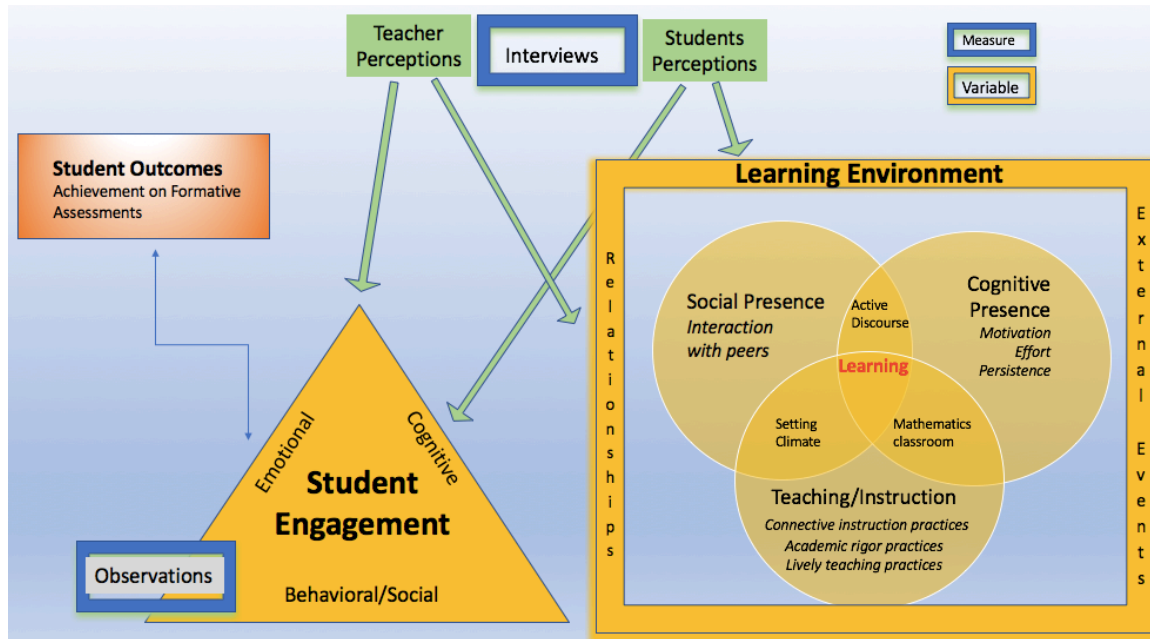


Figure 1. Conceptual framework model: Aligning measures with variables. Adapted from “The Community of Inquiry Theoretical Framework,” by D. R. Garrison, Z. Akyol, 2013, *Handbook of Distance Education*, p. 6.

This phenomenological study relied on structured interviews to examine the lived experiences of teachers and students in two Midwestern urban K-8 school mathematics classrooms. Classroom observation data supported the findings. Student interviews elicited open dialogue where students identified their perceptions of their levels of engagement in class as well as perceptions of effective teaching/instructional strategies that aided their academic engagement.

Teacher interviews provided insight related to teachers lived experiences, illuminated central themes, and showed the degree of correspondence between teachers’ perceptions of student engagement and teachers’ knowledge base or instructional pedagogy (see Figure 2). This

theoretical framework posits that there is a relationship between teacher pedagogy and student engagement. To understand this relationship, perceptions of student engagement and teacher pedagogy—including the social presence, cognitive presence, and ability to teach and deliver instruction—were analyzed. Both student engagement and the teacher instructional strategies were analyzed through interviews and classroom observations. These data could help the identified Midwestern urban K-8 school place value on certain instructional strategies and emphasize areas of growth related to engaging students in classroom instruction.

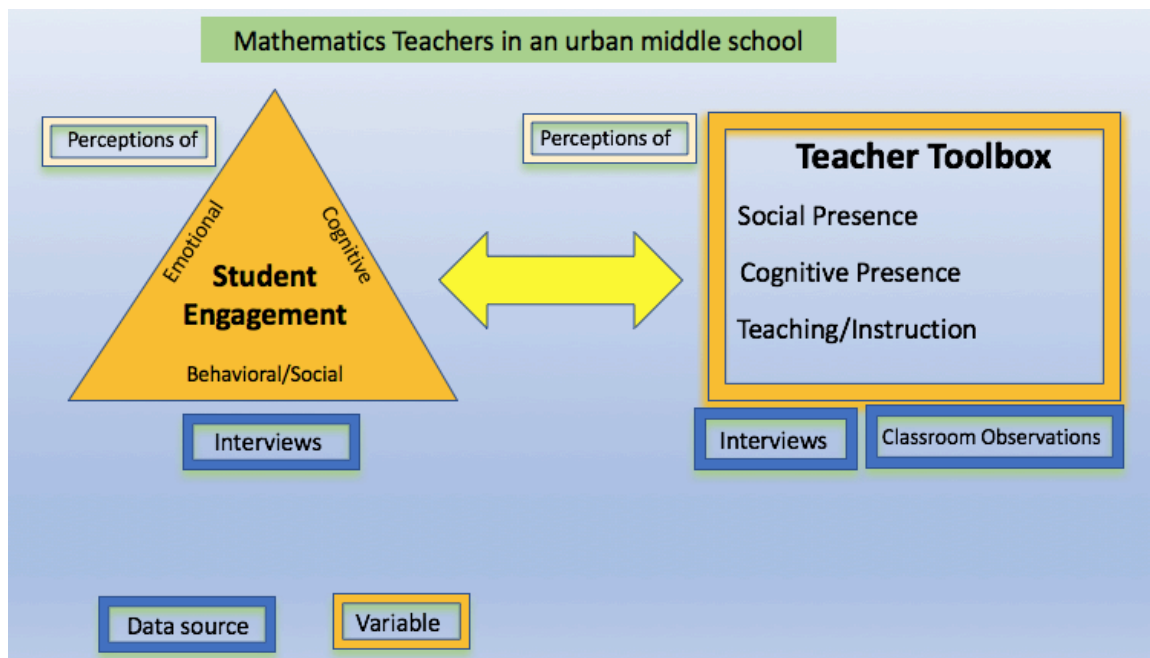


Figure 2. Theoretical framework of the degree of correlation between teacher perceptions of student engagement and teacher instructional skills.

The implications from the findings of this study for leadership, instructional planning, and policy (see Figure 3) could inform authentic leadership practices and support a strategic planning effort that makes vital decisions and necessary action to shape what a school is, what it does, and why it does it (Bryson, 2011). Further, these findings could provide further support to re-imagine the educational experience of underserved, disengaged students (Fowler, 2013). As

the author and lead researcher, my hope was that: the research assistant supporting this study would learn from lived experiences of both teachers and students; teachers would gain insights into their own instruction; and that such awareness would motivate teachers to modify their practice in ways that would ultimately increase the engagement of their students.

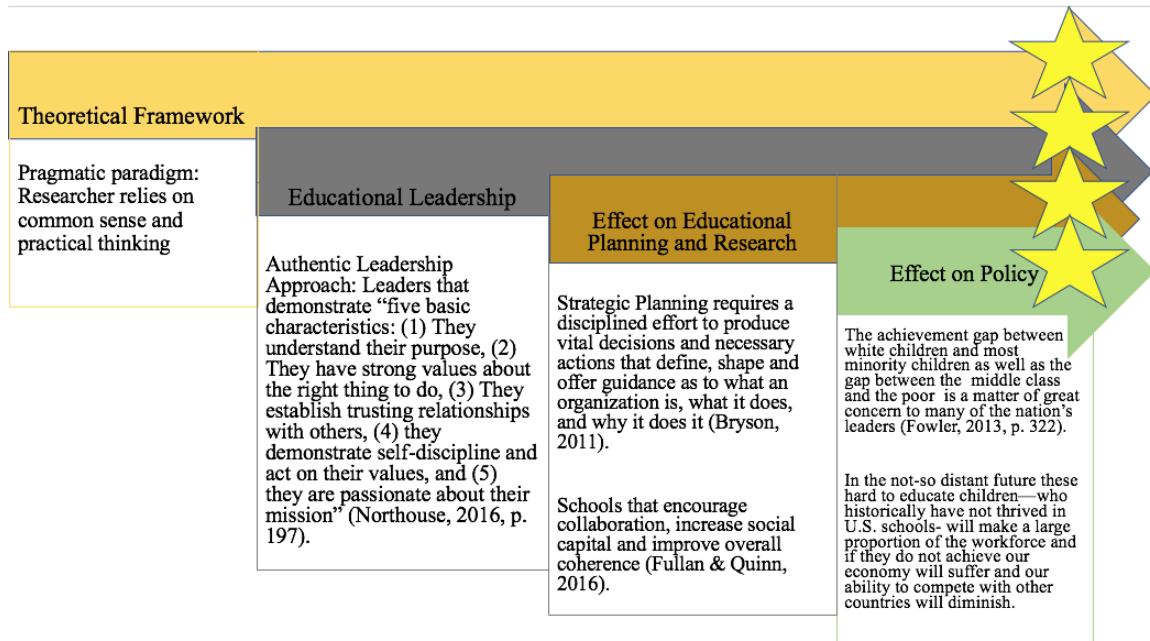


Figure 3. Cohesive mapping: Theoretical framework, educational leadership, effect on educational planning and research, and effect on policy.

Problem Statement

Researchers have focused on student engagement as an indicator of successful classrooms and schools. Their research identified three types of engagement: cognitive, behavioral, and emotional. Schools that serve underserved communities in urban settings are often found to have lower levels of student engagement (Yazzie-Mintz, 2007). This study was conducted to understand selected students’ and teachers’ perceptions of engagement in mathematics class in one urban K-8 school.

The purpose of this study was to investigate the relationship between students' perceptions of their cognitive, behavioral, and emotional engagement, and the perception of student learning by teachers and students in two Midwestern urban K-8 school mathematics classrooms. This study investigated how students from minority and low socioeconomic status (SES) backgrounds engaged in the current instructional model of a school in a large urban school district. Perceptions of teachers and students, as well as observations of both teachers and students in a mathematics learning environment, were analyzed and coded for themes with the intention of developing instructional delivery methodologies that students feel engage them in the learning process.

Many teachers relentlessly search for ways to engage students, but often over-extend their resources to meet the needs of the children that they serve. Students who are disengaged in school are at a higher risk of participating in criminal activity, dropping out of school, and are more likely to be in future need of public assistance. To reverse these trends, student engagement must be an “inescapable goal” (Schlechty, 2004, p. 14), and these students must feel a sense of meaningful attachment to both school and academic success.

Research Questions

The role of student engagement and student voice in the preparation of teacher content delivery established the foundation for this phenomenological study. The research findings could inform school administrators and policy makers of potential disparities between teacher and student perceptions and teacher and student practice. The following research questions were addressed in this study:

1. What are the students' perceptions of their own engagement in math class—
behaviorally, cognitively, and emotionally

2. What are the teachers' perceptions of the level of engagement of the student participants in their class?
3. What instructional factors do teachers and students recognize as positively influencing behavioral, cognitive, and emotional engagement in the classroom?
4. Do student perceptions of behavioral, cognitive, and emotional engagement correspond with teachers' assessments of their learning and growth in class?

Significance of the Study

This study provides a glimpse into the lived experiences of both teachers and students with an underlying expectation of having impact on the school community. The process of the study was expected to elicit change within the academic environment to an uncertain degree. Although the school community was accustomed to classroom observations with subsequent feedback from an instructional leader, teachers themselves were not accustomed to interviews and sharing their perspectives regarding the degree of student engagement.

Perspectives of teachers and students matter and their interests are valuable. They are not only stakeholders, but also direct users of the educational system itself. Some might suggest that the role of teachers is to guide students, positing that humans do not know what they do not know. So as not to assume that students should wholly direct their learning, I sought to understand whether students' perspectives could provide clarity about the instructional approaches that most resonated with the students themselves.

In response to political pressure to improve student proficiency, schools have placed an undeniable focus on standardized testing. This focus on testing has indirectly impacted the importance of engaging students in what and how they learn. Many policymakers are relentlessly searching for ways to improve student achievement levels, and many efforts to

increase student achievement have failed. This study was designed to give students an opportunity to voice their perceived level of engagement because of the varying types of instructional delivery.

Student engagement is critical to student success, yet the United States continues to have one of highest high school dropout rates in the developed world with approximately 1.2 million students dropping out of high school every year (McFarland, Stark, & Cui, 2016). This study provides additional research that analyzes perceptions of both students and teachers in an urban K-8 school related to student engagement. Observed engagement practices were investigated with the intention of revealing objective data collection of levels of engagement for each of the student participants. The results of the study could help influence instructional decisions at the school site. Additionally, other schools could envision ways that a similar study, or practice of the process, might be conducted within their school environments.

Definitions of Terms

The following terms related to student engagement and its relationship to student achievement are defined more clearly for the purposes of this study.

Student engagement: Students' attitudes toward schooling and their degree of participation in school activities (Willms, 2003) as measured by a student perceptual survey instrument designed for this study.

Teacher perceptions: The ways in which a teacher processes, understands, and interprets situations involving experiences with young people.

Student perceptions: The ways to which students make meaning of the instructional climate and instructional activities to which they are directly exposed.

Behavioral engagement: Behavioral engagement considers “the extent to which a student exhibits the behaviors expected in a classroom—listening, doing assignments, following directions, participating, and so on” (Cooper, 2014, p. 365).

Cognitive engagement: Cognitive engagement accounts for the degree to which a student applies mental energy, including thinking about a given content, investigating new information, and grappling with mental challenges (Cooper, 2014).

Emotional engagement: This form of engagement addresses the degree to which a young person feels a sense of positivity for a class, in the forms of feeling satisfied, comfortable and interested, along with desiring to find success (Blumenfeld, Kempler, & Krajcik, 2006; Fredricks et al., 2004)

Academic achievement: The degree of growth, or progress made, as determined by an instructional artifact including formative assessments. Within the design of this study, teachers chose the measure of academic achievement.

CHAPTER 2

REVIEW OF RELATED LITERATURE

To improve schooling conditions, and ultimately raise achievement levels, students from minority and low socioeconomic status (SES) backgrounds must become more engaged in the schooling process, and to do so, must have their voices heard. What makes school worth attending? Why bother coming to school where options are limited, actions are pre-determined, voices are silenced, and identities are lost? Why invest oneself into a system that pre-conceives a child's behavior and school readiness level based on factors outside of their control? Enjoyment of and engagement with school begin to deteriorate from middle to late childhood (Fredricks et al., 2004), but this deterioration is particularly apparent in low-performing schools with a high percentage of low-SES children (Aikens & Barbarin, 2008).

To derail the trend of failing schools, the U.S. government has developed well-funded initiatives and enacted laws focused on a three-pronged approach of standards, curricula, and assessments to improve student engagement and academic success (United States Department of Education [USDOE], 2018). This approach sets academic learning goals via standards, provides curricula that outline critical content to be taught in classrooms, and encompasses assessments designed to gauge student learning as measured by proficiency levels (Darling-Hammond, 2012; USDOE, 2018).

Researchers indicate that one's engagement in school is a supple process, and likely a reflection of the relative strength of children's relationships with teachers and friends at school (Skinner, Kindermann, Connell, & Wellborn, 2009). Some students come prepared to school

with more tools and knowledge from the culture of power that is already in place—"cultural capital," and some students come with less. For those with less, school is more like a pre-defined place that does not always relate to their cultural values and social identities (Delpit, 1988). This inherent disconnection has caused these students to be less engaged and feel more isolated and alienated than their more affluent peers who are not minorities (Ogbu, 1990).

Teachers who are "tuned in to students' real-time reactions to instruction" adapt their instructional delivery and avoid the "tendency to base decisions on personal feelings about what was engaging" (Cooper, 2016, p. 27). An effective teacher is more likely to "identify an individual student's lack of engagement as something they could change by offering appropriate forms of support" instead of viewing student engagement as "dependent on family values or student characteristics that teachers could not penetrate" (Cooper, 2016, p. 28). Every child deserves a teacher willing to understand his or her background and circumstance, realize the dominant cultural norms that children are expected to adhere to, and develop collaborative ways to give student voice a platform so that student engagement and motivation are enhanced, and ultimately, student achievement is improved.

Teaching for Engagement

Educators realize that when positive conditions exist in school there is a positive impact on students' academic performance. These positive conditions include, but are not limited to: students and teachers having affirming relationships with one another and with peers; students who are cognitively, socially/behaviorally, and emotionally engaged in their classes; and students carrying a strong sense of purpose and belonging in their school environment (Quaglia Institute for School Voice and Aspirations, 2016). If developing one's sense of self catalyzes

engagement, then teaching strategies should contribute to identity development, and teaching practices should be relevant to the learner.

In a study analyzing three different approaches to engaging students, Cooper (2014) developed a relationship between these practices, identity development, and student engagement. Cooper (2014) identified *connective instruction practices*, where teachers helped students make personal connections with class, *academic rigor practices* where students had to maintain a high degree of focus and stress their cognitive abilities, and *lively teaching practices*, which related to instructional delivery incorporating games, enjoyable activities, and group work and projects. In pursuit of student engagement, effective teachers strived to use all three practices, but “perceptions of teacher care had the strongest correlation with engagement ($d = .59$), and challenging work had the weakest ($d = .19$)”; there was significant correlation “among teaching practices for care and understanding ($d = .76$), which were also highly correlated with affirmation ($d = .62$ for care, $d = .60$ for understanding)” (Cooper, 2014, p. 375).

High engagement teachers act on a sense of agency regardless of students’ background and circumstance (Cooper, 2016). However, when students lose focus or become disengaged, a breakdown in communication is likely observable. According to Smyth (2006), these communication breakdowns take place when:

There is a lack of understanding by students of the cues in teacher talk, a failure by teachers to hear cues in student talk, an application of overly subtle criteria by teachers and a possible misreading by either the teacher or the students about what is going on in the context of the classroom. (p. 291)

Students begin to develop an oppositional identity as they consistently experience failure and negative learning experiences with teachers while feeling more alienated and disinterested in

schoolwork. These behaviors are either reflected as “actively resistant—seen as salient and incorrigible—or passively resistant—fading into the woodwork as an anonymous well-behaved, low-achieving student” (Erickson, 1987, p. 348). Are these behaviors responsive to the conditions that students face in their communities or is there an inherent disconnection between minority and low-SES students and school?

The Disconnection Between Minority and Low-SES Students and School

What can be done when students feel disconnected—an observer inside of a “sorting mechanism where select students are favored on basis of race, class and gender; and as agencies for self and social empowerment”? (McLaren, 2015, p. 123). Critical theorists see schooling as an embodiment of empowered relations that “favor forms of knowledge that support a specific vision of past, present, and future” and that consistently “reproduce inequality, racism, sexism, and homophobia” through an emphasis on “competitiveness and cultural ethnocentrism” (McLaren, 2015, p. 123). The experiences that minority and low-SES students bring to school vary greatly from those of their often-middle-class teachers developing lesson plans, delivering instruction, and assigning grades that directly affect their future.

To gather insight into the schooling experiences of underserved minority students, it is critical to realize the essence of teacher pedagogy—“curricular content and design, classroom strategies and techniques, and evaluation, purpose and methods” (Simon & Simon, 2017, p. 370). Engrained early on in one’s schooling experience (and coupled with one’s own social values), a teacher inherently determines “what knowledge is of most worth, what it means to know something, and how we might construct representations of ourselves, others, and our physical and social environment” (Simon & Simon, 2017, p. 371). In other words, the teacher’s pedagogy

provides details of “what students and others might do together and the cultural politics such practices support” (McLaren, 2015, p. 124).

The advantage that comes with having increased social value separates students of color from their White peers. This mobilization of bias allows White children to feel more comfortable in the classroom, arrive to school more prepared for schooling expectations, and better able to “interpret the teacher’s indirect way of expressing himself or herself, and understand the rules” (Fowler, 2013, p. 33). Minority students, who often express feelings of resistance, alienation, and failure, are implicitly asked to interpret expectations of the culture in power—the middle- and upper-class culture (Delpit, 1988). If the expectation is for minority and low-SES students to achieve exemplary gains, then school must explicitly teach these students the expectations of the culture of power, while simultaneously teaching them about their own culture, building a positive self-identity. When students are asked to meet certain standards without making connections to their own cultural norms, they could become resistant to or disengaged with the learning process.

Student Resistance

Teachers generally strive for excellence and are in the relentless search for 100% student proficiency. Effective teachers develop strong relationships with students (Archambault, Vandebossche-Makombo, & Fraser, 2017), understand their ever-growing role, value students’ cultural identities, and hold high expectations for all learners. Embedded into the minds of effective teachers are the results of critical pedagogy which strives “to provide teachers and researchers with a better way to understand the role that schools play within a race-, class-, and gender-divided society” (McLaren, 2015, p. 127). How, then, can teachers internalize the reasons for student resistance?

Minority and low-SES students that are attending school founded by an un-relatable culture and pre-determined curriculum (McLaren, 2015; Simon & Simon, 2017), and teachers must find ways to engage their students regardless. Ogbu (1990) argued that immigrant minorities and involuntary minorities, determined to be African Americans, “differ in the degree of trust they have in the dominant group and in the societal institutions which the dominant group controls” (p. 47). Student resistance to instruction might be the result of oppression by the dominant culture (Giroux, 1983).

Do minority groups have legitimate access to this dominant society? Students are absorbed into the culture at school. Defiance and student resistance can be re-classified as displaced passion and enthusiasm. As low-SES and minority students grapple with adhering to the norms of school, while giving up status and social norms on the streets, students struggle with their school identity “within a system of education designed to produce, regulate, and distribute character, govern gesture, dictate values, and police desire” (McLaren, 2015, p. 152). Many students are actively seeking a chance to connect with trusted adults, in a sense implying, “membership of the school community, which, in turn, encourages young people to feel an increased sense of belonging and a greater positivity about learning” (Baroutsis et al., 2016, p. 126).

Digesting Cultural Capital and Student Engagement

Teaching and learning must become a process of critiquing our current methodologies, constructing meaning of the world around us, and using relevant experiences to empower others (McLaren, 2015). French sociologist Pierre Bourdieu popularized the concept of cultural capital, detailing it as “the general cultural background, knowledge, disposition and skills that are passed on from one generation to another” (McLaren, 2015, p. 154). These cultural competencies that

individuals inherit from their families, “provide meanings, qualities of style, modes of thinking, and types of dispositions” (Giroux, 1983, p. 88). The dominant class, however, decides what is the most valued cultural capital. Schools embody ideologies that only a specific class and group of students have inherited from their backgrounds or have repeated exposure from their surroundings. At a decided disadvantage, Bourdieu and Passeron (1977) argued:

An educational system which puts into practice an implicit pedagogical action, requiring an initial familiarity with the dominant culture, and which proceeds by imperceptible familiarization, offers information and training which can be received and acquired only by subjects endowed with the systems of predispositions that is the condition for the success of the transmission and of the inculcation of the culture. By doing away with giving explicitly to everyone what it implicitly demands of everyone, the educational system demands of everyone alike that they have what they do not give. (p. 58)

Apple (1995), on the contrary, believed that Bourdieu’s work focused on the idea that school “allocates students, by class, to their *proper* position in society,” and that schools “act as a means of production of the cultural commodities needed by a corporate society” (p. 42). So, are minority and low-SES students caught up in a game that already has a fixed outcome? Are they, or their teachers, even aware of this false dichotomy between positive societal perception of schooling and their true disposition?

A teacher identifies the cultural capital of a student by observing the student’s “way of talking, acting, and socializing, as well as language practices, values, and styles of dress and behavior” (McLaren, 2015, p. 154). That same teacher then supports, rewards, discredits, or offers a consequence to a student, depending upon the reaction or exhibited student behavior, and whether it aligned to the teacher’s expectations. Schools reward students with greater

vocabulary banks (Hattie, 2009), and admonish negatively-determined cultural traits “exhibited by students—e.g., tardiness, a certain way of dressing, speaking, and gesturing” (McLaren, 2015, p. 155). If the aim is to provide high level instruction, engage students in meaningful content, and provide a learning community that embraces all students, then harping on certain cultural traits as punitive measures of accountability is providing a great disservice to minority and low-SES students, further separating them from their more affluent peers. How then, can educators provide the best possible schooling experience for each student?

Student Engagement

Student engagement can manifest as observable behaviors such as on-task participation, or emotional and affective aspects surrounding a student’s perceived interest (including feelings of acceptance, joy, and attachment), or better yet, a student’s investment in the learning process and perceived degree of perseverance when facing obstacles (Fredricks et al., 2011). The Program for International Student Assessment (PISA) commissioned a report surveying data on student engagement, which concluded that “meeting the needs of youths who have become disaffected from school is perhaps the biggest challenge facing teachers and school administrators” (OECD, 2003, p. 8).

Behavior, emotion, and cognition make up the language of student engagement (Connell, Spencer, & Aber, 1994). *Behavioral engagement* considers actions like following directions, completing tasks, listening to instructions, active participation, and so on. *Cognitive engagement* is the active application of one’s mental energy, which can be observed in tasks such as “investing considerable mental effort in search for solutions to problems” (Blumenfeld et al., 2006, p. 475). *Emotional engagement* identifies the extent to which a student feels supportive of

instruction, as evidenced by the student's perceived level of comfort, interest, and desire to do well in school (Cooper, 2014).

Improving schooling efforts arguably is determined by achievement gains, and to make that possible, students must be engaged in the learning process. Reaching the level of student engagement necessary to exhibit and maintain meaningful change relies on a deep understanding, and empathy for the students, their culture, and their cultural history. Critical theorists argue that “it is virtually impossible to understand the classroom behavior and performance of economically disadvantaged and minority students without understanding their history as oppressed groups, their cultural frames of reference, and their everyday social practices” (McLaren, 2015, p. 161). Trust between the teacher and student correlates to student achievement on standardized tests as well as the extent to which a “student values the purposes of school and [feels] a sense of belonging, or fitting in” (Tschannen-Moran, 2014, p. 165).

Teacher-student relationships. Student achievement in low-income, urban schools, oftentimes, depends on the teacher-student relationships ($d = 0.72$), since the relationship itself “implies agency, efficacy, respect by the teacher for what the child brings to the class (from home, culture, peers), allowing the experiences of the child to be recognized in the classroom” (Hattie, 2009, p. 118). A strong teacher-student relationship reflects a teacher who emphasizes modeling and teaching skills of caring, empathy, and listening. Effective teachers develop meaningful relationships in support of a positive and inviting classroom environment. Attitudes and feelings toward school work improve as teacher-student relationships formulate and students become engaged with the process of schooling.

Researchers have classified engagement as the effective time “that a student actively participated in learning—such as experimenting, attending, participating in discussion,

questioning, answering and taking notes” (Hattie, 2009, p. 49). Engaging students ($d = 1.09$) is accessible once learning intentions are clear and focused, there is evidence of clear success criteria, and the learning process becomes visible to students (Kumar, 1991). Effective teachers develop positive learning environments through tiered questioning (Stronge, 2010); smooth transitions between focus areas; student accountability measures that foster student ownership; and consistently delivering challenging, interesting content.

Self-identity and student engagement. Nakkula (2003) argued that students experience investment and gratification in learning experiences and relationships that influence their development of self, which he reported as “the process of integrating successes, failures, routines, habits, rituals, novelties, thrills, threats, violations, gratifications, and frustrations into a coherent and evolving interpretation of who we are” (p. 13). Identity development and student engagement are two areas that effective teachers understand to be paramount to a supportive classroom environment. Researchers analyzing level of engagement among Black males in basketball practice and mathematics instruction concluded that students experienced a greater degree of engagement playing basketball, citing a natural link of basketball to their identity (Nasir & Hand, 2008).

In another study, Cooper (2012) discovered that Latina high school students displayed higher levels of engagement in subject areas that affirmed positive elements of their social identities, dispelled negative aspects, and supported their continued development toward their perceived optimal identities. Cooper (2012) argued:

among the many systemic problems that underscore “school failure” for Latina/o students, psychologically unhealthy learning environments—characterized as those that

engender feelings of inferiority or that convey racial or ethnic prejudice—create stress that interferes with engagement, persistence, and learning. (p. 491)

Continued research on self-identity, which requires habitual self-reflection, observing one's actions in multiple environments, and self-judgment in comparison to others, is critical to student engagement. Students are consciously or unconsciously engaging or disengaging as they make meaning of the classroom experience. Engagement is responsive to context and Cooper (2012) found it to be:

Linked to a number of individual-level factors (such as prior achievement or parental involvement), school-level factors (such as tracking or peer behavior norms), and community-level factors (such as gang prevalence or poverty rates). As is the case with students—for whom individual, school, and community factors remain constant throughout the day—actually experience variations in engagement as they travel from class to class. As such, educators can garner critical information about contextual elements that influence engagement by looking at variations in engagement across classes for individual students. A deeper understanding of this within-student variation can shed much-needed light on strategies for increasing engagement within individual classrooms. (p. 492)

The choice to complete assignments and invest mental effort is determined by the student, and contextual factors play a role in the level of student engagement across learning environments.

Cooper (2012) developed a case study of within-student variations in classroom engagement by observing and interviewing Latina students, focused on developing an understanding of specific learning areas that either engaged or disengaged the particular student group. Cooper (2012) concluded that the observed students engaged in “learning areas that the

students perceived as safe, affirming, and productive” (p. 493). Students attend to their individual schooling experience “with beliefs, values, and motivations that affect their level of engagement” and researchers analyzing the perspective of flow on student engagement concluded “that, for the same student, levels of engagement vary widely over the course of the school day” (Kelly & Zhang, 2016, p. 142). Studies emphasizing the flow model analyze student self-report data based on perceived degree of interest, level of concentration, and amount of enjoyment during a learning activity. Csikszentmihalyi (1990) found that the learning experiences most associated with engaging all students, are those that correlate to a student’s academic level, and stressed an emphasis on developing instruction that considered challenging tasks appropriate to a student’s learning level.

Role of Student Voice in Student Engagement

If a school determines that students are the major stakeholder, then adding student voice to the discussion is not only logical, but necessary. These practices can be defined as strategies that equitably address the needs of every child and are empathetic to changing demographics and potential for economic non-competitiveness (Fowler, 2013). A major lever for sustainable and meaningful change is to encourage “students and teachers to have more of a voice in schools and [prepare] adults and administrators to be genuinely open to listening to, learning from, and leading with those voices” (Quaglia Institute for School Voice and Aspirations, 2016, p. 16). There is a positive correlation between students who feel that their voice is heard and increased feelings of self-worth, engagement, purpose, and academic motivation. The challenge with analyzing the perceptions of students and teachers is that only 44% of students believe that they have a voice in decision making and only 48% of teachers agree that “I have a voice in decision making at school” (Quaglia Institute for School Voice and Aspirations, 2016, p. 17). This

disconnection between the users feeling unheard, suggests that schools either lack in areas of communication or are inherently, or even explicitly, designed to give voice to only a select few.

Schools not only emphasize strategic priorities with the underlying intention of having public value, but they must also “respond to the challenges that the world presents” (Bryson, 2011, p. 5). Within the context of this study, this Midwestern urban school district places a heavy focus on dramatically increasing high school graduation rates; showing evidence that all K-2 students read on or above grade level; finding ways for all students to feel loved, challenged, and prepared; creating an academic environment where all schools are highly rated or improving; and consequently, realizing an increase in enrollment within their network of four schools. Achieving these results will take substantial collective efforts and the need to establish a “culture of growth” and “internal accountability” is expected; however, this study provides a window into how the school community can engage students at the school level (e.g., Fullan & Quinn, 2016, p. 109).

Summary

The current schooling model does not explicitly support the cultural tendencies, social norms, and innate values of minority and low-SES students. Interest, motivation, and engagement in school varies widely compared to White, middle-class students, many of whom enter school already understanding the cultural and expected social norms of formalized schooling. Student engagement is composed of emotional engagement, cognitive engagement, and behavioral engagement. Minority and low-SES students rely on strong teacher-student relationships to find success in schools. Effective teachers understand that student disengagement is likely the result of a communication breakdown that can be repaired through concerted efforts to deliver meaningful and relevant instruction whereby the students can make personal connections. To improve outcomes for disengaged minority and low-SES students, schools must intentionally seek to empathize with students' cultures, provide opportunities for them to build their self-identity, clearly explain the expected social norms of school, and proactively encourage all teachers to develop strong relationships with students.

CHAPTER 3

METHODS

This study provided a glimpse into the lived experiences of students and teachers regarding their interpretation of, and experience with, the concept of student engagement. As a construct, the term has been difficult for researchers and practitioners to define, and this study developed a means to understand the term through the perspective of students and teachers from an urban K-8 school. This phenomenological study was designed to investigate the relationships between students' perceived cognitive, behavioral, and emotional engagement and the perception of academic achievement (learning) by teachers and students in an urban K-8 school mathematics course. Researchers have focused on levels of student engagement in school to determine why student dropout rates are rising (Rumberger, 2011) and student satisfaction is falling. This study generated rich, textual interpretations of teachers' and students' lived experiences without prescribing, generalizing, or predicting the phenomenon itself. Instead, this study provided a glimpse into the lived experiences of the students' level of engagement in mathematics class. The perceptions of students and teachers, in consideration of cognitive, behavioral, and emotional student engagement, and the teacher indicators of academic achievement, were analyzed in an effort to determine if a relationship exists between the two variables (Fredricks et al., 2004).

The study was conducted using student interviews, teacher interviews, and classroom observations as data sources. The student interviews and teacher interviews were designed to

provide insights into the learning experiences of the participants. The classroom observations only served to augment the data and provide additional context and discussion points.

Methodological Framework for the Phenomenological Study

The researcher conducted a phenomenological research study to identify “the essence of human experiences about a phenomenon as described by participants in the study” (Creswell, 2014, p. 245). The research design, or plan to conduct research, involved the combination of philosophical worldviews, strategies of inquiry, and specific methods. When planning the study, I thought about the philosophical worldview assumptions that I would be bringing to the study, the strategy of inquiry that would be related to my worldview, and specific methods that would demonstrate this approach into practice. My constructivist worldview guided the construction of this study. The goal of this research study was to rely on the participants’ view of the lived experiences being studied.

The primary focus of a constructivist, however, would be on “identifying multiple values and perspectives through qualitative methods” (Mertens & Wilson, 2012, p. 132). With a reliance on awareness of one’s own values, a constructivist researcher would have a stronger interest in the feelings of the stakeholders most involved. The research focus was on a single reality, “and all individuals have their own unique interpretation of reality” (Mertens & Wilson, 2012, p. 91).

The researcher sought to discover the reality of the participants through listening and coding responses to student interviews, teacher interviews, and analyzing student assessments. These assessments were chosen by the teachers as reflections of their growth and academic achievement.

Within this design, I positioned myself as the lead researcher and author. I did not conduct interviews or observe classrooms. Instead, I trained a pre-selected research assistant to conduct all interviews and classroom observations (Appendix A). The training provided an opportunity for the research assistant to understand the research methods, ask questions for clarity, and familiarize herself with the data collection methods. Once classroom observations and interviews were completed, the data were uploaded to Google drive where I began the transcription process and subsequent data analysis. I analyzed data in multiple coding cycles. I made a concerted effort to avoid personal biases that could have influenced my interpretation of data even though I was outside of the research site. For example, I was not directly involved with the data collection process therefore avoiding respondent biases. During the research assistant training, the research assistant and I discussed respondent biases and strategies used to mitigate them. As the researcher, I was aware of potential confirmation bias and to mitigate this bias, I continually reevaluated my impressions of the study participants and challenged my assumptions.

Role of the Research Assistant. The research assistant was recruited from the school site. Qualities that were used as selection criteria when recruiting for this role included:

- experience with data collection procedures (interviews, classroom observation protocols)
- experience working with study participants
- knowledge of, or experience with the research topic
- demonstrated experience working accurately and independently
- strong communication skills

- availability to complete all necessary interviews and classroom observations for the entire study period.

The research assistant was provided with details about the research study, the phenomenological research design, among other information, through a comprehensive interviewer and observer pre-study training.

During the first training, I provided information about the data collection process including how to engage with the participants and information that the participants must understand about the study itself. Characteristics of an effective interviewer and an effective classroom observer were explained and discussed in detail (Appendix A).

The classroom observation protocol was reviewed, all questions/misunderstandings were clarified, and we participated in role-playing. Specifically, questions about observing five students at one time were addressed and considerations included observing from a centralized location, listening nearby students, observing student work products, and observing student behaviors/responses to peers and their teacher. For each classroom observation, the research assistant was prepared with five separate classroom observation checklists and for at least 30 minutes, she observed for indicators of behavioral engagement, emotional engagement, and cognitive engagement for each of the students. All the observable indicators were scribed by the research assistant during the length of the classroom observation.

During the second training, the research assistant received information about the initial interviews and post-observation interviews. All interview questions were reviewed, information about the design and content was revealed, the types of data to be collected were identified and discussion on how to probe and when to probe during an interview were discussed. The interview and classroom observation routine was explained including preparation of materials,

appropriate location to conduct one-on-one interviews, and how to upload the interview data to begin the transcription process. The training included interviewing techniques such as asking the exact questions from the protocols, asking questions in a respectful manner, avoiding implying what may constitute as a ‘better’ answer, recognizing how to maintain the focus of the interviewee, and knowing how to respond when a participant answer was unclear. We participated in role-playing by conducting a sample interview and practiced effective ways of probing. Our training ended after reviewing timelines, logistics, and setup for recording and data collection.

For this research study, it was critical that the data were collected in a standardized way, while also allowing for flexibility regarding school cancellations due to weather or unforeseen circumstances. I developed a protocol to include the role of the research assistant and a research timeline to standardize the process (Appendix B). Essential to the data collection process, the research assistant needed to conduct the interview in the same way each time. All classroom observations were conducted in the teacher assigned classroom space and all interviews were conducted in a quiet, uninterrupted office meeting room. Comprehensive instructions and interview training were conducted prior to beginning the data collection process. During this training, an introduction to the initial interviews, post observation interviews and classroom observation protocols were provided. The roles of the interviewer and classroom observer were defined, critical time was exhausted, understanding the interview and interview questions, interviewing techniques were explained and we practiced role playing.

Process for the phenomenological study. The process for this study followed sequential steps allowing me to gain insights about the lived experiences of teachers and students in selected mathematics classrooms. Phenomenological research methodology aimed to uncover

the meaning of a phenomenon—in this case, engagement levels of students from the perceptions of students and teachers. This 8-week study examined “the experiences for several individuals who have all experienced the same phenomenon” (Creswell, 2014, p. 14). This study intended to discover meaning about the connection or disconnection between student and teacher perceptions of student engagement and student achievement for a small student population in an urban school setting.

After completing the research assistant training, the data collection process did not begin until both mathematics teachers signed and agreed to the terms from the teacher consent form (Appendix C). Once signed, initial teacher interviews were conducted. Each initial teacher interview was intended to discover how teachers in this study defined student engagement, what student engagement looked like in the classroom context, and instructional strategies for increasing the level of student engagement (Appendix D).

Prior to conducting classroom observations and post-observation interviews directly after each of the classroom observations (Appendix E), parents or guardians of 10 total students (five from fifth grade and five from sixth grade) signed and completed consent forms allowing for their participation in this study (Appendix F). Initial student interviews were conducted to discover how students in this study defined student engagement within the mathematical context, and to identify indicators of student engagement in different scenarios (Appendix G). Each initial student interview was recorded and uploaded to Google Drive. I downloaded the recordings into Express Scribe and completed interview transcriptions. Once transcribed, a google document was created for each initial interview and uploaded to Google drive. Students received a copy of their transcription and had the opportunity to check and make revisions if necessary.

After completing these initial interviews, the research assistant conducted three rounds of classroom observations designed to observe each of the student participants in the classroom and understand the degree to which each student was engaged emotionally, behaviorally, and cognitively over the course of an 8-week period (Appendix H). The research assistant uploaded classroom observation protocol documents for each student onto Google drive. I began the initial coding process once these documents were visible on the google platform. Additionally, after each classroom observation, the research assistant completed post-observation interviews with each teacher (Appendix I) and student (Appendix E) within 24 hours of the classroom observation itself. All interviews were recorded and uploaded onto Google Drive. I downloaded all files into Express Scribe and completed interview transcriptions. Once transcriptions were completed, I completed an initial coding cycle. Multiple cycles of coding took place to provide for findings in Chapter 4.

Rationale for choosing phenomenological research design. Taxed with conflicting priorities, schools are rarely equipped with the necessary resources to grow their teachers in their practice consistently. Students from similar backgrounds and circumstances as the student participants in this study, are “victims of unprepared novices in the years until these teachers have proved their mettle, demonstrated their incompetence, or left the field” (Darling-Hammond, 2010, p. 195). For students who consistently have novice teachers, the effect on the students themselves is life-altering. In this study, Teacher 1 had 2 years of mathematics teaching experience and Teacher 2 had 7 years of mathematics teaching experience.

Phenomenological research does not intend to judge outcomes, but instead seeks to describe accurate insights into the lives of the study participants. Regarding student engagement, schools are actively seeking ways to engage students and/or are trying ways to engage students

that either research or life experience has provided some evidence of success. Instead of attempting to prove that a strategy elicits more evidence of student engagement than another, this study was developed to listen and learn from these students and teachers in this urban K-8 school setting.

This study was designed to investigate selected teachers' and students' lived experiences related to student engagement in the mathematics classroom. Many young people find school to be terribly boring, not because boredom comes naturally, but because "school may fail to grab them" (Heller, Wolfe, & Steinberg, 2017, p. 45). Students naturally find stimuli that hold their attention, and many of the perceived disengaged students are lively and engaged thinkers in their out-of-school lives. As U.S. policy makers see the nation's global academic competitiveness weaken, we should recognize the growing skills gap and investigate how adolescents tend to learn best when their learning experiences provide are relevant, interesting and meaningful to them.

Context and Participants

The study was conducted in a Title I, tuition-free, choice urban K-8 school located in Michigan. Established in 1996, this urban K-8 school serves approximately 345 students in the 2018-19 school year who originate from 39 different school districts throughout southeast Michigan. Boasting a 1:1 technology-to-student ratio, the school prides itself on providing instruction that incorporates technology as a daily instructional tool. The participants of the study included 10 randomly selected students and two mathematics teachers. There were approximately 35 fifth-grade students and 50 sixth-grade students receiving instruction from the selected mathematics teachers during SY 2018-19. The student sample was random, although the population was intended to be representative of the demographics at the school. The study

included interviews with five students from a fifth-grade mathematics classroom and five students from a sixth-grade mathematics classroom. The K-8 school was labeled a “focus school” due to low test scores, low attendance, and high teacher turnover rates. Student enrollment dropped considerably from school year 2017-18 to school year 2018-19.

The fifth- and sixth-grade student groups were familiar with the current schooling structure, spent considerable time at the school site, and attended mathematics class daily. The mathematics teachers had expertise in the areas of mathematics pedagogy and instruction. Each mathematics teacher participant was expected to carry out pre-designed lessons to support the adopted mathematics curriculum. A school instructional coach and school administrators supported instruction and implementation strategies.

Both teachers were female; among the students, three were female and seven were male. Both teachers taught for more than five years. Students lived in surrounding areas and had the potential to come from up to 10 separate school districts. Table 1 presents demographic information of the participants by participant label, grade level, race, gender and at-risk label.

Table 1

Participant Background Information

Participant	Grade	Race	Gender	At- Risk
Teacher 1	6th	White	Female	
Teacher 2	5th	White	Female	
Student 1	6th	White	Male	Y
Student 2	6th	Black	Male	Y
Student 3	6th	Black	Female	Y
Student 4	6th	White	Male	Y
Student 5	6th	Black	Male	Y
Student 6	5th	White	Female	N
Student 7	5th	White	Male	Y
Student 8	5th	Black	Female	Y
Student 9	5th	White	Male	Y
Student 10	5th	Hispanic	Male	Y

The school defined *at-risk* using criteria from the Michigan Department of Education (2019):

An “At-Risk Pupil” is a pupil, for whom the LEA has documentation, that meets any of the following criteria listed in Section 31a (21):

- Economically disadvantaged
- English learner
- Chronically absent as defined and reported to the Center for Educational Performance and Information (CEPI)
- Victim of child abuse or neglect

- Pregnant teenager or teenage parent
- Family history of school failure, incarceration, or substance abuse
- Immigrant who has immigrated within the immediately preceding 3 years
- Did not complete high school in four years and is still in school
- Did not achieve proficiency on the English Language Arts (ELA), mathematics, science, or social studies State summative assessments
- At risk of not meeting the LEA's core academic curricular objectives in ELA or mathematics based on local assessments

Data Sources

Interviews, classroom observations, and teacher-derived assessment of student learning were used to answer the evaluation questions. The interviews questions provided answers to the Research Questions 1-4. The classroom observations augmented the interview data from Research Question 3 and the assessment of student learning indicators provided answers to Research Question 4. Constructivist researchers who use phenomenological approaches to data gathering do so over a sustained period. This approach utilizes the beliefs and experiences of the participants and the author. Meaning was derived inductively by analyzing observations of the teachers individually in the classroom setting, through individual interviews with both teachers and students, and teacher-derived assessments of student learning as data sources.

Phenomenological research studies rely on responses from in-depth interviews and observations into the participants lived experiences as data sets. The data sets were grouped according to the four overarching research questions that guided this study. The primary sources included within these qualitative data sets included: transcripts of responses to structured, open-

ended interviews initial interviews and post-observation interviews, classroom observations, and assessments of student learning chosen as evidence by the mathematics teachers.

Structured interviews. The research assistant conducted structured interviews with five students from fifth grade and five students from sixth grade. Students were randomly selected. The two teachers in this study participated in one initial interview (Appendix D), and three post-observation interviews all within an 8-week window. Classroom observations were originally scheduled to take place once every two weeks. The initial interview included introductory questions designed to gain a stronger understanding of teachers' context and initial understandings of student engagement; to clarify teachers' perceptions of planning for student engagement, the role of students in the classroom, and teachers' perceptions of how student engagement related to student achievement; and to investigate teachers' vision of high quality instruction.

The three post-observation interviews asked teachers to respond to 15 prompts using a Likert scale (1 = *not at all true*; 2 = *somewhat true*; 3 = *mostly true*; 4 = *almost completely/completely true*), which identified their perceptions of each randomly selected student's level of cognitive, emotional, and behavioral engagement during that class period. Additionally, the post-observation interviews included questions designed to provide insight into how and why students were either engaged or disengaged in the classroom instruction, the frequency of students' contributions to discussions and opportunities to collaborate in class, as well as the teacher's perceptions of what interested the students in class.

Students participated in one initial interview to identify their meanings of student engagement and disengagement, explain how they were engaged or disengaged in mathematics class, and provide descriptions of academic work that engaged them. The initial interview

provided the frequency that students participated in classroom discussions and collaborative opportunities, the behaviors and emotions that they expressed when they were engaged, descriptions of academic work that interested them, and activities that they perceived would help them achieve a better grade at the end of the semester.

The students participated in three post-observation interviews where they were interviewed individually. Students responded to open-ended questions about their perceptions of their perceived level of behavioral, emotional, and cognitive engagement. Expected responses included specific types of academic work that made them feel engaged, the frequency with which they perceived that they contributed to class discussions, and how often they collaborated with their classmates. At the end of each post-observation interview, students completed survey-like questions about their perceived level of behavioral, emotional, and cognitive engagement during the observed class using a Likert scale (1 = *not at all true*; 2 = *somewhat true*; 3 = *mostly true*; 4 = *almost completely/completely true*).

Classroom observations. Teachers were observed three times over the course of eight weeks. The observations were unannounced to limit pre-planned lessons designed to showcase atypical instructional delivery. The observer used the Indicators of Student Engagement Observation Protocol-Mathematics, adapted from the School-University Research Network (SURN) and intended to capture evidence of high, active student engagement through identified examples and non-examples. The instrument was developed using the meta-analysis data of Hattie (2009) to identify both high and low yield instructional strategies. In terms of reliability, when principals used the original instrument and provided feedback, they tended to get consistent results. In the original protocol (Hindman et al., 2015), a vast amount of professional development supported the effective use of the protocol itself so that for each indicator, the

principals who originally used the tool participated in a leadership academy which incorporated collaborative visits to improve inter-rater reliability.

The instrument used in this study was adapted from the original Student Engagement Observation Protocol as developed by SURN and additional inclusions to the protocol were sourced from Fredricks (2014) observational indicators of engagement. The reliability of this protocol could not be measured as Fredricks (2014) did not provide an alpha-score nor discussion points on its reliability and validity. For purposes of this study, this protocol had face validity based on the literature and its development from credible sources.

Each indicator was labeled as either behavioral, cognitive, or emotional engagement to support the data analysis process. This tool was adapted to meet the needs of this research study as well as provide a comprehensive depiction of the lived experiences of the students in the observed mathematics classrooms. The form was modified to include labels for observed engagement such as EE for emotional engagement, CE for cognitive engagement and BE for behavioral engagement. Additionally, some indicators for high, active student engagement were adapted to clearly define each component of student engagement (Fredricks, 2014).

Mathematics assessments of student learning. The assessment of student learning was determined by each teacher. Teacher 1 chose semester grades and District Assessment (DA) scores to represent student achievement. Teacher 2 chose Northwest Evaluation Assessment (NWEA) scores to represent student achievement. Semester grades were considered a reflection of student progress in consideration of involvement with daily plans, scores on formative assessments, and degree of success with learning experiences designed to reach all learners. As part of the grading process, students completed predictable and consistent commercially-created and teacher-created assessments focused on key standards and learning targets as determined by

the scope and sequence of the mathematics curriculum. The formative assessments used in calculating student grades include online assessments, teacher-created assessments, and unit tests.

In contrast to Teacher 1, Teacher 2 reported students' NWEA scores with the rationale that these scores, along with unit tests and chapter tests, drive instruction. NWEA's Measures of Academic Progress (MAP) is an adaptive, computerized growth-focused assessment given to students at this school three times per school year. Students received a Rasch Unit (RIT) Score and a Projected Growth Goal. The RIT score is nationally norm-referenced. The Projected Growth Goal is determined by average growth demonstrated by students with the same RIT score in the same grade level and measured from fall to the winter.

Data Collection

Historically, the identified Midwestern urban K-8 school struggled with student attendance, egregious student behaviors, and high staff turnover (School Leader personal communication, October 9, 2018). Based on discussions with members from the administrative team students, beyond attending school to learn, come to secure multiple meals, connect with friends, and increase social opportunities. A general trend for research on student engagement has been in reaction to low attendance rates, discipline concerns, and drop-out rates. The students at this urban K-8 school attend school at a low rate and have a higher-than-average suspension rate.

Among researchers, there is no consensus with the definition of the term *engagement*. Instead, engagement requires more research to better understand it. This phenomenological study relied on teacher and student perceptions and observations within the instructional learning

environment to determine if student engagement can be nurtured once a meaningful attachment to school and academic success is formed within each student.

Adopting two qualitative methods, observations and interviews, this study was grounded by the intention of determining the relationship between student engagement and academic achievement as perceived by students and teachers. In support of the study, a research assistant conducted interviews and classroom observations. The research assistant had contextual knowledge, relationships with staff, and a strong interest in phenomenological research. The research assistant served several roles including the interviewer and classroom observer. Students were randomly selected based on submission of required consent forms. All students had the opportunity to participate, but preference was given to those who completed their consent forms within a certain time-frame. The research assistant observed instructional practices in two mathematics classrooms on three occasions over an 8-week period. The findings offered a descriptive analysis of the level of cognitive, behavioral/social, and emotional engagement observed and perceived by the students and teachers.

Four research questions guided data collection. Areas for investigation included students' and teachers' perceptions of student engagement and the instructional factors that positively influence cognitive engagement. Initial interview data and post-observation interview data were collected over an 8-week period. All interviews were conducted in a one-to-one manner between the research assistant and the study participant. All post-observation interviews were conducted within 24 hours of each classroom observation. After each interview was transcribed, a copy of the transcription was provided to each participant as an opportunity to make corrections to their responses to interview questions through a member checking process. No participant submitted changes to be made to the transcriptions.

Interviews comprised a large portion of the qualitative data for this study. Each interview was recorded using a digital voice recorder; audio files were uploaded onto Google Drive, and then transcribed using Express Scribe software with features including simple editing and format adjustment. The Google Drive folder was developed and shared between the research assistant and the lead researcher only. The transcriptions were provided to the participants for member checking and if no errors or changes were reported, the data analysis began thereafter.

Classroom observation data were collected through three 45-minute classroom observations over the same period. Prior to a classroom observation, the research assistant prepared five Indicators of Student Engagement Observation Protocols (Appendix H), one for each of the students. During the observation, the research assistant observed each student during their learning experience and completed their observation following the training that was provided prior to collecting data.

Guiding Research Questions Answered

The primary research questions that guided this study were answered through teacher and student interview responses, classroom observation data, and teacher-informed assessments of learning. The following research questions were addressed in this study:

1. What are the students' perceptions of their own engagement in math class— behaviorally, cognitively, and emotionally? How do they perceive they are doing in this class?
2. What are the teachers' perceptions of the level of engagement of the student participants in their class?
3. What instructional factors do teachers and students recognize as positively influencing behavioral, cognitive, and emotional engagement in the classroom?

4. Do students' perceptions of behavioral, cognitive, and emotional engagement correspond with teachers' assessments of their learning and growth in class?

Students' perceptions of their engagement in math class. To understand student perceptions, the research assistant conducted semi-structured student interviews prior to the classroom observations (initial interviews) and after each classroom observation (post-observation interview; Table 2). The classroom observations were not video recorded.

Classroom observations served to augment the interview data. During each classroom observation, the research assistant observed five students, using the Indicators of Student Engagement Observation Protocol (Hindman et al., 2015); see Appendix H). Clearly labeled, the observation protocol identified both the indicators of high, active student engagement in addition to identifying lower yield practices for students. This tool did not address the students' perceptions of their own levels of cognitive, behavioral, and emotional engagement; rather, it provided an objective view of their actual levels of engagement during observed lessons as perceived by the observer. The inclusion of classroom observation data provided a comprehensive approach to answering Research Question 1.

The research assistant observed for behavioral, emotional, and cognitive engagement as outlined in the Student Engagement Observation Protocol. The data were analyzed by tallying the amount of observed indicators for each of the components. Student data for each of the classroom observations were analyzed and a mean was calculated for each student.

Prior to responding to initial interview questions, the students were prompted with shared definitions of emotional engagement, behavioral engagement, and cognitive engagement before being asked to describe what student engagement meant to them in their mathematical context. As students grasped the shared definition of each form of engagement, they provided the

frequency of their contributions in collaborative ways and their perceptions of their own behaviors and feelings when they perceived to be engaged. These lines of questioning helped to develop an understanding of the perceptions of each of the 10 student participants prior to conducting classroom observations, and after each of the three performed classroom observations.

All interviews were digitally recorded and the files were uploaded to Google drive. Once in the shared folder, the researcher accessed the audio recordings, downloaded the recordings into Express Scribe and began the transcription process. The Express Scribe software allowed the researcher to transcribe all spoken words and save files to the database. A Google document was created for each interview transcription. Once transcribed, the document was sent to the participant for member checking. Afterwards, the document was printed and the coding process began.

The research assistant collected data about students' perceptions of their own engagement levels through initial interviews (Appendix G) which were designed to elicit responses about their experiences and understanding of engagement and post-observation interview data which provided insights into their perceived behavioral engagement, cognitive engagement and emotional engagement during mathematics class during that particular class period.

Table 2

Structured Interview Prompts Addressing Research Question 1

Interview Prompt	Data Collection Tool
Describe what it means when a student is “engaged” in their learning in your mathematics class.	Initial Student Interview Protocol (Appendix G)
Within a class period, how many times do you ask questions in class or contribute to class discussion?	
How often do you and your classmates have opportunities to work together in mathematics class?	
Describe your behavior when you are engaged in mathematics class.	
Describe how you feel during your class when you are doing independent work and group work.	
Behavioral Engagement: This describes how you demonstrate “the behaviors expected in a classroom—listening, doing assignments, following directions, participating, and so on” (Cooper, 2014, p. 365). a. I paid attention in today’s class. b. I tried my best in today’s class. c. When I was in class, I listened very carefully. d. When I was in class, I just acted like I was working. (reverse coded) e. I completed my classwork on time. f. I got in trouble in class. (reverse coded)	
Emotional Engagement: This describes how you feel during class including having a sense of positivity, your feelings of being satisfied/happy, comfortable, interested, and your desire to be successful in mathematics class (Blumenfeld et al., 2006; Fredricks et al., 2004). a. I felt happy to be a part of this class. b. I enjoyed learning new things. c. When we worked on something in class, I felt encouraged. d. I was not bored in today’s class. e. Most of things we learned in class are meaningful. f. Mathematics class is one of my favorite places to be. g. Sometimes I get so interested in mathematics class, I don’t want to stop.	Post-Observation Student Interview Protocol (Appendix E)
Cognitive Engagement: This describes how you apply mental energy like the ways that you are thinking about mathematics content, the ways you investigate new information, and work with mental challenges (Cooper, 2014). a. When I read an instruction, I asked myself questions to make sure I understood. b. I classified problems into categories before I began to work on them. c. I checked my classwork for mistakes. d. Before I began studying, I thought about what I needed to learn.	

Note. The Post-Observation Student Interview protocol was adapted from *Eight Myths of Student Disengagement: Creating Classrooms of Deep Learning* by J. A. Fredricks, 2014, Thousand Oaks, CA: Corwin.

The initial student interview, relied on the following questions to help to answer Research

Question 1:

- Describe what it means when a student is “engaged” in their learning in your mathematics class
- Within a class period, how many times do you ask questions in class or contribute to class discussion?
- How often do you and your classmates have opportunities to work together in mathematics class?
- Describe your behavior when you are engaged in mathematics class.
- Describe how you feel during your class when you are doing independent work and group work.

These questions provided information regarding students’ initial perceptions of the concept “engagement,” its meaning in their mathematics context, how often they contributed to class, their perceived amount of opportunities they were given to work collaboratively with classmates, and provided insights into their feelings and behaviors when they perceived that they were engaged.

Additionally, the three student post-observation interviews included a section where students provided a numerical value to their perceived degree of behavioral engagement, emotional engagement, and cognitive engagement. Within the student post-observation interview, using the context of the observed class time, students responded to 19 prompts on a 1-to-4 Likert scale (1 = *not at all true*; 2 = *somewhat true*; 3 = *mostly true*; 4 = *almost completely/completely true*).

Prior to providing a numerical value, the students were reminded of the shared definition of each component of student engagement. For example, when given the prompt, “I paid attention in today’s class,” each student was given time to think about the degree to which they believed the prompt to be true. The values for the three post-observation interview responses were analyzed and a descriptor was provided to each of the three components of engagement. These descriptors included, “not at all,” “sometimes,” “mostly,” or “completely” as determined by their self-reported data.

Teacher perceptions of the level of student engagement in math class. Instructional meetings take place regularly at most schools. Oftentimes, one focus of these meetings is to discover which students are engaged in class and which are not. Many schools use benchmark testing data or other formative assessments to determine whether students are achieving their pre-determined academic goals. Hattie (2009) points out the effectiveness of student self-reported grades ($d=1.33$), teacher feedback ($d=.7$), and teacher clarity ($d=.75$) among the many ways that the teacher can have a direct impact on the outcomes of student achievement. Teacher perceptions of student engagement should be supported by evidence of student learning. The teachers’ ability to deliver instructional in a clear manner and provide timely feedback to students will help students maintain focus and understand the task presented to them.

One purpose of this study was to listen and learn from teachers. This study explicitly considered teachers’ insights about the degree to which their students were engaged in their classroom. During their initial interviews, teachers defined student engagement in their classroom, described engaged and disengaged students—what they look and sound like—and defended which component of engagement they believed was most important: behavioral, emotional, or cognitive (Appendix D). The teachers were also prompted to describe whether

they perceived any existing inequities related to race and varying levels of engagement, disparities between language groups, ethnic or national origin, or prior schooling experiences, and to explicitly identify the types of engagement (emotional, behavioral, cognitive) that they saw in their classrooms. Teachers discussed their engagement goal, if one existed; how they determined whether students were engaged during instruction; and the types of activities they perceived students were most engaged in and why.

To fully understand the teacher perceptions of the level of engagement of their students, it was critical for the interviewer to require a comprehensive response to multiple questions (Table 3). During each post-observation interview, both mathematics teachers provided a response to the level of perceived engagement for each of their five students' emotional, behavioral, and cognitive engagement levels. In addition to their general perceptions, both teachers described how they knew a student was engaged emotionally, behaviorally, or cognitively. As the author and lead researcher, I was curious to understand their perceptions of the level of engagement, and to understand why they perceived students were engaged in the way that they were.

Table 3

Structured Interview Prompts Addressing Research Question 2

Interview Prompt	Data Collection Tool
Using a 1-4 Likert Scale, give a value to each of the prompts (1 = <i>not at all true</i> ; 2 = <i>somewhat true</i> ; 3 = <i>mostly true</i> ; 4 = <i>almost completely/completely true</i>) ^a	
a. Student X was emotionally engaged in today’s math lesson.	
b. Student X was behaviorally engaged in today’s math lesson.	
c. Student X was cognitively engaged in today’s math lesson.	
Describe how you knew a student was behaviorally engaged in their learning in today’s mathematics class.	Post-Observation Teacher Interview Protocol (Appendix I)
Describe how you knew a student was emotionally engaged in their learning in today’s mathematics class.	
Describe how you knew a student was cognitively engaged in their learning in today’s mathematics class.	

^aThis prompt was repeated for each student in the research sample.

Instructional factors teachers and students recognize as influential. All too often schools make decisions in search of a program that resolves some sort of perceived problem. In this research study, I expected to understand what instructional factors teachers and students believed had a positive influence on behavioral, emotional, and cognitive engagement. Behavioral engagement is thought to be easier to quantify and plan for, as teachers develop systems, establish procedures, and alter instructional delivery to meet the needs of the students. Emotional engagement oftentimes is supported by feelings of belonging and the degree to which the student and teacher relate to one another. Cognitive engagement is less clear, yet schools are tasked with finding ways to improve in this area, focusing on discovering ways to provide more cognitive task analysis ($d = 1.29$) within each lesson (Hattie, 2009). Research Question 3 was designed to investigate the instructional factors teachers and students recognize as positively influencing engagement in the classroom (Table 4)

Table 4

Structured Interview Prompts Addressing Research Question 3

Interview Prompt	Data Collection Tool
<i>Teachers</i>	
In what activities are students typically most engaged in your classroom?	Initial Teacher Interview Protocol (Appendix D)
Why do you think these activities are engaging?	
What do you believe triggers the disengagement?	
In your opinion, at what times of the lesson are students most engaged? Least engaged?	
If you were asked to observe a mathematics teacher's classroom, what instructional practices or mathematical tasks do you expect to find the teacher doing to engage the students?	
Describe some of the instructional decisions that you make, or are told to make, so that all students are engaged.	
Do you feel you need to adjust your instruction for different groups of students within a class? Why or why not?	
If so, for which groups of students and how do you adjust your instruction?	Post-Observation Teacher Interview Protocol (Appendix I)
When a student was engaged in the classroom lesson, describe the kinds of academic work that the student was doing.	
<i>Students</i>	
List some ways in which a teacher can help you become engaged in learning mathematics.	Initial Student Interview Protocol (Appendix G)
Describe the way an "engaging teacher" teaches you? In particular, how does that teacher deliver instruction so that you are and feel engaged in learning?	
Based on the ways your teacher instructed you today, did you feel engaged or what could the teacher have done differently?	Post-Observation Student Interview Protocol (Appendix E)

The initial teacher interview protocol and the initial student interview protocol provided insights into the types of activities that are perceived to be engaging, the ways an engaging teacher delivers instruction, and why, or if instruction is adjusted in order to increase engagement. The post-observation teacher protocol required the teacher to analyze the types of

academic work that they felt engaged the students during the lesson. Subsequently, the post-observation student protocol required the students to respond to whether they felt engaged as a result of the way instruction was delivered during the lesson.

Student perceptions corresponding with teacher assessment of learning. The ability for a student to self-report their grade ($d = 1.33$) is one of the strongest indicators of student achievement (Hattie, 2009). In effective classrooms, students can report their grades with accuracy, having knowledge of their progress on their assessments. At this school site, the administrative team had a strong working knowledge of student grades, but students were generally unaware of their own daily progress (School Leader, personal communication, October 17, 2018). To bridge the communication gap, Research Question 4 was designed to discover the relationship between students' perceptions of their own levels of engagement with teacher assessment of their learning and growth over the course of the first semester.

The student perception data was collected from the survey-like section of each of the three post-observation student interviews. In these post-observation interviews, each student provided a numerical response indicative of their degree of engagement with prompts that specifically addressed cognitive, behavioral, and emotional engagement (Table 5). These responses to survey-like questions provided student perceptions of their levels of engagement after each of the classroom observations.

Table 5

Structured Interview Prompts Addressing Research Question 4

Interview Prompt	Data Collection Tool
<p>Behavioral Engagement: This describes how you demonstrate “the behaviors expected in a classroom—listening, doing assignments, following directions, participating, and so on” (Cooper, 2014, p. 365).</p> <ol style="list-style-type: none"> a. I paid attention in today’s class. b. I tried my best in today’s class. c. When I was in class, I listened very carefully. d. When I was in class, I just acted like I was working. (reverse coded) e. I completed my classwork on time. f. I got in trouble in class. (reverse coded) 	
<p>Emotional Engagement: This describes how you feel during class including having a sense of positivity, your feelings of being satisfied/happy, comfortable, interested, and your desire to be successful in mathematics class (Blumenfeld et al., 2006; Fredricks et al., 2004).</p> <ol style="list-style-type: none"> a. I felt happy to be a part of this class. b. I enjoyed learning new things. c. When we worked on something in class, I felt encouraged. d. I was not bored in today’s class. e. Most of things we learned in class are meaningful. f. Mathematics class is one of my favorite places to be. g. Sometimes I get so interested in mathematics class, I don’t want to stop. 	<p>Post-Observation Student Interview Protocol (Appendix E)</p>
<p>Cognitive Engagement: This describes how you apply mental energy like the ways that you are thinking about mathematics content, the ways you investigate new information, and work with mental challenges (Cooper, 2014).</p> <ol style="list-style-type: none"> a. When I read an instruction, I asked myself questions to make sure I understood. b. I classified problems into categories before I began to work on them. c. I checked my classwork for mistakes. d. Before I began studying, I thought about what I needed to learn. 	
<p>Provide a student achievement score for each of the 5 students. Some examples of student achievement scores include BOY and MOY assessment scores, online platform scoring such as i-Ready assessments, or even end-of-semester grades. Why did you choose that particular indicator of student achievement?</p>	<p>Post-Observation Teacher Interview Protocol (Appendix I)</p>

Note. BOY = beginning of year; MOY = middle of year

Each score within each of the components of engagement (behavioral, cognitive, and emotional) was analyzed, given a descriptor, and then analyzed with the intersection of the chosen teacher-derived assessment of learning. The descriptors that were used included, “not at all,” “sometimes,” “mostly,” “and “completely.” These descriptors were labeled depending upon the value provided by the student when responding to each of the 19 prompts.

Teacher 1 and Teacher 2 chose their desired assessment of student learning. Teacher 1 chose to discuss growth in quarter grades as well as the district assessment score. Teacher 2 chose to discuss the RIT Scores, and the degree to which the Projected Growth Goals was/was not met from the NWEA from the fall to the winter assessment windows. The students’ self-reported perceptions of their engagement were analyzed along with these teacher-chosen assessments of learning to determine a relationship.

Data Analysis

Answers to the research questions were found from structured interviews, classroom observation protocols, and teachers’ assessments of learning (Table 6). The qualitative data were analyzed through multiple coding methods (Saldana, 2016). The data analysis process began after an interview was transcribed and a participant was given sufficient time to check for errors or make changes. For each initial student interview and initial teacher interview, the process of initial coding began two days after the transcriptions were given to the participants to complete member-checking.

Table 6

Alignment of Research Questions to Data Collection and Analysis

Research Question	Data Collection	Data Analysis
1. What are the students' perceptions of their own engagement in math class—behaviorally, cognitively, and emotionally? How do they perceive they are doing in this class?	Initial Interviews Post- Observation Interviews (students)	Multiple coding cycles
2. What are the teachers' perceptions of the level of engagement of the student participants in their class?	Post- Observation Interviews (teachers)	Multiple coding cycles
3. What instructional factors do teachers and students recognize as positively influencing behavioral, cognitive, and emotional engagement in the classroom?	Initial Interviews (students & teachers) Post- Observation Interviews (students & teachers)	Multiple coding cycles
4. Do students' perceptions of behavioral, cognitive, and emotional engagement correspond with teachers' assessments of their learning and growth in class?	Post- Observation Interviews (students & teachers)	Descriptive statistics Multiple coding cycles

The initial coding process for each interview transcription included breaking down the data into discrete segments or ideas, closely examining identified points, assigning a code or codes to each segment, and then comparing across all collected data to identify themes. I used in vivo coding to capture quoted responses, using participants' own language to highlight meaningful moments that captured the essence of the lived experience.

During this first coding cycle, I labeled each interview response with descriptive coding—single words, phrases, or sentences as representations of the salient points of each participant's responses. The codes supported my efforts to detect patterns and categorize my findings into themes. Descriptive coding and focused coding provided a basic topic of a passage within the interview, such as “engaged” or “paying attention.”

During later cycles of coding, I experimented with emotion coding to understand the feelings student participants had during the phenomena itself. Some of the emergent codes included, “students have difficult home lives” or “understanding student needs.” Detailing the conceptual action that was consistent with begin engaged, process coding identified codes such as “paying attention” or “staying focused.” Consistent with structured interview questioning, structural coding was used to identify a group of data that directly related to a specific research question, aiding in the subsequent categorization of the data thereafter. For example, structural coding such as “hands on activity influence” or “project based influence” supported Research Question 3. By coding multiple cycles, new categories emerged and evolved from the previous categories.

I moved from choosing simple labels to developing categories from participant responses. I employed more eclectic coding methods, which combined descriptive coding, in vivo coding, and focused coding helping to synthesize the variety and number of codes into a more unified scheme (Saldana, 2016). The focused coding was used when combing through the interview responses for the most frequent initial codes to develop categories or themes from the data. I began to identify patterns that could organize the data into themes. For example, I extracted a theme of “an active observer” for related codes such as “paying attention” and “being focused.”

Student interviews. Students participated in four interviews, including one initial interview and three post-observation interviews. To capture their lived experiences and understand their perceptions, open-ended questions were developed. I conducted multiple rounds of decoding and encoding to understand students’ perceptions of behavioral, emotional, and cognitive engagement through emergent themes. Once properly coded, themes emerged in support of a collective response regarding students’ perceptions of varying levels of engagement.

The survey questions within the structured interviews were designed to capture student feelings of their perceived level of engagement during the classroom instruction for behavioral engagement, cognitive engagement and emotional engagement. Each component of student engagement had between multiple prompts and the students' numerical responses were analyzed and given a mean value.

The interview coding was conducted beginning with an initial read-through of all transcripts and initial and descriptive codes developed. A second read-through was conducted to develop the emergent codes that appeared in the interviews. During this process, I wrote down follow-up questions for each participant when necessary as well as, I broke data into meaningful segments, assigned codes to each segment, and then reorganized the data according to emergent themes. For example, I identified when multiple students referenced a similar idea.

I repeated this process multiple times to develop a segmented picture of the lived experiences of the participants. To reflect on the essence of those experiences, I focused on bringing out themes that appeared to be most relevant to the research problem and answering the research questions as opposed to telling a narrative of each student's life and lived experiences. To strengthen the credibility and dependability of the coding process, I included an outside practitioner to check my coding methods. The outside practitioner was well-trained in coding for educational research and had extensive experience with field research. I chose not to have the research assistant participate in data analysis because I expected a large amount of variation between her coding and mine given that I was separated from the research site and she was engulfed in it, working with the participants on a daily basis. The outside practitioner was separated from the research site and only reviewed my codes objectively based on the interview transcriptions and classroom observation protocols.

In an effort to augment the student interview data, the classroom observation data developed an objective vantage point of student engagement in an urban K-8 mathematics classroom. There were 4 indicators of behavioral engagement, 3 indicators of emotional engagement and 6 indicators of cognitive engagement within the Indicators of Student Engagement Observation Protocol- Mathematics. After scores for all three classroom observations were reported, an average for each component of engagement was easily identifiable. I averaged the percentages for each component of student engagement for all the student participants who were observed and compared the similarities and differences between the student participants themselves.

Teacher interviews. For each teacher participant, there were four teacher interviews, comprised of one initial interview and three post-observation interviews. Using open-ended questions, the post observation interviews explicitly asked the teachers to describe how each of the five students were engaged, emotionally, behaviorally, and cognitively. Similar to the process used for analyzing student interviews, the teachers' perceptions were coded in anticipation of uncovering themes after the teachers had an opportunity to participate in the member-checking process. After each of the three post-observations, I analyzed the interview transcriptions, and observed changes in perceptions along with other themes that arose organically. With phenomenological research, the expectation is to develop a comprehensive description of a lived experience. I searched for themes that were explicitly present, intentionally not including implied responses. A mean score was calculated for the teacher perceptions of each component of student engagement. This score was calculated based on the teacher reported score for each student during each of the three post-observation interviews. A value was determined for behavioral engagement, emotional engagement, and cognitive

engagement for each student based on the average, or mean, of the three post-observation responses.

Instructional factors that positively influence cognitive engagement. To determine the instructional factors that positively influence behavioral, cognitive, and emotional engagement, I coded answers to questions from initial teacher interviews, initial student interviews regarding instructional factors that they believe that an engaging teacher uses. I also coded responses to post-observation student interviews and post-observation teacher interviews. Students explicitly identified aspects of the lesson that engaged them, if at all and teachers identified aspects of their lesson that they believe engaged the students during the observed lesson.

Student perceptions of engagement corresponding to assessment of learning.

Themes emerged the initial and descriptive codes from student post-observation interviews and were analyzed along with the themes that emerged from the teacher's post observation interview. The third teacher post-observation interview protocol reported each teacher's assessment of learning scores for each student participant and their rationale for the assessment of learning that they chose. For each of the student participants, I attempted to understand the degree to which students' perceptions of their individual, self-reported level of engagement were consistent with assessment of learning score that teachers shared with me.

In the final teacher post-observation interview, each teacher submitted assessment of learning scores for each of the five students. Teacher 1 submitted first quarter and second quarter grades along with district assessment scores. Teacher 2 submitted RIT Scores and Progress scores from the NWEA assessment. Upon completing the fall NWEA assessment, each student received their RIT Score and a Projected Growth Score. The RIT score provided a

student score in relation to national norms and the Projected Growth Goal was the projected RIT score in the winter and spring, determined by the average growth demonstrated by students with the same RIT score and on the same grade level nationally. For purposes of this study, NWEA assessment of learning scores were reported for the winter assessment, therefore the Projected Growth goal score indicated the progress from the fall assessment to the winter assessment. This score was labeled as either “met,” “exceeded,” or “regressed.”

Delimitations, Limitations, Assumptions

Delimitations. The delimitations, or choices that I made to limit the scope of the study were related to the choice of methodology, notably my intention to conduct this study as a phenomenological study, the separation of data collection and data analysis and the narrow focus of the research questions. Although it was beyond the scope of this study to explore the impact of teacher perceptions and student perceptions on student engagement, long-term ethnographic studies on this topic would be very helpful in explaining variations in teacher and student voice and school engagement at this urban K-8 school.

The research assistant played a major role in the data collection process, but was absent from the data analysis process. Although the research assistant was trained to be aware of, and understand possible biases, because the person was the single observer who collected all data, any bias that that individual had, could be reflected in the data.

Though the decision to do this was based on logistics, timing, and extensive level of involvement with the participants, I delimited the study by developing my study as such. Instead, I chose to have an outside research practitioner with quality coding experience as part of the data analysis process. As a direct result of the research design, I had several identities. At times, I was a research methods teacher so that the research assistant had appropriate knowledge

of the tools used in practice. Additionally, I was a critical friend/coach, as this school site intended to use my knowledge and skills to help them build their own expertise (e.g., Thomson & Gunter, 2011). By guiding, supporting, and relying on the abilities of the research assistant, this form of practitioner research undoubtedly will inform professional learning and perhaps even organizational change to some degree. As an outsider, my role was to design tools, use these tools to guide collection of data, analyze the data, report what I found, and then depart.

My positioning within this process might have influenced research and I likely became “influenced by/in research processes and how this can be a positive/negative influence on the research” (Thomson & Gunter, 2011, p. 2). This research design considered both an insider influence and perspective, as well as an outsider influence and perspective. My position began as an outsider, studying the context, observing the participants, and developing relationships with the research assistant and the Superintendent of this school district. The research assistant had a different perspective, as an insider and professional colleague of the teachers and administrative staff, using this research to make future instructional decisions.

Limitations. The factors outside of my control that limited the study included the small sets of teachers (two) and students (10) from a mathematics class in a small Midwestern urban K-8 school. Although this study included students from disadvantaged cultural groups, because of the limited scope and size of the participant group and school, there was no investigation into the possible interactions between identity development, school context, and engagement. Contributing to the small size of the study, many students were unable to participate because a parent/guardian did not complete a consent form.

Assumptions. My role as the main researcher and author created many assumptions. I assumed that the participants were honest, not tired, and did not try to please the research

assistant during the interviews and the classroom observations. I assumed that research assistant would carry certain intentions based on prior relationships with the participants, but that her role in the school did not create additional stress for the participants. Other assumptions included, but were not limited to: that all teachers developed plans that intentionally related to student interests and that students felt comfortable expressing themselves freely regardless of whether an observer was present.

As the author, I assumed that both students and teachers were comprehensively disclosing their perceptions with honesty and integrity. Regardless of the format, some participants could have answered questions in a way to feel accepted or liked. This social desirability bias could have been present in participants who might have had the tendency to respond inaccurately to present themselves in a higher regard. To minimize this, the interview questions were phrased to allow for the participants to respond in ways that may not be socially desirable. This included having third-party interview questions asking participants to respond with their own feelings.

Although I had direct conversations about the grading policy adopted by the school district, the school's leader agreed that semester grades represented the students' academic progress in reaching or exceeding instructional standards. I assumed that quarter grades were not, in any way, a subjective measure of student achievement and instead reflect an honest student assessment of learning.

The potential for bias in this qualitative research was significant. Although the protocols were developed to thwart observer/interviewer bias, the author's connection to, and interest in, student engagement could have influenced the direction, process, and interpretation of data, leading to inaccurate results. Acquiescence bias could have been present if the students or

teachers tended to agree with and be positive about whatever the research assistant presented. Some participants could have this type of personality or might have perceived the research assistant to be an expert. Additionally, if the participants became tired, some might have just agreed or answered with what they believed the research assistant wanted to hear just to complete the interview.

To account for habituation bias, the research assistant was extensively trained on how to maintain an engaging interview by varying the wording so that the participant did not feel like they were responding to the same or even similar questions. By having a research assistant conduct interviews, I intentionally avoided confirmation bias while assuming that the interviewer followed all protocols and met all expectations as outlined in the interviewer and classroom observer training

The demographics of the participants provided a glimpse into the varying cultures that were present. I trained the research assistant on addressing her own cultural biases with the intention of showing positive regard to the participants' culture and remaining cognizant of her own cultural assumptions. I assume that she was able to recognize her biases and not let those effect the study in any way. The interview question order could have created participant response bias; to minimize question-order bias, the research assistant asked general questions before specific questions. To live up to high quality standards, I trained the research assistant to remain aware of her biases, understand various biases that might be present, and know how to minimize them.

A normal procedure to employ was a pilot study to try out proposed methods and check for possible responses. For this study, piloting was not practical or possible so, instead an "interviewing the investigator," or role-playing technique was utilized to assess potential

researcher biases. This was useful as the research assistant had a strong affinity for the student and teacher participants being studied and was a school stakeholder.

Ethical Considerations

Because this was a phenomenological study that involved the participants sharing sensitive information, a major ethical consideration was the anonymity of the participants' responses. I was not a hired employee of the school district and therefore did not have relationships formed with students. Student participants were assigned a number. Students from Teacher 1 were labeled as Student 1, Student 2, Student 3, Student 4, and Student 5. Students from Teacher 2 were labeled as Student 6, Student 7, Student 8, Student 9, and Student 10. I developed consent forms that considered the needs, expectations, and cultural contexts of study participants. All data collection methods were conducted to protect human and legal rights and maintain the dignity of the participants.

After each interview was conducted and transcribed, all transcriptions were provided to the appropriate study participant. After the completion of the research study itself, completed descriptions of findings, limitations, and conclusions were delivered to all stakeholders. The teachers, school leader, and the district superintendent received a copy of the completed dissertation and the students received a summarized version of the study in student-friendly language. The research assistant established credibility by examining and understanding the classroom observation context and devoting attention to students and teachers participating in the study; I communicated all events and reports in a timely manner. as evidenced by the interview protocols and classroom observation protocols.

I adhered to practical procedures and used resources effectively and efficiently. The research assistant conducted classroom observations in the classroom spaces and interviews for

both teachers and students were conducted in a secured, reserved room within the building. It is possible the relationship between the student and teacher participants in this study and the research assistant presented a conflict of interest that might have compromised the study findings. The research assistant had prior experience with field research related to formative assessments and student agency.

To maintain accuracy, the collected data were used to serve the intended purpose of providing information about the lived experiences of the participants in the study. I adopted a coding system to yield dependable and consistent data through a code log. The research assistant used the classroom observation tool for each classroom visit. When reporting the findings, the author attended to biases, misconceptions, and errors that might have been present in the study.

Once the proposal for this study was approved, the author was granted approval to conduct the study from the College of William and Mary's Institutional Review Board (IRB) and within the context of the urban K-8 school. All protocols that were developed were submitted for approval. The completed protocols included comprehensive procedures, complete descriptions of the participants, examples of interview questions and consent forms for both participant groups.

CHAPTER 4

FINDINGS

The purpose of this descriptive phenomenological study was to understand the lived experiences and perspectives of selected students and teachers related to the concept of student engagement in a mathematics classroom. Descriptive phenomenology research is supportive of the belief that to understand the perspective of the participants, researchers must explore and describe what was revealed in the data. My tendency, as a researcher, is to believe that our form of human awareness is interpretive in nature; however, I recognized my biases and made concerted efforts to avoid these when describing what was observed. The findings in this chapter demonstrate understanding of the lived experiences of the students and the teachers who participated in this study.

The format of Chapter 4 details findings for each of the research questions as well as overall themes that emerged from my analysis of interview and observation data. Chapter 3 detailed the methods used in this study; Chapter 4 presents an examination of the research context, data, and the findings. The research questions that guided this study were:

- What are the students' perceptions of their own engagement in math class— behaviorally, cognitively, and emotionally? How do they perceive they are doing in this class?
- What are the teachers' perceptions of the level of engagement of the student participants in their class?

- What instructional factors do teachers and students recognize as positively influencing behavioral, cognitive, and emotional engagement in the classroom?
- Do students' perceptions of behavioral, cognitive, and emotional engagement correspond with teachers' assessments of their learning and growth in class?

Findings for Research Question 1

The findings for Research Question 1 emerged from descriptive coding of the student responses to initial and post-observation interviews. The initial student interviews were designed to elicit clear understanding of what the students believed engagement meant to the and post-observation student interviews provided self-reported data on their perceptions of behavioral, emotional, and cognitive engagement during each of the unannounced classroom observations.

Initial interviews. Prior to identifying their perceptions of their own engagement as detailed in each of the post-observation student interviews, students provided insights to what student engagement meant to them in mathematics class in the initial student interview. Moreover, also in the initial student interview, students discussed how often they contributed in class through asking questions and class discussion, their identified behaviors when they perceived themselves to be engaged, and their feelings when they were working independently or in a group setting. Emergent codes and themes for each of the questions related to the students' perception of their own engagement were discovered (Table 7).

Table 7

Student Perceptions of Engagement in Mathematics Class

Interview Prompt	Emergent Codes	Theme
1. With this in mind, describe what it means when a student is “engaged” in their learning in your mathematics class.	Students listen Students are focused Students are determined	Physically and mentally involved in learning
6. Within a class period, how many times do you ask questions in class or contribute to class discussion?	4 or less times per class	Contribute based on personality or perceived need
7. Describe your behavior when you are engaged in mathematics class.	Quiet Focused Listen	Compliant to classroom behavior norms
8. Describe how you feel during your class when you are doing independent work and group work.	Like group work Lose focus without teacher support Choose independent over group work	Students feel and have different needs

When questioned about the meaning of student engagement, students responded with terms that have been synonymous with engagement such as “focused,” “listening,” and “determined.” After multiple coding cycles, from the perspective of these student participants, the term “engagement” meant when a student was physically and mentally involved in the learning process. Of the participants in this study, 70% of the students voiced that engagement indicated that a student was either listening, focused, or determined. Student 2 and Student 5 perceived “engagement” to be one’s inner drive or investment in learning (cognitive engagement) and their enjoyment in the work (emotional engagement). Student 6 and Student 8 perceived “engagement” to be when a student was interested in what he or she was doing (emotional engagement).

To identify how often students directed their efforts at mastery and understanding, the students were asked about the frequency that they contributed in class, either through asking questions or contributing to class discussions. The student responses varied with approximately 90% of the students contributing four or fewer times per class period. Students reported contributing to discussion when they felt confused and others reported not being involved, often without a definitive reason. Student 2, who perceived that engagement was when “they are enjoying it—like they want to succeed and do it—just learn more about math,” reported contributing “by talking and participating all the time—like 20 times.” For Students 1-5, their environment was arranged so that all students were completing work at their own pace, with support from Teacher 1. Students 6-10 moved through learning centers, adjusting to different learning activities requiring them to work either independently or with a small group. Student responses were mixed, regardless of grade level and teacher. Students 1-5 who received instruction from Teacher 1 had mixed reporting: 2 students reported participating “all of the time” or “over 20 times,” 2 students who reported contributing “not often” or “only when confused,” and 1 student reporting to contribute 2 to 3 times.

Students 6-10 who received instruction from Teacher 2 had more similarity with 4 students reporting to contribute between 2 to 4 times, and 1 student reporting to contribute “not often.” The differences in reporting could be attributed to teacher expectations of student classroom contributions, but cannot be confirmed by this research study design.

When prompted to describe their behaviors when they were engaged, 90% of the students described being quiet, focused, or listening to the teacher. Unlike the other student participants, Student 2 described behaviors of being comfortable and the desire to be pushed and challenged to learn more. When students in this study were asked to describe how they felt in group work

settings, more than half reported enjoying social settings and working with peers, some reported the feeling of losing focus without direct teacher support, and a small amount reported a strong preference for working independently versus with a group.

When coding for student perceptions of their own engagement, themes emerged from the multiple data sources including:

1) Students recognize classroom behavioral engagement norms:

- “I just do my work.”
- “I am focused on my work and listen to the teacher.”
- “Acting right, not talking, paying attention.”
- I am reading the questions all of the way.”

2) Students have different needs:

- “During independent work, I feel a little bit better because sometimes people interrupt me while doing group work.”
- “I feel more comfortable with group work because my friends can help me if I am stuck on a problem.”
- “I usually get my work done, and if I get distracted someone will tell me and then I need to get back to what I should be doing.”
- “I am confused when I am doing independent work because I have nobody helping me.”

3) Students contribute when they perceive a need to do so:

- “I can contribute maybe two or three times during class.”
- “Only sometimes, I don’t ask questions that often.”

Post-observation interviews. The post-observation student interviews provided descriptors of how students perceived their own engagement after mathematics class on three separate occasions. Table 8 indicated students’ self-reported perceptions of their engagement—behaviorally, cognitively, and emotionally. For each post-observation interview, students provided a number consistent with their feelings pertaining to six indicators of behavioral, cognitive, and emotional engagement. Prior to providing their responses, the students were reminded of a shared meaning of each component of student engagement as outlined in the interview protocols. Students were encouraged to ask questions when they felt confused or misunderstood the prompt.

Table 8

Student Self-Reported Perceptions of Engagement

Student	Behavioral	Emotional	Cognitive
1	Mostly/completely	Mostly/completely	Mostly/completely
2	Sometimes/completely	Mostly/completely	Mostly/completely
3	Mostly/completely	Mostly	Sometimes/mostly
4	Mostly	Sometimes	Sometimes
5	Sometimes	Sometimes	Not at all/Sometimes
6	Mostly/completely	Mostly/completely	Sometimes/mostly
7	Mostly/completely	Mostly/completely	Mostly/completely
8	Sometimes/completely	Completely	Mostly/completely
9	Mostly	Mostly/completely	Mostly/completely
10	Mostly/completely	Mostly	Sometimes

Accounting for all 10 students, when students reported either feeling mostly or completely engaged, eight students described their emotional engagement, seven students described their behavioral engagement, and five students described their cognitive engagement. Likewise, students who reported feeling not at all or sometimes engaged, five students described cognitive engagement, three students described behavioral engagement, and two students

described emotional engagement. On the whole, students feel more emotionally engaged, perhaps having a sense of positivity, feeling of being satisfied/happy, comfortable, interested and having a desire to be successful in mathematics class (Blumenfeld et al., 2006; Fredricks et al., 2004). Only 50% of students consistently felt cognitively engaged, suggesting that only some of the students are applying mental energy like the ways that they are thinking about mathematics content, the ways they are investigating new information, and working with mental challenges (Cooper, 2014).

Classroom observations. Three classroom observations in 45-minute segments were conducted using the Indicators of Student Engagement Observation Protocol (Hindman et al., 2015). A total of 30 classroom observation protocols were completed in the study, comprised of three classroom observations for each of the 10 students. Although not directly answering research question one, the classroom observation data provided a means to augment the data, by serving as an objective glimpse into the lived experiences of students regarding student engagement. To maintain objectivity, the research assistant and the lead researcher completed research assistant trainings prior to the study as well as additional trainings throughout the study. During the training conducted prior to the data collection, all parts of the classroom observation protocol were reviewed, questions/misunderstandings were clarified, objective observing was discussed and only identifying what was observed, and not assumed was intended. As part of this process, we completed role-playing activity so that we normed expectations and collectively understood examples/non-examples.

For each observed lesson, the research assistant only identified indicators for high, active student engagement when an item was observed. There were four indicators of behavioral engagement, three indicators of emotional engagement and six indicators of cognitive

engagement within the Indicators of Student Engagement Observation Protocol- Mathematics (Appendix H). After scores for all three classroom observations were reported, an average for each component of engagement was easily identifiable (Table 9).

Table 9

Average Observer Scoring of Student Engagement

Student	Type of Engagement		
	Behavioral	Emotional	Cognitive
1	100%	50%	33%
2	58%	55%	33%
3	75%	33%	38%
4	83%	55%	38%
5	58%	55%	10%
6	72%	77%	38%
7	47%	66%	21%
8	44%	77%	27%
9	100%	55%	60%
10	91%	55%	16%

To observe for cognitive engagement, the research assistant observed for student investment in learning such as going beyond requirements, directing effort towards understanding and mastery, applying meta-cognition strategies, and using learning tools. Of the meta-cognition strategies, students most often were observed visualizing by asking and generating questions with peers.

Student perceptions of emotional engagement was mostly consistent to what was observed by the research assistant. Eight out of ten student participants reported that they were mostly to completely emotionally engaged in class, and the research assistant reported that nine out of ten were emotionally engaged for at least half of the time. To observe emotional engagement, the research assistant observed examples when the student experienced joy,

happiness, interest, a perceived sense of belonging and perceived value in the lesson. Specific examples included students helping to discover real-world contexts for math problems.

Student perceptions of behavioral engagement were mostly aligned with the research assistant observations. Students who perceived that they were “sometimes engaged” received scores of 58% and 44% from the observer respectively. All students who indicated they were “mostly engaged” behaviorally received scores above 72%. Student 7 perceived that he/she was mostly/completely behaviorally engaged, yet the observer only noted that the student was behaviorally engaged 47% of the time. The disconnection between the student’s perception and the trained observer should be investigated more.

These findings suggest that student perceptions of behavioral engagement and emotional engagement mostly aligned to what was observed. Student perceptions of cognitive engagement were not consistent to what was observed.

Findings for Research Question 2

Teachers’ responses to the three post-observation interview questions 1-3 provided insights into their perceptions of student engagement in their classes.

Post-observation interviews. The teacher post-observation interviews demonstrated the perceived level of behavioral, cognitive, and emotional engagement for each student participant. Questions 1-3 provided insights that provided a comprehensive perspective into the lived experience of Teacher 1 and Teacher 2. To extract meaning and understanding from Questions 1-3, I transitioned from initial coding to focused coding as I went from choosing simple labels to developing categories from commonalities among responses.

Throughout the teacher interview processes both teachers mentioned some of these factors as negatively contributing to the academic welfare of some of the student participants.

Some teacher responses expressed the concern that a student diagnosis with ADHD and/or not following the recommended medical treatment plan, could be a major reason why a particular student had been struggling to be engaged in her classroom.

When asked how the teacher knew a student was behaviorally engaged in math class that day responses from Teacher 1 included:

- “They were looking at the board. They were looking at me, they were listening, and I saw some of them taking notes.”
- “Those students were participating. They were taking notes, looking at the board.
- “A student who is behaviorally engaged was paying attention to what was being said and writing it on his or her paper. They were listening and responding.”

Teacher 1 believed that behaviorally engaged students look at the board, take notes, pay attention, listen, and respond. Teacher 1 perceived behavioral engagement to mean active participation in what was being taught.

In contrast, responses from Teacher 2 included:

- “Behavioral [engagement] would be doing what they are supposed to be doing, for one thing—so not causing disruption in the classroom.”
- “If they were following directions, doing what they were supposed to be doing.”
- “They appear to be—behaviorally—they are not cutting up and more focused on doing their work than whatever they feel like.”

Teacher 2 perceived that behaviorally engaged students knew what they should be doing and as a result acted accordingly. A student who was not causing a perceived disruption, was focused, and followed directions, was considered behaviorally engaged as perceived by Teacher 2.

When asked how the teacher knew a student was emotionally engaged in math class that day, responses from Teacher 1 included:

- “Those students were—I could see the lightbulb going on. They were excited about coming up with the right answer. Emotionally, they seemed satisfied, especially when they were correct that they understood it.”
- “Well, I know definitely one of the boys jumped up and ran to the board because he really wanted to answer the question and he had thought it through in his mind and worked it out step-by-step. The other students were paying attention to what he was doing and saying.”
- “I could see the ‘aha moment’ when they showed pleasure that they understood what we were doing.”

Teacher 1 identified that students who were emotionally engaged were interested and excited to learn. When describing emotional engagement, Teacher 1 focused on seeing pleasure and satisfaction when a student knew that they understood the activity. The perspective of Teacher 2 changed during the study. During the first post-observation interview, Teacher 2 felt dissatisfied with having to respond to how emotional engagement was evident in math class. She said:

- “I just have a problem with the emotionally engaged because it is math. They weren’t upset, they weren’t like wow—so I just have a problem with that question.”

Teacher 2’s non-responsive perspective to this interview question was first observed. The research assistant probed the teacher with examples of emotional engagement and the response to the same question in post-observation 2 and post-observation 3 was responsive. During post-observation 1, Teacher 2 believed that emotional engagement meant students must feel overly happy and that math content could not elicit those feelings. During post-observations

2 and 3, Teacher 2 connected emotional engagement to students showing interest, experiencing joy when learning, and not feeling frustrated.

- “They showed interest, they were actually looking forward to completing the assignment today.”
- “I did not see frustration, and they appeared to be working independently.”

When asked how the teacher knew a student was cognitively engaged in math class that day responses from Teacher 1 included:

- “Those students gave signs that they understood what was being said. We talked about the measurement in feet and inches, and one boy was able to give me a pretty good description of what was going on.”
- “They were engaged because they wanted to see if they were the right one.”
- “What they understood and what they could tell me was the decimal for the percent—I am so happy to see that they are able to apply what I taught them.”

During post-observations 1 and 3, Teacher 1 identified cognitively engaged students as providing some sort of visible evidence that understood the content and could apply their learning. During post-observation 2, Teacher 1 considered students to be cognitively engaged if they were interested if they had the correct answer.

Teacher 2 responded:

- “Cognitively, they are focused and working on the task at hand.”
- “You can hear the conversations, see their work, asking questions.”
- “They were not easily distracted—they stayed focused.”

Teacher 2 perceived cognitive engaged students as focused on a task. Teacher 2 reported that cognitively engaged students can be identified through conversations, their work products, and the frequency of asking questions. The themes that emerged included behavioral engagement was synonymous with being focused, understanding the classroom norms, and paying attention, Teachers did not agree on evidence of emotionally engaged students.

A theme for cognitive engagement emerged: Teachers know students are cognitively engaged when students can apply content and explain their thinking observed through the students' ability to demonstrate what they learned by “seeing in their work” and “applying what was taught.”

Survey items. Each teacher responded to a series of 15 prompts asking for their perspective on the degree to which each of their five student participants were engaged—behaviorally, cognitively, and emotionally. Teachers responded with a numerical value: 1 = *not at all true*; 2 = *somewhat true*; 3 = *mostly true*; and 4 = *completely true*. The mean score for each student participant in each of the three classroom observations is presented in Table 10.

Table 10

Mean Teacher Perceptions of Student Engagement

Students	Type of Engagement		
	Behavioral	Emotional	Cognitive
<i>Teacher 1</i>			
1	4	4	4
2	3.6	3.3	4
3	1.6	1.6	2
4	2.8	3	3
5	3	2.3	3
<i>Teacher 2</i>			
6	3	3	3.3
7	2.3	2	2
8	3	2.6	3
9	3.3	4	4
10	2.3	2.6	2.6

Teacher 1 reported levels of engagement for Students 1-5. There was noticeable similarity of student engagement scores across all types of engagement for each student. Student 3 consistently received the lowest ratings across all three types of engagement; Students 1 and 2 consistently received higher ratings than their classmates in all components of student engagement. Students 4 and 5 had moderate ratings in each of the areas of engagement. Interestingly, Students 1-5 had a higher mean score for cognitive engagement (3.2), than behavioral (2.88) and emotional engagement (2.84). These data suggested that teacher 1 perceived that her five students were more cognitively engaged than behaviorally and emotionally engaged in her lessons.

Teacher 2 reported levels of engagement for Students 6-10. Student 7 and Student 10 consistently received the lowest ratings of engagement across all three components of student engagement; Student 9 received the highest ratings for emotional and cognitive engagement.

Identical to Students 1-5, Students 6-10 had a higher mean score for cognitive engagement (2.98), than behavioral (2.88) and emotional engagement (2.78). Both teachers perceived that students were more cognitively engaged than behaviorally and emotionally engaged in their lessons.

Findings for Research Question 3

To understand the instructional factors that positively influenced behavioral, cognitive, and emotional engagement in the classroom, I coded responses to eight questions from the initial teacher interview and two questions from the initial student interviews. Instructional factors included the ways in which a teacher implemented instructional methods and provided instructional delivery which played a role in the perceived degree of student engagement. To gain a deeper understanding of how these factors were perceived during instructional moments, I also coded responses from one question from each teacher post-observation interview and one question from each student post-observation interview.

Initial interviews: Teachers. The initial teacher interview required teacher responses to student-related questions and their vision of quality instructional practices. Table 11 identified the themes that emerged for each of the pertinent questions after multiple rounds of coding. The common themes that emerged included:

- Teachers believed that students are most engaged when they are using technology
- Students were disengaged because of their (low) learning level.
- Teachers believed that learning levels and Attention Deficit Hyperactivity Disorder (ADHD) led to disengagement in learning activities.
- Teachers differed in their underlying beliefs on why certain learning activities are more engaging to students

- Teachers did not agree on when students are most and least engaged in a lesson.

When teachers were asked to identify quality instructional practices of an engaging teacher, their responses were not consistent. Although the teacher responses were not consistent, both teachers expressed quality descriptors of engaging teachers such as holding the student's attention from the beginning of a lesson, positioning oneself in many places around the classroom and delivering relevant and challenging content to the students. Teacher 1 and Teacher 2 offered different perspectives on instructional decisions that they made or were told to make to engage students. More investigation was necessary into their differences. Teacher 1 accentuated making learning experiences fun for students while attending to their individual needs whereby teacher 2 identified the need to maintain a slowed pace and assess students regularly. This also may suggest that teachers are receiving different feedback based on perceived needs as a teacher. When accounting for adjusting instruction to engage all learners, both teachers made adjustments based on student needs: teacher 1 adjusted instruction based on achievement levels and student behaviors and teacher 2 adjusted instruction by providing different levels of tasks at learning centers.

Table 11

Instructional Factors Influencing Student Engagement: Teachers' Perspectives

Interview Prompt	Emergent Theme(s)	
	Teacher 1	Teacher 2
<i>Student Indicators of Engagement</i>		
In what types of activities are students most engaged in your classroom?	Technology and games are interesting	Technology engages students
Why are these activities engaging to them?	Students enjoy competition	Social learning activities
What triggers student disengagement?	Long class periods and low student stamina are triggers	Low academic level or ADHD
During a lesson when are students most engaged? And when are they least engaged?	Most engaged after direct instruction; least engaged because of low stamina	Most engaged- student independence Least engaged- when waiting
<i>Quality Instructional Practices</i>		
If you were asked to observe a mathematics teacher's classroom, what instructional practices or mathematical tasks do you expect to find the teacher doing to engage the students?	Hook students and move around the room	Relevant and challenging content
Describe some of the instructional decisions that you make, or are told to make, so that all students are engaged.	Modify work based on student needs and create fun experiences	Slow down pace and constantly assess
Do you adjust your instruction for different groups of students within your class? Why or why not?	Adjust depending on achievement level and behaviors	Groups at centers have appropriate tasks
For which group of students do you adjust your instruction and how do you adjust your instruction?	Student needs	Student needs High achievers have small group instruction; Low achievers have hands-on, concrete tasks

Teacher 1 believed that using technology and having students play academic games engaged them. She noted that her students enjoyed academic competitions. Long class periods

coupled with low academic stamina led to disengagement in classroom activities. Teacher 1 believed that students were most engaged during direct instruction, and that engagement tapered off because of the length of the class periods. She believed that an effective teacher hooked the students and moved around the room during instruction. To keep students engaged, Teacher 1 adjusted her instruction based on students' needs and behaviors, and relentlessly tried to make activities fun for the students.

Similarly, Teacher 2 believed in the power of technology to engage students and felt that these activities allowed students to socialize. Teacher 2 believed that disengagement was a potential result of low academic level and ADHD. Through her experience, students were most engaged while doing independent work and least engaged when waiting to get started on the work itself. Teacher 2 believed that activities should be relevant and challenging. She has been directed to slow down her pace and constantly assess students' understanding. She adjusted her instruction based on appropriate tasks at centers and provided small group instruction for the high achieving group and concrete, hands-on tasks for the low achieving groups.

Initial interviews: Students. Students had limited opportunities to provide feedback to teachers that informed their instruction. Two questions from the initial student interview were designed to provide insights into the types of instruction that engaged students in math class. Table 12 showcased individual student responses to those items.

Table 12

Instructional Factors Influencing Student Engagement: Students' Perspectives

Student	Interview Prompt	
	<i>List ways that a teacher can help you become better engaged in math.</i>	<i>Describe the way an engaging teacher teaches you.</i>
1	Focused lessons	Supportive
2	Teacher supports student with specific goals	Understands needs
3	Hands-on activities	Student attempts first and then teacher supports
4	Memory games	Understands needs
5	Technology tools	Teacher clarity
6	"I don't know"	Hands-on activities
7	Scaffold and give support	Understands needs
8	Supports and gives multiple examples	Supportive and builds relationships
9	Teacher clarity and modeling	Supportive
10	Projects and games	Fun games

When analyzing ways that a teacher helped students become more engaged, students reported different responses. An assumption can be made that these students had different personalities, learning styles, and academic interests, but this could not be confirmed by the data nor by the design of this study. A common theme from the participants emerged, which identified that an engaging teacher gave clear instructions, authentically understood student needs, was supportive, and developed fun learning experiences.

Post-observation interviews: Teachers. After each classroom observation, both Teacher 1 and Teacher 2 participated in post-observation interviews with the research assistant. During these interviews, the teachers described the types of academic work that engaged the student (Table 13). Each classroom observation consisted of students completing different types of tasks and participating in different learning experiences.

Table 13

Academic Work that Engages Students: Teachers' Perspectives

Teacher	Interview Prompt		
	<i>When a student was engaged in the lesson, describe the kinds of academic work that the student was doing.</i>		
	Post-Observation 1	Post-Observation 2	Post-Observation 3
1	Cooperative activities Group Work	Student presents work Students were moving	Note-taking Completing graphic organizers Being challenged
2	Centers Social activities	Multiple tasks Differentiated/leveled tasks	Projects

Teacher 1 reported students were engaged when they were involved in cooperative activities and when working in a group. She also felt that students were engaged when having opportunities to share their learning and when having freedom to move around the classroom appropriately. Teacher 1 believed that students were engaged when writing notes, while completing graphic organizers to collect their thoughts, and when they felt challenged by the learning experience.

Teacher 2 noticed more student engagement when there were multiple, simultaneous activities located through the classroom space, such as in centers, and when students could socialize about a math content topic. She reported that students were more engaged when tasks were differentiated by levels and when they worked on projects.

Post-observation interviews: Students. With each post-observation interview, each student reported either feeling engaged or provided feedback with ways that the teacher could improve (Table 14). 80% of the total student responses indicated that students felt engaged in the observed lesson. In the instances where students felt disengaged, the student feedback for the teacher included: providing clear instructions, having more rigorous lessons, slowing the pace, and recognizing when a student was confused.

Table 14

Student Perceptions of Engagement: Post-Observation Interviews

Student	Interview Prompt		
	<i>Based on ways the teacher instructed you, were you engaged or what could the teacher have done differently?</i>		
	Post-Observation 1	Post-Observation 2	Post-Observation 3
1	Engaged	Engaged	Engaged
2	Engaged	Engaged	Slow down pace
3	Engaged	Engaged	
4	Need more clarity	Engaged	Engaged
5	Need more rigor	“I don’t know”	Engaged
6	Engaged	Engaged	Engaged
7	Engaged	Engaged	Engaged
8	“I was confused”	Engaged	Engaged
9	Engaged	Engaged	Engaged
10	Engaged	Engaged	Engaged

Findings for Research Question 4

Research Question 4 was designed to see whether student perceptions corresponded to their teachers’ assessments of their learning and growth. Teacher 1 preferred to use Quarter 1 and Quarter 2 grades as effective growth measures; Teacher 2 chose to use NWEA math assessment scores from the Fall to Winter. Students 1-5 (instructed by Teacher 1), either saw little growth, or flat growth in their grades. Regardless of whether the students grew slightly or experienced flat growth, there were no consistencies in the findings. Moreover, the students self-

reported perceived degree of engagement had neither reliable, nor an identifiable correlation to the teacher assessment of growth.

Students 6-10 (instructed by Teacher 2) either exceeded their growth goal, made little growth towards their growth goal, or regressed. The student who exceeded the growth goal felt mostly/completely behaviorally and emotionally engaged and sometimes/mostly cognitively engaged. The student who grew slightly reported feeling mostly emotionally engaged, mostly/completely feeling behaviorally engaged, but only sometimes felt cognitively engaged. The students who experienced flat growth mostly/completely felt behaviorally, emotionally, and cognitively engaged.

The final question of post-observation interview 3 prompted teachers to share their assessment of learning and growth in math class for each of the five participating students in their class. Findings for Research Question 4 are presented in Tables 15 and 16.

Table 15

Students' Self-Reported Engagement and Teachers' Assessment of Growth: Teacher 1

Student	Type of Engagement			Growth Indicator
	Behavioral	Emotional	Cognitive	
1	Mostly/ completely	Mostly/ completely	Mostly/ completely	C- \Rightarrow C+ DA=54%
2	Sometimes/ completely	Mostly/ completely	Mostly/ completely	D+ \Rightarrow D+ DA=82%
3	Mostly/ completely	Mostly	Sometimes/ mostly	A \Rightarrow A DA=89%
4	Mostly	Sometimes	Sometimes	C- \Rightarrow C+ DA=71%
5	Sometimes	Sometimes	Not at all/ Sometimes	B- \Rightarrow C+ DA = 73%

Note. DA = District Assessment score

Teacher 1 provided Quarter 1 and Quarter 2 mathematics grades as well as the District Assessment (DA) scores of her students. Additionally, she provided rationale for using these measures. Teacher 1 reported that “in order to show growth from one quarter to another, showing the grade on the report card would indicate how far [students] have come from the first quarter.” Teacher 1 shared:

For growth, I look at a whole lot of other things, too. Some of these kids, unfortunately, don't have the best home lives and some of them are hungry. So, trying to get them to do math when [they] are hungry is tough and I try to be cognizant of that.

Teacher 1 provided some context to grading by identifying the importance placed on homework in her class and how not completing homework had a negative effect on the student's quarter grade. This was the case with Student 2 who received a D+ in both quarters, demonstrating no growth, but scored an 82% on the district assessment. I analyzed each student independently to

offer a glimpse of their perceptions of their own levels of engagement with the teacher's choice for assessment of learning and growth.

Student 1. Student 1 demonstrated some growth; according to Teacher 1, "he made wonderful growth because he is expressing himself better, he jumps right in and he is happy to do it." This improved level of academic confidence was considered an area where the student had struggled in the first quarter. Student 1 self-reported as mostly/completely engaged behaviorally, emotionally, and cognitively. The student grade improved from Quarter 1 to Quarter 2.

Student 2. Teacher 1 reported that Student 2 was considered "one of the top 2 as far as ability and understanding and especially cognition of math." Furthermore, Teacher 1 admitted that unfortunately "he doesn't always get his medication which effects his behavior and his ability to get his work done." Student 2 reported that he sometimes/completely was behaviorally engaged, which aligned with the impressions of Teacher 1 as far as completing his classwork and staying focused; he assessed himself as mostly/completed engaged emotionally and cognitively. His mathematics grade did not improve from Quarter 1 to Quarter 2, but the researcher cannot draw conclusions that emotional and cognitive engagement were the reasons why.

Student 3. Student 3, who had the highest grade, and was considered "invested in her education" by Teacher 1, reported that she was mostly/completely behaviorally engaged, mostly emotionally engaged and sometimes/mostly cognitively engaged. Although she received higher grades than her classmates, she reported not feeling overly challenged suggesting that she may be indirectly asking for, and could benefit from, more challenging learning experiences.

Student 4. Student 4 reported feeling mostly behaviorally engaged and sometimes both emotionally and cognitively engaged. This student showed growth on their quarter grades which also paralleled with their DA score. The report of the lack of emotional and cognitive engagement could indicate that the student would benefit from work that is perceived by the student to be interesting, relevant, and rigorous.

Student 5. Student 5 was the only student whose grade regressed. This student reported that he only sometimes felt behaviorally and emotionally engaged and sometimes/not at all reported being cognitively engaged. According to Teacher 1, “He has gotten better at finishing his work and sticking to it...and once he understands it, he will show that he has got it and he can give answers very well.” Student 5’s self-reported perceptions of engagement indicated that he did not feel mostly or completely engaged in any learning experience. Moreover, he lacked a sense of belonging, or investment in learning, and infrequently applied meta-cognition strategies or used learning tools. These habits suggested that his regression might be attributed to a low overall level of engagement in math class. These data should elicit a direct response from Teacher 1 to make iterations to her instruction.

Teacher 2 used NWEA scores from the winter assessment as an indicator of student learning and growth. There are three NWEA assessments throughout the school year, in the fall, winter and spring. Students 6-10 completed a fall assessment during the beginning of the school year and completed the winter assessment in February. I analyzed each student independently.

Table 16

Students' Self-Reported Engagement and Teachers' Assessment of Growth: Teacher 2

Student	Type of Engagement			Growth Indicator
	Behavioral	Emotional	Cognitive	
6	Mostly/ completely	Mostly/ completely	Sometimes/ mostly	217 ⇒ 225 133% growth ^a
7	Mostly/ completely	Mostly/ completely	Mostly/ completely	202 ⇒ 200 Regressed ^b
8	Sometimes/ completely	Completely	Mostly/ completely	202 ⇒ 200 Regressed ^b
9	Mostly	Mostly/ completely	Mostly/ completely	226 ⇒ 225 Regressed ^b
10	Mostly/ completely	Mostly	Sometimes	197 ⇒ 201 66% growth ^b

^aStudent exceeded growth goal. ^bStudent did not meet growth goal.

Student 6. Student 6 reported feeling mostly/completely behaviorally engaged and emotionally engaged, while only sometimes/mostly engaged cognitively. The NWEA MAP growth indicators identified that Student 6 made substantial growth (133%) from the fall to the winter, suggesting that perhaps once the student felt more cognitively engaged, the student continued to grow steadily.

Student 7. Student 7 reported feeling mostly/completely engaged behaviorally, emotionally, and cognitively; yet scores showed flat growth as evidenced by the 202 RIT score in the Fall to 200 RIT score from the winter assessment. The flat growth did not align to the student's perceptions of their own level of engagement. Further investigation into the reasoning for this was necessary and was recommended for Teacher 2.

Student 8. Student 8 reported being sometimes/completely behaviorally engaged, completely emotionally engaged, and mostly/completely cognitively engaged; yet scores showed flat growth from a 202 RIT score in the Fall to a 200 RIT score from the winter. As a phenomenological researcher, I did not make a judgment as to why; however, I recommended Teacher 2 to investigate the cause of the negative alignment between the student's perceptions of engagement and the NWEA scores.

Student 9. Student 9 reported feeling mostly/completely behaviorally, emotionally, and cognitively engaged, yet scores showed flat growth. The score itself was higher than peers in the class, suggesting that the student's content knowledge was evident, but there was a negative correlation between the student's RIT scores and his perceived level of engagement. Again, more investigation into the reasoning behind the disconnect between student perceptions and indicators of learning and growth.

Student 10. Student 10 felt mostly/completely behaviorally engaged and mostly emotionally engaged, suggesting that the student was focused and had interest in math class. However, Student 10 reported feeling cognitively engaged only sometimes. Although Student 10's RIT scores showed an increase of 66%, he did not meet his growth target. The data suggested that in order for the student to continue growing academically, there was a perceived need for more academic challenges.

Summary of Findings

Students' perceptions of their own level of engagement did not consistently match the assessments of learning. There was more alignment when correlating students' perceptions to their quarter grades suggesting that students had a working knowledge of the progress towards their quarter grades. Students did not clearly indicate that they understood the definition of

engagement. Recommendations for how to improve this finding will be addressed in Chapter 5. Teachers in this study perceived the students to be more cognitively engaged and less emotionally engaged. These data suggest that the teachers understand, either directly or inherently that student work should be more relevant and interesting as perceived by the students.

Students' perceived levels of their own engagement did not align with teachers' perceptions of student engagement nor assessments of learning. As such, students could be very engaged and have low scores (no alignment) or not engaged and have high scores (no alignment).

Students provided specific feedback that could benefit the instructional practices of teachers. Students reported ways in which engaging teachers delivered instruction, which overlapped with some of the teacher responses to instructional characteristics of engaging teachers. The disconnect between students' perceptions of their own engagement with assessments of learning and growth may be attributed to students needing more clarification on the components of engagement. More investigation was needed to discover why student perceptions were not aligned with assessments of learning and growth.

Student perceptions are often overlooked by researchers (Gentry, Gable, & Rizza, 2002) and evaluation of classroom activities and levels of student engagement from "the students' perspectives, is infrequently considered in educational research, school-improvement efforts, and evaluation" (p. 540). If student perceptions matter, asking students directly through initial student interviews and post-observation student interviews about their learning experiences will elicit valuable information to support instructional decisions.

Classroom observations were conducted to augment the interview data, while inherently realizing that “making inferences about students’ levels of engagement based on observations of their classroom conduct are prone to error”(Frontier, 2007, p. 17). The research assistant was well-trained; however, I did not expect classroom observations of levels of student engagement to match with the student self-reported levels of student engagement. Teachers tend to over-report student levels of engagement and teacher’s perceptions of students’ engagement levels and levels reported by students did not overlap. Although the research assistant was trained on observing the classroom and recognizing indicators of student engagement, student reports of their own level of understanding and their perceived cognitive engagement are more valid indicators of students’ classroom experience than that of observers’ perspective regardless of formalized observer training (Peterson, Swing, Stark, & Wass, 1984)

CHAPTER 5

RECOMMENDATIONS

Discussion of Findings

Analyzing the phenomena of student engagement to understand, and hopefully improve, student achievement for all students, and particularly those students considered to be “at risk,” was the foundation of this study (Finn & Zimmer, 2012). In this study, 90% of the student participants were considered at-risk. This study provided analysis of a small group of students, and two teachers at a small urban K-8 school. The findings were not expected to elicit major changes in policy and practice. While conditions such as family socioeconomic status, race/ethnicity, native language, and home life structure cannot be changed through classroom interventions, engaging these student participants in their daily learning might be “a protective factor with respect to educational risk” (Finn & Zimmer, 2012, p. 99). There is wide spread agreement that increased student engagement is a predictor of student achievement (Hattie, 2009; Lamb & Rice, 2008; Manigault, 2014)

When middle school students are engaged in their learning, they are more likely to endure and graduate to and through college. This phenomenological study did not provide detailed descriptions of the environment that the students experience outside the school or the environment inside the classroom, other than components of engagement that were observed. Both mathematics classrooms followed classroom norms and instructional expectations developed by the school vision and school leadership team that supported student-centered instructional methodologies.

Mathematics, as a content area, was chosen because of its reliance on textbooks and importance within the school vision. A diminished amount of student engagement could be attributed to passively utilizing a textbook as opposed to being actively engaged in interactive projects or other collaborative instructional practices. Teacher 1 and Teacher 2 used textbooks within their daily instruction consistently, but reported using a variety of resources stating, “We use MyMath from McGraw Hill and I pull from summer work, a lot of teacher-pay-teacher stuff- so it's just a variety of different work. Whatever the needs are for this situation.”

Both teachers reported instructionally sound teachers make learning fun, interesting and relevant to keep the students focus. Teacher 2 indicated that:

you have the highest engagement—when you can connect it to something that matters to them, whether they can use it in life. The hook is always good to have to draw them in, but giving them something to actually work (hard) and show challenges, that engages them.

The purpose of this study was to fundamentally understand the lived experience of levels of student engagement in mathematics class. I intended to understand how participants perceived it, judged it, felt about it, described it, made sense of it, and remembered their experiences. Structured teacher and student initial and post-observation interviews, classroom observations, and teacher assessments of growth and learning, provided data that were analyzed using Saldana’s (2016) coding methods.

Analyses of multiple data sources revealed:

- Inconsistent understandings of student engagement on the part of all participants—students and teachers alike.
- Student perceptions of their own level of engagement did not align with assessments

of learning and growth in fifth- and sixth-grade mathematics students.

- Students and teachers had no collective understanding of the three components of student engagement defined in the literature.
- Teacher perceptions of student engagement were more aligned with cognitive engagement than for behavioral engagement.
- Assessment of learning and growth scores did not consistently align with teachers' perceptions of student engagement.
- Teachers and students agree on many instructional factors that influence student engagement.

Research Question 1. Students perceived their own levels of engagement by reporting what they believed engagement meant, how often they were involved in learning, their behaviors when they perceived themselves to be engaged, and how they felt when working independently and, in a group, setting. Students reported that “engagement” meant to be physically and mentally involved in learning; student contributions to their learning were based on their individual personalities or perceived need. Students were compliant with classroom behavior norms and expressed varying feelings about learning independently or in a group, revealing that students have different needs (Fredricks et al., 2004).

The student post-observation interviews revealed that students perceived varying levels of engagement in the mathematics classroom. To augment the interview data, classroom observations were conducted targeting the three types of student engagement for each of the students. Analysis of observation findings, although not meant to hold more value than the actual perceptions of the students themselves, reported that students had less opportunities to be cognitively and emotionally engaged than to be behaviorally engaged. When questioned about

which component of engagement the teachers focus on most, both teachers revealed that they place a heavier emphasis on cognitive engagement:

- “In order to build a foundation of understanding, students have to repeat examples, need to do multiple activities, multiple word problems and they need to practice.” (Teacher 1)
- “Why, because they need to be mentally engaged to be learning math.” (Teacher 2)

Emotional engagement related to a certain level of trust (Baroutsis et al., 2016; Ogbu, 1990; Tschannen-Moran, 2014), degree of comfortability, and perceived familiarity that a student and teacher shared.

Research Question 2. Teachers perceived that students were cognitively engaged when they applied mental energy, asked questions, and used learned content to explain their thinking (Blumenfeld et al., 2006; Cooper, 2014). Emotional engagement was perceived as showing interest, experiencing joy when learning, not feeling frustrated, and expressing satisfaction with learning (Cooper, 2014). Behavioral engagement was perceived as actively participating, paying attention to the content delivery mechanism, and simply knowing what they should be doing—not causing a perceived disruption. Behavioral engagement was akin to students being compliant during classes.

Of the students who participated in this study, 50% were minority and 100% of these student participants were low-SES students. Critical theorists see schooling as consistently reproducing inequality, emphasizing competitiveness and cultural ethnocentrism (McLaren, 2015). For some of these at-risk students, the contributions from home and the contributions from the community vary from the teacher participants who developed these lesson plans, delivered the instruction, and assigned them grades. As identified in interview transcripts, when

asking the teacher to describe if each student in the class was engaged, and if not, to describe why, the teachers reported:

- “I would say, no and the number one reason is the ADHD medical issues that the student has. I am thinking of just a couple ones that are pretty well severely ADHD and all different kind of issues and problems going on in life and those are the ones that are the hardest.” (Teacher 2)
- “They start to lose focus. I have a lot of children in my classroom who are ADD or ADHD. They lose focus. It would be time-- too much time spent on something. They would lose focus.” (Teacher 1)

These teachers had clearly different notions of engagement. Teachers’ comments cited conditions beyond their control as the primary reasons their students were not engaged—these students had disabilities and had “complicated lives.” Teachers took little responsibility for engaging students. The teachers determined the worthiness of certain knowledge, and constructed representations of students, others, and their physical and social environment (Simon & Simon, 2017).

Research Question 3. Teachers and students reported their initial perceptions related to instructional factors that influence student engagement through initial interviews; later, participants reported their feelings on instructional practices after each classroom observation within individual post-observation interviews. Teachers believed that students were most engaged when they learned through technology; had opportunities to participate in instructional games and social activities; during direct instruction; and when they were learning meaningful, challenging, and relevant material.

Teachers believed that students liked to be drawn into an activity and that an engaging teacher should move around the classroom and modify activities based on students' learning needs. Teachers perceived that students were engaged in their classes when they cooperated in small group tasks, had perceived choices, learned from differentiated tasks, worked on projects, socialized, moved freely, took notes and completed challenging work:

- “The choice-- they (opportunity) had excited the students to have the choice, to choose what interested them. They had the opportunity to be creative in using the math in a realistic way, and it seemed real to them.” (Teacher 2)
- “I could see them in their movements. When a child is engaged, they are moving forward as if they can't get close enough as they understand what is going on.” (Teacher 1)

Because of these forms of teacher content delivery, students reported feeling engaged 80% of the time. The way a student receives instruction, and the person from whom they receive the instruction, determined the level of investment the student placed in the learning process (e.g., Fredricks et al., 2011). Teachers and students can collectively re-shape their education by communicating together and more often. Students valued the purpose of school more when they had a sense of belonging (e.g., Tschannen-Moran, 2014) and deserve teaching strategies that equitably address their individual student needs.

Research Question 4. The fourth research question was developed to determine whether students' perceptions of their own engagement corresponded with their teachers' assessments of their learning and growth. I encouraged the teachers in this study to choose their preferred assessment of learning and growth. Their responses led to the finding that student perceptions of

their own level of engagement did not conclusively align with assessments for learning and growth with fifth- and sixth-grade students in mathematics class.

Implications for Policy and Practice

The findings of this phenomenological study were intended to inform local school professionals. Although more research would be necessary to understand the lived experiences of other students and teachers related to student engagement, this study indicated that there are real disparities between teacher and student perceptions as well as, observer and student perceptions. Nonetheless, student perceptions are valuable and must be part of the instructional equation. Schools' unwavering focus on standardized testing, has negatively impacted the importance of engaging students in what, and how, they learn. Many programs and policies have failed; this study provided insights into the lived experiences of teachers and students. The findings highlighted the complexity of student engagement as a construct—the theoretical descriptions of the kinds of engagement were not evident at all in the data.

This study was intended to investigate factors that increase student engagement based on shared perceptions of teachers and students. These agreed upon instructional practices could influence instructional decisions at the school level. Additionally, schools could envision ways that a similar study, or practice of the reflective process, might be conducted within their school. Table 17 and the sections that follow provide related recommendations and specific interventions based on the findings of this study.

Table 17

Recommendations for Policy and Practice

Finding	Related Recommendation
Student and teachers did not share a common definition of student engagement.	Teachers should work collaboratively to build a common definition of what engagement in classroom practice looks like.
Hard to delineate the “categories” of engagement as described in the literature.	Focus on teachers having a shared definition of engagement within the school and the importance of teacher planning to meet the needs of these challenged student populations.
Mixed findings on instruction that results in what engagement looks like	Provide professional development for teachers on research-based instructional strategies that tend to lead to student engagement. Emphasize the need for careful planning to meet the needs of the students.
Teachers assessment of learning was inconsistent and not related to engagement	Provide professional development for teachers focused on valid assessments that provide evidence of learning.
Contextual issues (SES of students, etc.) did not emerge as impacting engagement of students	Clarify values and beliefs about engagement in this school.

Recommendation 1. Student and teachers did not share a common definition of student engagement. First teachers must have a clear understanding of the engagement they are attempting to achieve and collaborate with their students to reach a shared meaning of engagement. Given the disconnection between minority and low-SES students and school

(McLaren, 2015), it is imperative for teachers and students to have a shared definition of what it means to be engaged (behaviorally and cognitively) and feel engaged (emotionally). As the teacher builds relationships with students and simultaneously builds cultural capital (Giroux, 1983), students will value school, have a sense of belonging (Tschannen-Moran, 2014), and express their perceptions; ideally, the teacher will get more robust information to inform instructional decisions. Without a shared understanding of what engagement is expected to look like, sound like and feel like, the teachers and students may likely have misaligned expectations of engagement. The construct of student engagement is very complex and it needs greater clarity in literature base through research.

Recommendation 2. Throughout the study, it became evident that it was difficult to delineate the “categories” of engagement as described in the literature. Without having a clear definition of engagement shared among the students and teachers, delineating between cognitive engagement, behavioral engagement, and emotional engagement was not possible. The use of the word *effort* was included in both perceived definitions of cognitive engagement and behavioral engagement. Delineating the difference of *effort* for each category was not clearly expressed by the teachers. Teacher responses for perceived degree of individual student engagement indicated higher levels of cognitive engagement and lower levels of emotional engagement, yet the research assistant identified lower observed levels of cognitive engagement than emotional engagement or behavioral engagement. This may suggest that teachers felt that their instructional delivery and instructional methods were rigorous for students at all levels. However, some students reported feeling confused and others not challenged enough. Additionally, teachers identified behavioral engagement as an area of concern.

When prompted to provide details regarding each category of engagement, teacher responses were neither clearly nor accurately aligned with the categorical definitions of engagement provided by the literature. Behavioral engagement encompassed completing work, following the directions, and “knowing what to do”; emotional engagement included having interest in the topic, or perceived value, and emotion for the material being taught; and cognitive engagement incorporated effort, and strategy use (Fredricks et al., 2004). Definitions in engagement literature vary widely, yet have many consistencies and this inconclusiveness was identified within the teacher and student responses in this study.

Recommendation 3. There were mixed findings on instructional strategies that lead to engagement and keep students engaged. Teachers who are tuned into students’ real-time reactions to instruction avoid personal feelings on what they believed was engaging or disengaging and instead adapt instructional delivery. These engaging teachers can “identify an individual student’s lack of engagement as something they could change by offering appropriate forms of support” instead of viewing student engagement as “dependent on family values or student characteristics that teachers could not penetrate” (Cooper, 2016, p. 28). To keep students engaged, instructions, lessons, and context must consider careful planning, highlighting the importance of core elements of teaching and learning.

Teachers reported that students were most engaged when they learned through technology, had opportunities to participate in instructional games and social activities, during direct instruction, and when they were learning meaningful, challenging, and relevant material. Teachers believed that students liked to be hooked into an activity and that an engaging teacher should move around the classroom and modify activities based on students’ learning needs. Teachers perceived that students were engaged in their classes when they cooperated in small

group tasks, had perceived choices, learned from differentiated tasks, worked on projects, socialized, moved freely, took notes, and completed challenging work.

Students had varied reporting on instructional practices that support engagement. Some students reported not knowing how teachers could engage students better, while others reported that teachers should provide many types of assignments with multiple examples, model the work for the students, use technology, be clear with their delivery, provide ways that students can work on projects and participate in learning games.

Although there was some slight overlap between teachers and students' perceptions, mixed descriptions of instruction that elicited engagement were prevalent. Knowing what student engagement looks like in a classroom and how to achieve it is a critical precursor. School leaders must initiate professional learning in the core pedagogical elements that have been identified as effective in creating engaging classrooms.

Recommendation 4. Their assessment of learning (teachers) was inconsistent and not related to engagement. Teachers were given the latitude to choose the assessment of learning that best represented student growth and learning in their classrooms. Teacher 1 chose an NWEA MAP assessments and Teacher 2 chose to use the growth from Mathematics Quarter 1 grades to Mathematics Quarter 2 grades. Both data sets provided information on achievement, but doubts arose as to what constituted evidence of learning. The choice of assessment of learning could mean that the teacher had a lack of understanding of assessment and of engagement as having an impact on the assessment itself. School leaders should be able to provide clarity through professional learning for teachers so that they have a clear understanding of quality assessment and evidence of learning.

Recommendation 5. Throughout the interviewing sessions, none of the participants mentioned resolving social inequity. Dialogue did not arise organically, and although it was not asked explicitly, it was noteworthy that the issue did not arise on its own. There was no explicit evidence of a desire on behalf of the teachers to engage each individual learner based on their individual needs in support of contextual issues (SES of students, race, etc.). The topic did not emerge as impacting engagement of students. There is a real need for all school professionals to clarify values and beliefs about engagement. In doing so, a focus on developing empathy with their students and leading with an equitable mindset is critical. They must recognize that minority students vary in the amount of trust they have in the dominant group and in the schools which the dominant group controls (Ogbu, 1990). Effective teachers understand their ever-growing role, value students' cultural identities, and hold high expectations for all learners (Archambault et al., 2017).

Given the high percentage of at-risk students that this school serves, it is important for this school to explore methods for minimizing disengagement, which oftentimes leads to student resistance (Giroux, 1983; McLaren, 2015; Ogbu, 1990). It is important that teachers recognize the disconnect that exists between minority and low-SES students and school. Schools must unapologetically prioritize building cultural capital in support of understanding the correlation between self-identity and student engagement. This is consistent with exploring methods to reduce the negative influence on school cultures brought on by poor student-teacher relationships.

Student perceptions and teacher perceptions hold value. Releasing these perceptions so that they are heard, listened to, and acted upon could help improve school culture and, ultimately, student achievement. Teachers who focus on content over building cultural capital

and leading with empathy are not as effective in improving the lives of the most underserved students.

Recommendations for Future Research

This study only involved phenomenological research at one school site in a small urban K-8 school for Grades 5 and 6. It would be valuable to engage in additional research in the middle school grades prior to transitioning to high school. The concept of engagement should continue to be explored and an accurate operational definition of engagement should be adequately defined in the research.

Research has indicated that minority and disadvantaged students do not associate school with being desirable, relatable, and supportive (Apple, 1995). Hence, more research is necessary to interpret perceptions of students and teachers in urban settings with at-risk populations. In such settings, students' eagerness to learn and discover meaning in school wane as they progress into the high school years. Students lose interest in school, do not agree with the over-reliance on compliance with school routines, and have a lowered academic self-image as they get older (Alexander et al., 1997). Disliking school, not feeling like they have a voice, and being treated unfairly are all reasons minority and disadvantaged students want to leave school (Baroutsis et al., 2016). More research is necessary to improve awareness of student's perceptions so that these feelings do not continue to be persistent.

Additionally, student engagement research with Grades 7-12 would further refine the findings of the perceptions of students and teachers related to student engagement. By including the perspectives of older students, observations and student interviews responses may be more comprehensive.

Research should explore various activities and practices in school settings, such as instituting and evaluating the effectiveness of the recommendations proposed in this study. Student engagement is positively related to student achievement and disengagement is related to school suspensions and increased dropout rates (McFarland et al., 2016). Other indicators of student disengagement should be studied as well. In this study, student responses were not as rich as anticipated. This could be the result of students not feeling comfortable, feeling paranoid believing their responses may affect their grade, feeling tired and disinterested in fully expressing themselves, or not having enough lived experiences to provide the additional detail. Nonetheless, more research involving student perceptions would help practitioners when trying to comprehend student resistance.

Summary

Understanding the lived experiences of teachers and students in the educational setting is paramount to making critical educational decisions. In this study, understanding student engagement from the perspectives of each of these stakeholder groups illuminated the need to continue this practice and reflected the disparities and incongruences that existed within the findings. Student perceptions did not conclusively align with mathematics growth as determined by NWEA math scores and teacher-assigned grades. Students and teachers collectively did not share a common definition of behavioral engagement, emotional engagement, and cognitive engagement.

There was little overlap between teacher and student reports on instructional factors that influenced student engagement—essentially no substantial evidence to support specific instructional factors as having a higher perceived value for student engagement. Teachers did not explicitly mention contextual issues, such as poverty, impacting student engagement. More

work at the school level is recommended to help clarify the values and beliefs about engagement in this school for all learners.

APPENDIX A

Research Assistant Training Protocol

Training 1

Interview Process and Role of Interviewer/Classroom Observer

Critical Points to Discuss:

- Beginning the Data Collection Process:
 - Respect the cultural norms and privacy of the all research study participants
 - Participants must understand the purpose of the initial interview (collect original perception data), post-observation interview (perception of classroom learning experience) and classroom observations (objective analysis of student engagement), why (lived experiences of student engagement)/how they were selected (students-random; teachers- selected), expectations of them (honest and comprehensive answers), and how results will be communicated (after transcriptions for member-checking, and after dissertation is completed).
- Characteristics of a good interviewer:
 - Articulate, listen well, patient, avoids interrupting or rushing the interviewee, focused while not aggressive, organized and prepared with digital recording device
 - Understanding the study: knows the questions and can adjust them when necessary, assures participants that there are no right or wrong answers
 - Setup: After completing one interview, the digital recording device is prepared for the next interview and all materials (interview question protocols or classroom observation checklist protocols) are prepared prior to data collection
 - Completing interviews: Interviewer responds cordially, follows prompts from protocols by thanking participants for their time and respects privacy/maintains confidentiality of participants always.
- Characteristics of a good classroom observer:
 - Prepared with classroom observation checklists for all 5 students, moves throughout the room, observes students in close proximity
- Classroom Observation Protocol:
 - Review all parts of the protocol
 - Answer any questions/misunderstandings
 - Objective observing: only identify what was observed not assumed
 - Role-playing
 - Observing 5 students: Observe from a centralized location, listen nearby students, observe work products, observe student behaviors and responses to peers and teacher
 - Data entry: Scan all completed observations and upload onto Google drive

Training 2

Interviews, Techniques, Role Playing and Beginning Data Collection

- Initial Interviews and Post-Observation Interviews:
 - Learn about the interview question design and content.

- Review all interview questions.
- Key takeaways: Discuss information to be gleaned from each question, knowing when to probe for answers and when not to probe for answers,
- Types of data to be collected: quantitative (numbers), qualitative (lengthy oral responses)
- Student engagement: emotional engagement, cognitive engagement, behavioral engagement
- Interview and Classroom Observation Routine:
 - All materials are prepared prior to conducted classroom observations or interviews
 - Materials include classroom observation student engagement protocols for each student being observed and post-observation interview questions.
 - After classroom observation: Students begin one-on-one interviews with interviewer in safe, quiet office space, all interviews are recorded using recording device.
 - After all student interviews: all interviews are uploaded to Google Drive and shared with main researcher to begin transcription.
 - Teacher post-observation: Ideally, this is scheduled directly after the classroom observation and at least within 24-hours of the classroom observation
 - Reporting problems: Any problems or issues are to be reported to the main researcher directly via email or phone contact.
- Interviewing Techniques:
 - Discuss interviewing skills
 - Ask the interview questions as they appear on prepared interview protocols (with inclusion of any edits and slight wording adjustments agreed upon during training)
 - Ask questions in a respectful manner, avoid implying answers are better or worse than others
 - When an answer is unclear, ask the question again or ask it in a slightly different way without changing the meaning of the question or leading the participant towards a specific answer being careful to not change the meaning or “lead” the respondent into a response.
 - Allow participants to fully explain their answers to all interview questions.
 - When participants talk off topic, politely remind them of the question
- Role- Playing:
 - Conduct a sample student/teacher interview.
 - Practice effective ways to probe for needed information without leading the participant.
- Conclusion of Training/Beginning Data Collection:
 - Review logistics and timeline
 - Review setup and use of recording device and data entry into Google drive

APPENDIX B

Role of Research Assistant and Research Timeline

Role: This person will be supporting the research by taking on the roles of interviewer and observer. The interviewer/observer will be trained prior to commencement to include, interview procedures, classroom observation procedures, and effective use of equipment.

November 3-8 Multiple Zoom Meetings scheduled and carried out by David Gesualdi and Research Assistant for interview and classroom observation training (ethics training, research method, protocol implementation, instructional usage of audio equipment). **Periodic check-ins to provide support for the interviewer/observer were consistent.

November 19-20- The RA completes initial interviews for 2 mathematics teachers (5th grade and 6th grade) and 10 students (5 from 5th grade and 5 from 6th grade)

November 29-30- The RA completes 1st round of classroom observations and post observation interviews with students and teachers

December 11-13– The RA 2nd round of classroom observations (length of average math instructional class period) and post observation interviews with students (approximately 10-15 minutes for each student) and teachers (approximately 20 minutes for each teacher).

February 5-11- The RA completes 3rd round of classroom observations and post-observation interviews with students and teachers.

APPENDIX C

Teacher Participant Informed Consent Form

I, _____ (teacher participant), agree that my I will freely participate in this research study involving levels of student engagement in mathematics class. The purpose of this study is to gain teachers' and students' perspectives on the levels of student engagement in mathematics class and see if there is a correlation to student achievement.

As a teacher participant, I understand that my participation in the study is purposeful and voluntary. The two teacher participants were selected to represent 5th and 6th grade mathematics class instruction. I understand that approximately ten students will be selected to participate in this study, five students of which will be selected from each class.

I understand that as a teacher participant, I will be expected to participate in one structured initial interview, three classroom observations, and one structured post- observation interview related to my perspective on the level of student engagement that students experience in their mathematics classroom.

I recognize and understand that the research assistant has received training on research of human subjects, my responses will remain confidential, and that my name will not be associated with any results of this study. I will be labeled as a given number, only identifiable to the main researcher and participants. I understand that the data collection process will include the use of an audio recording device and all recordings will be transcribed for analysis. I understand that at no point will my identity be disclosed or even associated with the research findings. I agree that I am free to withdraw myself from participation in the study. If I choose to do so, I agree that I will notify the researcher listed below, in writing. Should I decide to withdraw myself from participation in the study, there will be no effect on my relationship with the researcher.

I understand that in return for my participation in all interviews and classroom observations, I will be provided with additional professional learning and growth opportunities.

If I have any questions or concerns that may arise as a result of my participation in the study, I understand that I should contact the main researcher, David Gesualdi at 202-830-7396 or djgesualdi@email.wm.edu. Another point of contact includes the dissertation chairman, Dr. Michael DiPaola at 757- 221-2344 or mfdipa@wm.edu.

My signature below affirms that I am at least 18 years of age, that I have received a copy of this consent form, and that I consent to participate in this research study.

Signature of Teacher Participant

Date

Signature of Main Researcher

Date

APPENDIX D

Initial Teacher Interview Protocol

Thank you for taking the time to discuss student engagement at our school, and in particular, in your mathematics class. You were selected to participate based on your current role of teaching 5th or 6th grade mathematics. Your role in this study is essential as I will gain insights and perspectives of teacher perceptions about student engagement in a classroom. There are no right or wrong answers to these questions. As a phenomenological researcher, I am seeking the range of perspectives emanating from collective experiences teaching mathematics both here at this school and throughout your experience in the teaching profession. Please feel open to share your opinion and perspective. I will ask probing questions or clarifying questions when appropriate.

In addition to asking questions, I am here to listen and capture key details. Your responses will become part of my doctoral research on student engagement in an urban K-8 school. Additionally, the research will be published and possibly read by school leaders, among others. Our interview today should take no more than thirty (30) minutes. I am audio-recording our session for transcription and analysis, and will provide a transcription to you to verify accuracy. I want you to recognize that your responses will remain confidential, and all identifying information will be redacted from the transcript. You may withdraw from this interview at any time without penalty.

Prior to starting, I want to share with you a few norms to keep us grounded. These norms include familiar norms that we share at our school as well as others that will support this research interview:

- We respectfully and actively participate.
- We own and share our work.
- We resist identifying self and others by name, instead using descriptors such as “student 1, 2, 3, 4, 5,” or “teacher.”
- What we learn and talk about here, remains here.

Introductory questions:

“I am turning on the audio recording now (button is pressed). First, I’d like to ask you a few introductory questions about your experiences, your current mathematics class environment, and your perceptions about student engagement.”

1. (Just to clarify) How long have you been teaching middle school mathematics both in your career and specifically at this school?
2. How do you currently define student engagement in your classroom?
3. Describe engaged and disengaged students--What do they look and sound like?
4. Which component of engagement do you put the largest emphasis on in your instruction: behavioral/social, emotional, or cognitive? Why?

Planning questions:

“Now I’d like to ask you a few questions about how you plan for mathematics instruction.”

1. Describe the process of how you plan lessons-- What does it look like?

2. What curriculum, textbook, or other resources do you use for your 5th/6th grade class?
3. How often do you review student work when planning?
4. If teacher uses student work: Can you describe what you look at in the work?

Student- related questions:

“Now I’d like to ask you a few questions about your view of the role students play in instruction.”

- a. What academic challenges do your students have in your mathematics class?
- b. I am aware of the disparities that exist regarding both African American students and English Language Learners’ achievement in math in our school district. Do you have any concerns regarding low-performing African American students in your classroom?
- c. Does student engagement vary by language group, ethnic or national origin, or prior schooling experiences?
- d. Do you have students who are examples of fully engaged, behaviorally engaged only, or at risk--- and how do you interact with each type of student?
- e. Do you have an engagement goal for your classroom? If so, do you want to increase the percentage of students engaged, the time students are engaged, or the contexts in which students are engaged?
- f. In what activities are students typically most engaged in your classroom?
- g. Why do you think these activities are engaging?
- h. When does students’ level of attention to content change?
- i. What do you believe triggers student disengagement?
- j. In your opinion, at what times of the lesson are students most engaged? Least engaged?
- k. What measure do you use to quantify student achievement?

Vision of Quality Instruction and Instructional Practices:

“Now I’d like to ask you a few questions about your view of high quality mathematics instruction.”

*Notes to interviewer:

Probe on depth/specificity of response until understanding is reached. For example, if a teacher says “student engagement,” ask “What type of engagement (emotional, behavioral/social, cognitive)?”

Continue to keep the form/function distinction in mind such that teachers are periodically asked why they think ____ is important. For example, if a teacher mentions grouping students in a certain way, ask them “Why do you think it’s important for scholars to work in groups or a whole class discussion?”

1. How are students’ level of engagement related to their end-of-semester grade?
2. If you were asked to observe a mathematics teacher classroom, what instructional practices, or mathematical tasks, do you expect to find the teacher doing to engage the students?
3. In an effective lesson, would you expect to see the entire class participating in a single discussion, or would students be talking primarily in a small group?
4. In your classes, do you feel the need to adjust your instruction for different sections of mathematics classes? If you teach different “tracks” of students, (e.g., algebra 1, regular mathematics 8), is your instructional delivery different between your higher leveled class than your regular class?

5. If yes, why do you find you have to adjust your instruction?
6. Are all of the students engaged in your classes? If not, why not?
7. Describe some of the instructional decisions that you make or are told to make so that all students are engaged.
8. Do you feel the need to adjust your instruction for different groups of students within a class? Why or why not?
9. If so, for which groups of students and how do you adjust your instruction?

Closing Question

1. Is there anything that you would like to do instructionally that you feel you can't do in your classroom?
2. If so, why do you feel you can't _____ in your classroom?

APPENDIX E

Post-Observation Student Interview Protocol

Project: A Phenomenological study of student engagement in an urban K-8 school.

Time of Interview:

Date:

Place: Instructional Office of Design Thinking

Interviewer: David Gesualdi

Interviewee:

Position of Interviewee: 5th/6th grade student- mathematics participant

Thank you for taking the time after your mathematics class to speak with me about your perceptions of that mathematics lesson. Remember that this is a platform so that we can hear your voice, opinions, and inputs about the impact and varying levels of engagement that you experienced today in your mathematics classroom. Please be aware that there are no right or wrong answers to any of these questions. Once again, my role is simply to note information and share information that offers a glimpse of your experience in mathematics class. Please note that all of your responses will remain confidential, and identifying information will be redacted from the transcript. You may withdraw from this interview at any time without penalty. Your responses to these interview questions will become part of my doctoral research on student engagement in our mathematics classrooms. Our interview today should take no more than 30 minutes. As you will notice, I am audio-recording our session strictly to help me transcribe and analyze your responses. Once the interview is transcribed, I will provide a detailed document that includes your responses, so that you can verify it for accuracy.

[Confirm that I have received the student consent form ahead of the interview.]

[Turn on the digital recorder and test it.]

_____ (5th/6th grade student), do you have any questions before we begin?

Post-Observation Student Interview Questions:

1. Describe how you knew that you were “engaged” in your learning in today’s mathematics class.
2. If you were “disengaged” in your learning in today’s mathematics class, describe what made you feel that way.
3. When you were engaged in the classroom lesson, describe the kinds of academic work that you were doing.
4. How often did you ask questions in class or contribute to class discussion or group discussion?
5. How often did you and your classmates have opportunities to collaborate and/or work together in mathematics class today?
6. Describe your behavior when you were engaged in mathematics class.
7. Describe your emotions when you were engaged in mathematics class.

8. Based on the ways your teacher instructed you today, did you feel engaged or what could the teacher have done differently?
9. Describe the types of academic work that you believe will help you get a better grade.
10. Please reply to the following interview survey using today's class as the context or setting. These prompts will be on a 1-to-4 Likert scale (1 = "not at all true"; 2 = "somewhat true"; 3 = "mostly true"; 4 = "almost completely/completely true"):

Behavioral Engagement: This describes how you demonstrate "the behaviors expected in a classroom—listening, doing assignments, following directions, participating, and so on" (Cooper, 2014, p. 365).

- a. I paid attention in today's class.
- b. I tried my best in today's class.
- c. When I was in class, I listened very carefully.
- d. When I was in class, I just acted like I was working. (reverse coded)
- e. I completed my classwork on time.
- f. I got in trouble in class. (reverse coded)

Emotional Engagement: This describes how you feel during class including having a sense of positivity, your feelings of being satisfied/happy, comfortable, interested and your desire to be successful in mathematics class (Blumenfeld et al., 2006; J. A. Fredricks et al., 2004).

- a. I felt happy to be a part of this class.
- b. I enjoyed learning new things.
- c. When we worked on something in class, I felt encouraged.
- d. I was not bored in today's class.
- e. Most of things we learned in class are meaningful.
- f. Mathematics class is one of my favorite places to be.
- g. Sometimes I get so interested in mathematics class, I don't want to stop.

Cognitive Engagement: This describes how you apply mental energy like the ways that you are thinking about mathematics content, the ways you investigate new information, and work with mental challenges (Cooper, 2014).

- a. When I read an instruction, I asked myself questions to make sure I understood.
- b. I classified problems into categories before I began to work on them.
- c. I checked my classwork for mistakes.
- d. Before I began studying, I thought about what I needed to learn.
- e. I worked on several examples of the same problem so I could understand problems better.
- f. When I finished working a problem, I checked my answers to see if they were reasonable.

Interview Survey adapted from J. A. Fredricks. (2014). Eight myths of student disengagement: Creating classrooms of deep learning. Thousand Oaks, CA: Corwin.

Closing Remarks:

Thank you, _____ (5th/6th grade student) for your participation in today's interview. Once your responses are transcribed, I will provide a transcript of this interview and when this dissertation is published, I will provide a copy of the final research product. This is your _____ (1st, 2nd, or 3rd) post-observation interview. I will observe your mathematics teacher _____ more times and I will observe you _____ more times in the mathematics classroom. After the remaining classroom lesson observations, I will ask you a set of post-observation interview questions so that we can gather more information about your lived experience in mathematics class at our school.

APPENDIX F

Student Participant Informed Consent Form for Parent/Guardian

I, _____ (parent/guardian of research study participant), agree that my child can participate in a research study involving levels of student engagement in mathematics class. The purpose of this study is to gain teachers' and students' perspectives on the levels of student engagement in mathematics class and see if there is a correlation with increased student achievement.

As a parent/guardian of the 5th/6th grade student participant, I understand that my child's participation in the study is purposeful and voluntary. Student participants were selected to represent 5th/6th grade student perspectives on mathematics class instruction. I understand that a total of 10 students will be selected to participate in this study.

I understand that the 5th/6th grade student participant will be expected to participate in one structured initial interview and two structured interviews related to my child's perspectives on the level of student engagement that he/she experiences in their mathematics classroom.

I recognize and understand that the research assistant, Ms. Jessica Kull, has received training on research of human subjects, my child's responses will remain confidential, and that my child's name will never be associated with any results of this study. My child will be labeled with a number, only identifiable to the researcher and participants. I understand that the data collection process will include the use of an audio recording device and all recordings will be transcribed for analysis. I understand that at no point will my child's identity be disclosed or even associated with the research findings. I agree that I am free to withdraw my permission for my child to participate in the study. If I choose to do so, I agree that I will notify the researcher listed below, in writing. Should I decide to withdraw my child from participation from the study, there will be no effect on my relationship with the researcher.

I understand that in return for my child's participation in all interviews, my child will be provided a nutritional lunch with the main researcher at the culmination of the study.

If I have any questions or concerns that may arise as a result of my child's participation in the study, I understand that I should contact the main research, David Gesualdi at 202-830-7396 or djgesualdi@email.wm.edu. Another point of contact includes the dissertation chairman, Dr. Michael DiPaola at 757- 221-2344 or mfdipa@wm.edu.

My signature below affirms that I am at least 18 years of age, that I have received a copy of this consent form, and that I consent for my child to participate in this research study.

_____ Signature of Parent of Student Participant

_____ Date

_____ Signature of Researcher

_____ Date

APPENDIX G

Initial Student Interview Protocol

Project: A Phenomenological study of student engagement in an urban K-8 school.

Time of Interview:

Date:

Place: Instructional Office of Design Thinking

Interviewer: David Gesualdi

Interviewee:

Position of Interviewee: 5th/6th grade student- mathematics participant

Thank you for taking the time to speak with me about your perceptions of mathematics class. You were selected to participate because you are a current 5th/6th grade mathematics student. In an effort to improve our school instruction, this research study is designed to provide a platform so that your voice, opinions, and inputs about the impact and varying levels of engagement that you experience in your mathematics classroom can come to light. Please be aware that there are no right or wrong answers to any of these questions. My role is simply to note information and share information that offers a glimpse of your experience in mathematics class. Please note that all of your responses will remain confidential, and identifying information will be redacted from the transcript. You may withdraw from this interview at any time without penalty. Your responses to these interview questions will become part of my doctoral research on student engagement in our mathematics classrooms. Our interview today should take no more than 30 minutes. As you will notice, I am audio-recording our session strictly to help me transcribe and analyze your responses. Once the interview is transcribed, I will provide a transcription, or detailed document that includes your responses, so that you can verify it for accuracy.

[Confirm that I have received the student consent form ahead of the interview.]

[Turn on the digital recorder and test it.]

_____ (5th/6th grade student), do you have any questions before we begin?

Initial Student Interview Questions:

Introduction: Let's begin with some background information on what it means to be engaged. Being "engaged" considers three forms: behavioral/social engagement, emotional engagement, and cognitive engagement. Behavioral/social engagement includes how you demonstrate "the behaviors expected in a classroom— such as listening, doing assignments, following directions, participating, and so on" (Cooper, 2014, p. 365). Additionally, emotional engagement includes your sense of positivity for a class, your feelings of being satisfied, comfortable and interested and your desire to find success in mathematics class (Blumenfeld et al., 2006; J. A. Fredricks et al., 2004). And finally, cognitive engagement includes the amount of mental energy you exert, the ways that you are thinking about mathematics content, the ways you investigate new information, and work with mental challenges (Cooper, 2014).

- l. With this in mind, describe what it means when a student is “engaged” in their learning in your mathematics class.
- m. Describe the behaviors, feelings, and mental focus of a student who is not engaged/disengaged in your mathematics class.
- n. While you are in mathematics class, describe how you are either engaged or if you feel that you are not, describe your behaviors, feelings, and mental focus that show you are disengaged.
- o. When you feel engaged in a classroom lesson, describe the kinds of academic work that you are doing?
- p. Within a class period, how many times do you ask questions in class or contribute to class discussion?
- q. Describe your behavior when you are engaged in mathematics class.
- r. Describe how you feel during your class when you are doing independent work, and group work.
- s. Describe the types of academic work that you believe will interest you and help you learn more.
- t. List some ways in which a teacher can help you become engaged in learning mathematics.
- u. Describe the way an “engaging teacher” teaches you? In particular, how does that teacher deliver instruction so that you are engaged in learning?
- v. How do you think teachers measure your level of student achievement?

Closing Remarks:

Thank you, _____ (5th/6th grade student) for your participation in this interview. Once your responses are transcribed, I will provide a transcript of this interview, and each of the three post-observation interviews. Additionally, when this dissertation is published, I will provide a copy of the final research product. Over the next few weeks, I will observe your mathematics teacher and I will observe you in the mathematics classroom. After each of the three class lessons, we will meet again and I will ask you a set of interview questions so that we can gather more information about your lived experience in mathematics class at our school.

APPENDIX H

Indicators of Student Engagement Observation Protocol-Mathematics

Student Name/Number _____ Date Observed _____ Class _____
 Time _____ Teacher: _____ Observer: _____

The observer uses this tool to record occurrences of high and low-yield practices for one (1) student. Check the middle column only if an item is observed-- in a single observation not all items will be observed. Indicators are not checked without evidence. Use the far-right column to write specific examples or non-examples for discussion with the teacher.

BE= behavioral engagement EE= emotional engagement CE= cognitive engagement

OBSERVATION “LOOK-FORS”	√	<i>SPECIFY EXAMPLES /NON-EXAMPLES</i>
Indicators for High, Active Student Engagement		
1. Follows classroom rules (BE)		
2. Effort directed at completing tasks. (BE)		
3. Participates/completes task. (BE)		
4. Concentrates on learning experience. (BE)		
5. Experiences enjoyment, happiness, interest. (EE)		
6. Seems to have a sense of belonging (included, respected, liked by others). (EE)		
7. Perceives value in the task (important, is useful for the future, interesting, relevant). (EE)		
8. Has psychological investment in learning (goes beyond requirements, prefers challenge, effort is directed at understanding and mastery). (CE)		
9. Engages in strategy use (elaborate, relates material to previous knowledge, integrates ideas, makes use of evidence). (CE)		

10. Applies meta-cognition strategies (CE) <i>Specify:</i> a) Making connections b) Summarizing c) Inferring/Generating Hypotheses/Predicting d) Visualizing e) Asking/generating questions f) Synthesizing g) Determining importance/big ideas h) Monitoring and clarifying		
11. Creates/uses learning tools, (CE) <i>indicate:</i> a) Concept mapping b) Advance/graphic organizers c) Manipulatives d) Technology e) Other, <i>Specify</i>		
12. Engages in self-assessment of their work, what they learn, and how they learn. (CE)		
13. Engages in asking for and giving specific feedback to peers and to the teacher. (CE)		
Lower-Yield Practices for Students		
1. Completes worksheet, homework		
2. Engages in oral turn taking		
3. Responds orally		
4. Engages in listening		

Adapted from (Hindman et al., 2015).

APPENDIX I

Post-Observation Teacher Interview Protocol

Project: A Phenomenological study of student engagement in an urban K-8 school.

Time of Interview:

Date:

Place: Instructional Office of Design Thinking

Interviewer: David Gesualdi

Interviewee:

Position of Interviewee: 5th/6th grade teacher- mathematics participant

Thank you for taking the time after your mathematics class to speak with me about your perceptions of that mathematics lesson. Remember that this post-observation interview is an opportunity for you to share your perceptions about the impact and varying levels of engagement that you identified in your students today in your mathematics classroom. Please be aware that there are no right or wrong answers to any of these questions. Once again, my role is simply to note information and share information that offers a glimpse of your teaching experience in mathematics class. Please realize that these observations are not punitive and in absolutely no way affect your teacher evaluation scores. All of your responses will remain confidential, and identifying information will be redacted from the transcript. You may withdraw from this interview at any time without penalty. Your responses to these interview questions will become part of my doctoral research on student engagement in our mathematics classrooms. Our interview today should take no more than 30 minutes. As you will notice, I am audio-recording our session strictly to help me transcribe and analyze your responses. Once the interview is transcribed, I will provide a transcription, so that you can verify it for accuracy.

[Confirm that I have received the teacher consent form ahead of the interview.]

[Turn on the digital recorder and test it.]

_____ (Mathematics teacher), do you have any questions before we begin?

Post-Observation Teacher Interview Questions:

1. Using a 1-4 Likert Scale, give a value to each of the prompts (1 = “not at all true”; 2 = “somewhat true”; 3 = “mostly true”; 4 = “almost completely/completely true”)
 - a. Student 1 was emotionally engaged in today’s math lesson. \
 - b. Student 1 was behaviorally engaged in today’s math lesson.
 - c. Student 1 was cognitively engaged in today’s math lesson.
 - d. Student 2 was emotionally engaged in today’s math lesson.
 - e. Student 2 was behaviorally engaged in today’s math lesson.
 - f. Student 2 was cognitively engaged in today’s math lesson.
 - g. Student 3 was emotionally engaged in today’s math lesson.
 - h. Student 3 was behaviorally engaged in today’s math lesson.
 - i. Student 3 was cognitively engaged in today’s math lesson.

- j. Student 4 was emotionally engaged in today’s math lesson.
 - k. Student 4 was behaviorally engaged in today’s math lesson.
 - l. Student 4 was cognitively engaged in today’s math lesson.
 - m. Student 5 was emotionally engaged in today’s math lesson.
 - n. Student 5 was behaviorally engaged in today’s math lesson.
 - o. Student 5 was cognitively engaged in today’s math lesson.
2. Describe how you knew a student was behaviorally “engaged” in their learning in today’s mathematics class.
 3. Describe how you knew a student was emotionally “engaged” in their learning in today’s mathematics class.
 4. Describe how you knew a student was cognitively “engaged” in their learning in today’s mathematics class.
 5. If a student was “disengaged” in their learning in today’s mathematics class, why do you believe the student felt that way?
 6. When a student was engaged in the classroom lesson, describe the kinds of academic work that the student was doing.
 7. How often did the students 1-5 ask questions in class or contribute to class discussion or group discussion?
 8. How often did students 1-5 have opportunities to collaborate with their peers in today’s class?
 9. Describe the type(s) of instruction that you feel interested the students in today’s lesson.
 10. Describe the type(s) of academic work that you believe helped the students get a better grade in today’s lesson.
- Note: If this is the final post-observation interview, ask the following question:
Provide a student achievement score for each of the 5 students. Some examples of student achievement scores include BOY and MOY assessment scores, online platform scoring such as i-Ready assessments, or even end-of-semester grades. Why did you chose that particular indicator of student achievement?

Closing Remarks:

Thank you, _____ (5th/6th grade Mathematics teacher) for your participation in this interview. Once your responses are transcribed, I will provide a transcript of this interview, and each of the three post-observation interviews. This is your _____ (1st, 2nd, or 3rd) post-observation interview. I will observe your classroom _____ (0, 1, or 2) more times. After the remaining classroom lesson observations, I will ask you a set of post-observation interview questions so that we can gather more information about your lived experience teaching mathematics class at our school.

APPENDIX J

Teacher Participant Informed Consent Form

I, _____ (teacher participant), agree that my I will freely participate in this research study involving levels of student engagement in mathematics class. The purpose of this study is to gain teachers' and students' perspectives on the levels of student engagement in mathematics class and see if there is a correlation to student achievement.

As a teacher participant, I understand that my participation in the study is purposeful and voluntary. The two teacher participants were selected to represent 5th and 6th grade mathematics class instruction. I understand that approximately ten students will be selected to participate in this study, five students of which will be selected from each class.

I understand that as a teacher participant, I will be expected to participate in one structured initial interview, three classroom observations, and one structured post- observation interview related to my perspective on the level of student engagement that students experience in their mathematics classroom.

I recognize and understand that the research assistant has received training on research of human subjects, my responses will remain confidential, and that my name will not be associated with any results of this study. I will be labeled as a given number, only identifiable to the main researcher and participants. I understand that the data collection process will include the use of an audio recording device and all recordings will be transcribed for analysis. I understand that at no point will my identity be disclosed or even associated with the research findings. I agree that I am free to withdraw myself from participation in the study. If I choose to do so, I agree that I will notify the researcher listed below, in writing. Should I decide to withdraw myself from participation in the study, there will be no effect on my relationship with the researcher.

I understand that in return for my participation in all interviews and classroom observations, I will be provided with additional professional learning and growth opportunities.

If I have any questions or concerns that may arise as a result of my participation in the study, I understand that I should contact the main researcher, David Gesualdi at 202-830-7396 or djgesualdi@email.wm.edu. Another point of contact includes the dissertation chairman, Dr. Michael DiPaola at 757- 221-2344 or mfdipa@wm.edu.

My signature below affirms that I am at least 18 years of age, that I have received a copy of this consent form, and that I consent to participate in this research study.

Signature of Teacher Participant

Date

Signature of Main Researcher

Date

APPENDIX K

Communication with Superintendent for Research Permission

Date: October 11, 2018

Title: A PHENOMENOLOGICAL STUDY OF STUDENT ENGAGEMENT IN AN URBAN K-8 SCHOOL

Requester/Organization Name: David Gesualdi

Issue	Comments
Description. <input checked="" type="checkbox"/> Research	<ul style="list-style-type: none"> ▪ This phenomenological study is designed to discover the lived experiences of students and teachers within a math class setting. Students and teachers will share insights and perspectives about student engagement and how they believe instruction may improve.
Timeline. <input checked="" type="checkbox"/> 2018-19	<ul style="list-style-type: none"> ▪ Jessica Kull will perform 12 initial interviews (10 student interviews and 2 teacher interviews) ▪ Jessica Kull will perform 3 classroom observations (observing for 3 components of student engagement) ▪ Jessica Kull will perform 12 post-observation interviews after each classroom observation. ▪ The entire research period may last up to 6 weeks to collect all data.
Data Collection From/in Schools. Midwestern Urban K-8 School	<ul style="list-style-type: none"> ▪ Data will be collected and analyzed at Midwestern K-8 School with support school leader and research assistant
Data Requested from Midwestern Urban K-8 School	<ul style="list-style-type: none"> ▪ No data will be requested from Midwestern Urban K-8 School as this is a phenomenological study focusing on the lived experiences of teachers and students with regards to student engagement. All context data originates from www.mistudentdata.org
Research Priority.	<ul style="list-style-type: none"> ▪ Student engagement
Midwestern K-8 School Advocate	<ul style="list-style-type: none"> ▪ School Leader of Midwestern K-8 School
IRB Approval. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> Pending (upon dissertation proposal acceptance)	<ul style="list-style-type: none"> ▪ IRB approval is expected upon completion of dissertation proposal completion (October 26, 2018)

Dear Superintendent of Midwestern Urban K-8 School,

My name is David Gesualdi and I am reaching out to you directly in hopes of securing permission to conduct a research project at your Midwestern urban K-8 school as part of my dissertation for the College of William and Mary. Along with your School Leader, I am also a member of the College of William and Mary Executive leadership doctoral program. Not only are we close colleagues, but we are also cut from the same cloth: we care about children and we seek to make their world a better place. Within this enclosed report, I will provide a comprehensive glimpse of my research study, how it would benefit the staff and children at your Midwestern urban K-8 school and how the research will be carried out. Please review this research proposal and reply with your questions, comments and concerns. If this research proposal is granted, the School leader and research assistant, the acting observer and interviewer, along with the two math teachers and ten students will be given clear and concise instructions (See Appendices).

The research assistant will receive training and support in her role as the research assistant (See Appendices). Parents/Guardians will have access to surveys or materials that will be used with their children in school, including timeline and clear information on consent process and protection of data and privacy will be distributed to those participating in the study. At no point will any personal data be shared or published as the privacy of students and participants in the research, as well as the protection of data is paramount. This data and eventual dissertation will serve to support the work and the research-based school culture that the school leader has instilled. Again, thank you kindly for your consideration and I am hopeful that this research will be an enormous asset and add value to the instructional culture of the school.

Regards,

David Gesualdi

REFERENCES

- Aikens, N. L., & Barbarin, O. (2008). Socioeconomic differences in reading trajectories: The contribution of family, neighborhood, and school contexts. *Journal of Educational Psychology, 100*(2), 235–251. <http://doi.org/10.1037/0022-0663.100.2.235>
- Alexander, K. L., Entwisle, D. R., & Horsey, C. S. (1997). From first grade forward: Early foundations of high school dropout. *Sociology of Education, 70*, 87–107.
- Apple, M. W. (1995). *Education and power*. New York, NY: Routledge.
- Appleton, J. J., Christenson, S. L., Kim, D., & Reschly, A. L. (2006). Measuring cognitive and psychological engagement: Validation of the student engagement instrument. *Journal of School Psychology, 44*(5), 427-445.
- Archambault, I., Vandenbossche-Makombo, J., & Fraser, S. L. (2017). Students' oppositional behaviors and engagement in school: The differential role of the student-teacher relationship. *Journal of Child and Family Studies, 26*, 1702–1712.
<http://doi.org/10.1007/s10826-017-0691-y>
- Barbarin, O. A., & Aikens, N. (2015). Overcoming the educational disadvantages of poor children: How much do teacher preparation, workload, and expectations matter. *American Journal of Orthopsychiatry, 85*(2), 101–105. <http://doi.org/doi:10.1037/ort0000060>
- Baroutsis, A., McGregor, G., & Mills, M. (2016). Pedagogic voice: Student voice in teaching and engagement pedagogies. *Pedagogy, Culture & Society, 24*(1), 123–140.
<http://doi.org/10.1080/14681366.2015.1087044>
- Blumenfeld, P. C., Kempler, T. M., & Krajcik, J. S. (2006). Motivation and cognitive engagement in learning environments. In R. K. Sawyer (Ed.), *The Cambridge handbook of the learning sciences* (pp. 475–488). Cambridge, UK: Cambridge University Press.

- Bourdieu, P., & Passeron, J. C. (1977). *Cultural reproduction and social reproduction: In power and ideology in education*. New York, NY: Oxford University Press.
- Brewster, A. B., & Bowen, G. L. (2004). Teacher support and the school engagement of Latino middle and high school students at risk of school failure. *Child and Adolescent Social Work Journal*, 21(1), 47–67. <http://doi.org/10.1023/B:CASW.0000012348.83939.6b>
- Bryson, J. M. (2011). *Strategic planning for public and nonprofit organizations: A guide to strengthening and sustaining organizational achievement* (4th ed.). San Francisco, CA: Jossey-Bass.
- Carter, D. K. (2016). *An exploration of high school leadership perspectives on low socioeconomic and ethnic minority student engagement* (Doctoral dissertation). University of La Verne. La Verne, California.
- Connell, J. P., Spencer, M. B., & Aber, J. L. (1994). Educational risk and resilience in African American youth: Context, self, action, and outcomes in school. *Child Development*, 65(2), 493–506. <http://doi.org/10.1111/j.1467-8624.1994.tb00765.x>
- Cooper, K. S. (2012). Safe, affirming, and productive spaces. *Urban Education*, 48(4), 490–528. <http://doi.org/10.1177/0042085912457164>
- Cooper, K. S. (2014). Eliciting engagement in the high school classroom: A mixed-methods examination of teaching practices. *American Educational Research Journal*, 51(2), 363–402. <http://doi.org/10.3102/0002831213507973>
- Cooper, K. S. (2016). Reflectiveness, adaptivity, and support: How teacher agency promotes student engagement. *American Journal of Education*, 123(1), 109–136.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage.

- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York, NY: Harper Perennial.
- Darling-Hammond, L. (2010). *The flat world and education: How America's commitment to equity will determine our future*. New York, NY: Teachers College Press.
- Darling-Hammond, L. (2012). *Creating a comprehensive system for evaluating and supporting effective teaching* [Report]. Retrieved from Stanford Center for Opportunity Policy in Education website: <https://edpolicy.stanford.edu/sites/default/files/publications/creating-comprehensive-system-evaluating-and-supporting-effective-teaching.pdf>
- Delpit, L. D. (1988). The silenced dialogue: Power and pedagogy in educating other people's children. *Harvard Educational Review*, 58(3), 280–298.
<http://doi.org/10.1016/j.tics.2009.01.005>
- Erickson, F. (1987). Transformation and school success: The politics and culture of school achievement. *Anthropology and Education Quarterly*, 18(44), 335–356.
- Finn, J. D. (1989). Withdrawing from school. *Review of Educational Research*, 59(2), 117–142.
- Finn, J. D., & Voelkl, K. E. (1993). School characteristics related to student engagement. *Journal of Negro Education*, 62(2), 249–268.
- Finn, J. D., & Zimmer, K. S. (2012). Student engagement: What is it? Why does it matter? In S. Christenson, A. Reschly, & C. Wylie (Eds.), *Handbook of research on student education* (pp. 97–145). New York, NY: Springer.
- Fowler, F. C. (2013). *Policy studies for educational leaders* (4th ed.). Upper Saddle River, NJ: Pearson.
- Fredricks, J. A. (2014). *Eight myths of student disengagement: Creating classrooms of deep learning*. Thousand Oaks, CA: Corwin

- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*(1), 59–109.
<http://doi.org/10.3102/00346543074001059>
- Fredricks, J., McColskey, W., Meli, J., Mordica, J., Montrosse, B., & Mooney, K. (2011). Measuring student engagement in upper elementary through high school: A description of 21 instruments. *Issues and Answers Report, 98*, 26–27. Retrieved from Institute for Education Sciences, Regional Educational Laboratory website: <http://ies.ed.gov/ncee/edlabs>
- Fullan, M., & Quinn, J. (2016). *Coherence: The right drivers in action for schools, districts and systems*. Thousand Oaks, CA: Corwin.
- Frontier, A. C. (2007). What is the relationship between student engagement and student achievement? A quantitative analysis of middle school students' perceptions of their emotional, behavioral, and cognitive engagement as related to their performance on local and state measures of achievement (Doctoral dissertation). Cardinal Stritch University. Milwaukee, Wisconsin.
- Garrison, D. R., Akyol, Z. (2013). The Community of Inquiry Theoretical Framework. *Handbook of Distance Education*. 1-29.
- Gentry, M., Gable, R. K., Rizza, M. G. (2002). Students' perceptions of classroom activities: Are there grade-level and gender differences? *Journal of Educational Psychology, 94*(3), 539-544.
- Giroux, H. A. (1983). *Theory and resistance in education: Pedagogy for the opposition*. South Hadley, MA: Bergin & Garvey.
- Harris, L. (2008). A phenomenographic investigation of teacher conceptions of student engagement in learning. *Australian Educational Researcher, 35*(1), 57–79.

- Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to student achievement*. New York, NY: Routledge.
- Heller, R., Wolfe, R. E., & Steinberg, A. (2017). *Rethinking readiness: Deeper learning for college, work, and life*. Cambridge, MA: Harvard Education Press.
- Hindman, J., Rozzelle, J., Ball, R., & Fahey, J.,(2015). Visible leading: principal academy connects and empowers principals. *Journal of Staff Development*, 36(4), 18-22.
- Kelly, S., & Zhang, Y. (2016). Teacher support and engagement in math and science: Evidence from the high school longitudinal study. *The High School Journal*, 141–166.
- Kumar, D. (1991). A meta-analysis of the relationship between science instruction and student engagement. *Educational Review*, 43(1), 49–61.
- Lamb, S., & Rice, S. (2008). *Effective intervention strategies for students at risk of early leaving* [Discussion paper]. Retrieved from http://samordningsforbund.se/wp-content/uploads/sites/3/2014/06/rapport_university_of_melborne_080501.pdf
- Manigault, E. L. (2014). *A phenomenological study of student engagement in United States History classrooms* (Doctoral dissertation). University of South Carolina. Columbia, South Carolina
- Martin, A. J., & Dowson, M. (2009). Interpersonal relationships, motivation, engagement, and achievement: Yields for theory, current issues, and educational practice. *Review of Educational Research*, 79(1), 327–365.
- Marzano, R. (2004). *Classroom instruction that works: Research strategies for increasing student achievement* (1st ed.). Alexandria, VA: ASCD.

- McFarland, J., Stark, P., & Cui, J. (2016). *Trends in high school dropout and completion rates in the United States: 2013* [Compendium report]. Retrieved from National Center for Education Statistics website: <https://nces.ed.gov/pubs2016/2016117rev.pdf>
- McLaren, P. (2015). *Life in schools: An introduction to critical pedagogy in the foundations of education* (6th ed.). London, UK: Paradigm.
- Mertens, D. M. & Wilson, A. T. (2012). *Program evaluation theory and practice: a comprehensive guide*. New York, NY: Guilford Press.
- Michigan Department of Education. (2019). Section 31a: At Risk. Retrieved from https://www.michigan.gov/mde/0,4615,7-140-81376_51051-43638--,00.html
- Nakkula, M. (2003). Identity and possibility: Adolescent development and the potential of schools. In M. Sadowski (Ed.), *Adolescents at school: Perspectives on youth, identity, and education* (pp. 7–18). Cambridge, MA: Harvard Education Press.
- Nasir, N. S., & Hand, V. (2008). From the court to the classroom: Opportunities for engagement, learning, and identity in basketball and classroom mathematics. *The Journal of the Learning Sciences, 17*, 143–179.
- National Research Council & Institute of Medicine. (2004). *Engaging schools: Fostering high school students' motivation to learn*. Retrieved from National Academies Press website: <https://www.nap.edu/download/10421>
- Northouse, P. G. (2016). *Leadership: Theory and practice* (Seventh). Thousand Oaks, CA: Sage Publications Inc.
- OECD, (2003). *Student engagement at school: A sense of belonging and participation: Results from PISA 2000* [Report]. Retrieved from Organization for Economic Co-Operation and Development website:

<http://www.oecd.org/education/school/programme-for-international-student-assessment-pisa/33689437.pdf>

Ogbu, J. U. (1990). Minority education in comparative perspective. *The Journal of Negro Education, 59*(1), 45–57.

Peterson, P., Swing, S., Stark., & Wass, G. (1984). Student's cognition and time on task during mathematics instruction. *American Educational Research Journal, 21*, 487-515.

Quaglia Institute for School Voice and Aspirations. (2016). *School voice: Report 2016* [Report]. Retrieved from <http://quagliainstitute.org/qisa/library/view.do?id=844>

Rumberger, R. W. (2011). *Dropping out*. Cambridge, MA: Harvard University Press.

Saldana, J. (2016). *The coding manual for qualitative researchers* (3rd ed.). Los Angeles, CA: Sage.

Schlechty, P. (2004). *Working on the work*. San Francisco, CA: Jossey-Bass.

Simon, R. I., & Simon, R. I. (2017). Empowerment as a pedagogy of possibility. *Language Arts, 64*(4), 370–382.

Sinclair, M. F., Christenson, S. L., Lehr, C. A., & Reschly, A. L. (2003). Facilitating student engagement: Lessons learned from Check & Connect longitudinal studies. *The California School Psychologist, 8*, 29–41. <http://doi.org/10.1007/BF03340894>

Skinner, E. A., Furrer, C., Marchand, G., & Kindermann, T. (2008). Engagement and disaffection in the classroom: Part of a larger motivational dynamic? *Journal of Educational Psychology, 100*(4), 765–781. <http://doi.org/10.1037/a0012840>

Skinner, E. A., Kindermann, T. A., Connell, J. P., & Wellborn, J. G. (2009). Engagement and disaffection as organizational constructs in the dynamics of motivational development. In

- K. R. Wenzel & A. Wigfield (Eds.), *Handbook of motivation at school* (pp. 223–246). New York, NY: Taylor & Francis.
- Smyth, J. (2006). When students have power: Student engagement, student voice, and the possibilities for school reform around “dropping out” of school. *International Journal of Leadership in Education*, 9(4), 285–298. <http://doi.org/10.1080/13603120600894232>
- Stronge, J. H. (2010). *Evaluating what good teachers do: Eight research-based standards for assessing teacher excellence*. Larchmont, NY: Eyes on Education.
- Thomson, P., & Gunter, H. (2011). Inside, outside, upside down: The fluidity of academic researcher “identity” in working with/in school. *International Journal of Research & Method in Education*, 34(1), 17-30. <http://doi.org/10.1080/1743727X.2011.552309>
- Tschannen-Moran, M. (2014). *Trust matters* (2nd ed.). San Francisco, CA: Jossey-Bass.
- United States Department of Education. (2018). Progress in our schools. Retrieved from <https://www.ed.gov/k-12reforms>
- Yazzie-Mintz, E. (2007). *Voices of students on engagement: A report on the 2006 High School Survey of Student Engagement* [Report]. Retrieved from ERIC database. (ED495758)

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