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What Do Teachers Know about Differentiated Instruction?

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WHAT DO TEACHERS KNOW ABOUT DIFFERENTIATED INSTRUCTION?

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Department of Educational Leadership and Research

by

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ABSTRACT

The purpose of this case study was to explore what elementary teachers in an urban school district understand and implement as differentiated instruction and the role of learning styles. While there is much research that supports the implementation of differentiated instruction based on learning styles and learning levels to increase student achievement (Grasha, 2002; Patton, 1987), there is limited research that aligns the teacher's understanding, implementation, and reflection on pedagogical differentiated practices within the classroom.

As an employee of the study district, a former teacher within the district, and a former supervisor of the school, I defined my role as the researcher, obtained participants from within the schools, and examined the process teachers used to differentiate instruction.

To better understand teachers' perspectives about differentiated instruction as it related to students' learning style and student's learning level compared to theoretical and pragmatic understandings outlined in research literature, I used walk-throughs, surveys, teachers' lesson plans, teachers' videoed taped lessons, teachers' reflection journal, and recorded interviews. With the knowledge obtained from this process, I provide recommendations for future directions for district implementation of differentiated instruction in the classroom to increase student achievement. I also provide reflective practices that support teachers' pedagogical improvement for the implementation of differentiated instruction and the development of reflective pedagogical practice to increase student achievement (Schmoker, 2010).

CHAPTER 1. INTRODUCTION

Rationale

Returning to school my second year of teaching, we organized classrooms and prepared for our students to return. Our principal Mr. Jones wanted us to reflect on the achievement of our students and think about how we would organize learning for the year. At the first meeting of the year, Ms. Ann, a thirty-year ‘seasoned’ white female teacher with whom I worked in my first years as a teacher, said, “I just don’t get it. I teach all of my students the same way and it’s like my white students seem to get it and the Black ones just don’t seem to get it all.” I began to think about the difference between an “equal” education heralded by Brown v. Board of Education for example, and what might be an equity-based education experience (Harper & Patton, 2009).

Reflecting on Ms. Ann’s comments I wondered if the problem she faced was that she attempted to treat all students the same behaviorally, pedagogically, and socio-emotionally – and what would happen if students were treated differently, with intention, based on what we knew about their strengths, challenges, opportunities, etc. During the remainder of that school year and beyond, I really thought about and took to heart my pedagogical interactions with students: Was I treating them all the same? Was I recognizing their unique differences and opportunities? Was I exacerbating gaps or helping to close them? Did my own similarities and differences from students play a role in my decision making?

It is important to note that I worked, and still do, in a school system where the majority of students are from historically and demographically underrepresented groups; for example, 88% of students are identified as a racial minority and nearly 80% are identified by the state as

economical disadvantaged (Louisiana Department of Education, 2015). The student population is not proportional to the population demographics of the Louisiana, which, based on the last census information, suggested that less than 40% of the population come from these historically underrepresented groups and just over 60% of the population is white (US Census Bureau, 1992). At the same time, the demographic data about teachers reveals another complexity as 50% of teachers are white and 50% of teachers come from historically underrepresented groups (Ballotpedia, 2016). The challenge of demographics is separate from differentiation. Where the demographic realities show disconnects among students, teachers, and the population in terms of race, it is difficult to determine if race contributes to instructional decisions.

Educational Reform Policies

In the educational sector, a number of policies, federal mandates, and orientations have articulated the aim of leveling the playing field for white and non-white peer groups. The most prominent federal-level mandates include the Elementary and Secondary Education Act, Individuals with Disabilities Education Act, the A Nation at Risk Treatise, No Child Left Behind legislation, Common Core standards movement, and Race to the Top federal funding model. While the articulation of these acts has been to create landscapes that favor equality, the resulting data suggests that gaps maintain and persist, and even expand (Americans with Disabilities Act of 1990; Hollins, 2015). Skerrett & Hargreaves (2008) stated that:

Research dollars that have followed these sorts of initiatives may have cumulatively exaggerated their incidence of articulating effectiveness...in practice... common curricula and learning standards [for example] have institutionalized inequitable systems of academic tracking and uneven student achievement, with racial minority students being disproportionately represented in lower academic tracks while higher performing mostly White peers occupy the higher levels of schooling (p. 915).

Looking across the time span of the initiatives of the last 40 years very little appears to have changed (Bendixen, 2016; Fusarelli, 2004; Schoen & Fusarelli, 2008; McDonnell, 2005) with initiatives' outcomes not matching their promise of hope. The problem that exists is arguably beyond the education realm itself. What takes place within the classroom, beyond the policies articulated to provide safety and equality, has not erased inequities nor closed the achievement gap. Schools today are more segregated (beyond the distribution of bodies) than they were at the time the Supreme Court heard *Brown v. Board*. In fact, Kozol (1967; 2005; 2012) passionately focused attention on the resegregation of schools, outlining that schools have produced savage inequalities in a learning landscape that flourished by creating inequitable learning environments and opportunities (Bonilla-Silvia, 2006). Diner & Lieberman's (1981) classic *A Piece of the Pie* outlined in great detail the historical ways in which race and education have been combined to provide Black students with systematically less resources and opportunities than their white peers. As Siddle-Walker (1996, 2000, 2001) carefully documented, pre-Brown achievement gaps were linked to resource allocation, not at all to a lack of effort, desire, or orientation in segregated learning environments. Siddle-Walker (2000) also outlined that post-Brown teachers of color have been systematically reduced and in many places eliminated from the landscape while proliferating a force of white educators and para-educators (school psychologists, counselors, social workers, etc.) to 'deal' with minority students – with no change in educational outcomes for minority students.

Researchers (Kao & Thompson, 2003; Desimore, 1999; Lee & Burkam, 2002; Goldsmith, 2004; Lee & Orfield, 2006) suggest that achievement across a variety of sectors is still disparate between white and non-white peers, and this achievement gap plays out beyond generalities when looking at specific areas of instruction, including mathematics (Lubienski,

2002; Vanneman, Hamilton, Anderson & Raham, 2009; Lee & Reeves, 2012; Robinson & Lubienski, 2011; Balfanz & Byrnes, 2006), reading (Chatterji, 2006; Hoff 2013; Lee & Reeves, 20012; Szyjka, 2012), early education (Hoff, 2013; Heckman, 2011), gifted education (Ford, Grantham, & Whiting, 2008; Henfield, Washington, & Owens, 2010; Hensfield, Moore, & Wood, 2008; Ford, 2006), along with overrepresentation in discipline and punishment of minority students (Gregory, Skiba, & Noguera, 2008; Lewis, Butler, Bonner, & Joubert, 2010; Monroe, 2005; Skiba, Horner, & Chung, 2011; Shollenberger, 2014).

Educational Reform in Focus

Education is in a constant process of reform (Kolb, 2011). When education reforms, challenges surface in methodological practices, processes, content, and context that assist with the necessary enhancements for the quality of life for people. Current educational reform began in 1965 with the creation of the ESEA, which provided guidelines for the use of federal funds in an attempt to increase academic performance of students, schools, districts, and states (Standerfer, 2006; Vannerman et al., 2009). Because of the ESEA, the National Assessment of Educational Progress (NAEP) was developed, which provided a mechanism to gauge student learning and school performance (Vanneman et al., 2009). In 1981, those serving on the committee for the National Commission on Excellence in Education (NCEE) were charged with assessing and synthesizing the quality of learning and the quality of teaching (School, 2011; Standerfer, 2006; U. S. Dept. of Ed., 1983). Then Secretary of State T. H. Bell charged the committee with providing a report within 18 months of their first meeting on how to improve education, and how leadership could support schools and universities, as well as constructive criticism; David P. Gardner chaired the committee and selected members for this task included Nobel Prize winning chemist Glenn T. Seaborg as a member of the team. The educational

system was in a critical state and the committee was charged with providing recommendations for improvement to the declining education in the U.S., and preparing students for global and national economic competition (School, 2011; Standerfer, 2006).

A Nation at Risk (1983) revealed that the “once under-challenged preeminence in commerce, industry, science, and technological innovation is being overtaken by competitors throughout the world” (p. 5); the publication did not receive a positive response from the public (School, 2011) and the findings in the report indicated that approximately 13% of all 17-year olds and 23 million Americans were functionally illiterate, and the number of students who were enrolling in remedial college courses was increasing (Standerfer, 2006). Classroom instruction was found to be outdated and had a one size fits all approach, as students were provided with a “cafeteria-style curriculum” that did not take much effort for students to progress through school (Standerfer, 2006). Further, the report highlighted students were failing on standardized tests; nearly one third of high school students did not enroll in rigorous courses and thus were unprepared to enter college or the workforce; and students’ scores drastically decreased on the SATs by nearly 40 points in math and over 50 points in verbal scores (*A Nation at Risk*, 1983; Spellings, 2008; Standerfer, 2006). Of the findings, the committee noted that for the first time in history, the educational skills of the current generation would not surpass the skills of their parents (*A Nation at Risk*, 1983). The committee members were asked to provide recommendations as the report charged the nation with requiring all students to perform at their best regardless of their ability or disability (*A Nation at Risk*, 1983). Some of the recommendations included improving teacher quality, adapting rigorous and measurable standards, increasing admission standards for higher education, and having higher expectations for student conduct (*A Nation at Risk*, 1983).

Understanding the impact education has on the nation, former President Bill Clinton reauthorized the Improving America's Schools Act in 1994; the act required states to create standards and assessments for students that aligned with the expectations taught at each grade level (Robelen, 2005). Former President George W. Bush continued the movement of providing excellence in education through the authorization of the NCLB legislation in January of 2002, and reauthorizing ESEA, which governed K-12 education (Au, 2009; Dee & Jacob, 2011; Vanneman et al., 2009). The NCLB mandated that states assessed the standards and provided a system of academic rigor and academic accountability, ensuring all students were proficient by 2014 (NCLB, 2002). In 2011, President Obama signed legislation that provides flexibility to ten states to assist with increasing student achievement, amend accountability, and amend teacher effectiveness (ed.gov, 2012).

The problems identified with the stagnation of student achievement in *A Nation at Risk* in 1983 are problems that educators and administrators face in 2015, and the assessment results are not favorable. According to the most recent statistics from the National Center on Education Statistics (Bohrnstedt, Kitmitto, Ogut, Sherman, & Chan, 2015), approximately 49.8 million students were enrolled in the public school system during the 2012-13 school year, an increase of 300,000 students from the 2012-2013 school year. The percentage of Caucasian students in the American school system has gradually declined since 1980, and as of the 2014-2015 school year, 49.8% of public school students were Caucasian (Bohrnstedt, Kimitto, Ogut, Scherman, & Chan, 2015). The decline in Caucasian students is a result of increasing enrollments of Hispanic, Asian, Pacific Islander, and Native American students (Rivkin, 2016) with Hispanic students having the most dramatic increase, from 16% in 2000 to 24% in 2012 (Bohrnstedt, Kimitto, Ogut, Scherman, & Chan, 2015). The percentage of African American students has

remained steady at 15.5% (Bohrnstedt, Kimitto, Ogut, Scherman, & Chan, 2015, 2015). These national data are similarly reflected in data across the Northeast, Midwest, and West, and the South, with results more pronounced in the South, where the percentage of Caucasian students declined from 57% in 2000 to 48% in 2012, while the percentage of Hispanic students increased from 5% to 19% during the same time period (Rivkin, 2016). At 25%, the public school systems in the South have the largest percentage of African Americans, which has remained steady since 1988 (Rivkin, 2016).

Increases of ethnic minority students in the American public school system mask the data on school segregation, which has increased since 1988 (Rivkin, 2016). The American public school system remains highly segregated despite the promise of the civil rights movement in America. White students attend schools that are predominantly white and Black students attend schools that are predominantly Black or of ethnic minority (Rivkin, 2016). In 2011, 40% of Black students attended schools that were comprised of 90% ethnic minority students (Rivkin, 2016). The South has the most pronounced segregation (Walker, 2001). Using Department of Education data, Finley (2015) documented that the seven southern states of Virginia, North Carolina, Tennessee, Georgia, Mississippi, and Louisiana had the largest percent of Black students in majority white schools, with Louisiana's rate being 28.6%. In one of the only comprehensive studies on school segregation, results showed that, in the South, the percentage of Black students in majority-white schools decreased from 31% in 2000 to 23% in 2011 (Orfield, Franjenberg, Ee, & Kuscera, 2015).

No Child Left Behind Act of 2001

NCLB was the most aggressive educational policy written in the U.S. in the last four decades (Dee & Jacob, 2011). The NCLB committee members were charged with closing the

achievement gaps between subgroups and providing standards and a system of academic rigor for all students (Dee & Jacob, 2011; Spellings, 2008; Vanneman et al., 2009). NCLB expanded the influence of federal regulations on public schools with a goal to continue to increase opportunities for low performing, disadvantaged, minority children (Dee, & Jacob, 2011; NCLB, 2002; Siemer, 2009). This act mandated the creation of content standards for each subject area and it further mandated providing research-based educational programs for all students. The programs were expected to increase parental involvement and provide parental choice (NCLB, 2002; Pepper, 2010). With this legislation in place, school districts were faced with meeting the expectations while consistently being concerned about the quality of teaching and learning occurring (Pepper, 2010). This was not an easy task, particularly with the primary goals, since it required that all students would be proficient by 2014 in ELA, reading, and math all schools would be safe and drug free and all students would graduate from high school (NCLB, 2002).

Because the stakes have been raised for public school systems in the U.S., monitoring the progress of individual student achievement, student growth, student work, and students' individual needs have increased (Dee & Jacob, 2011). The NCLB forced districts to view each student's individual performance (NCLB, 2002). Reviewing individual student's performance and providing support based on the reviewed data are expected to ultimately increase test scores on the standardized assessments. As a result, students, who do not master content standards are withdrawn from regular classes and provided interventions (Hulgin & Drake, 2011).

Each year, annual assessments are calculated to determine the performance of each of the schools making AYP toward the ultimate goal of 100% proficiency by 2014 and those that are not making AYP (Choi, Seltzer, Herman, Yamashiro, 2007; Dee & Jacob, 2011). States are

charged with documenting individual school's performance, district's performance, and state performance (Dee & Jacob, 2011). States are also charged with providing both positive sanctions and negative sanctions associated with school performance, such as school improvement, corrective action, and restructuring (Darling & Hammond, 2007; Dee & Jacob, 2011).

Title I funding, school choice, and highly qualified teachers are components of NCLB that provide support to increasing student achievement (NCLB, 2002). For instance, Title I provides financial support to schools with a high number of students from low-income homes (Wilson, 1987). The financial allocation allows for the purchase of supplemental material and additional resources to better serve the students who come from low-income homes (Wilson, 1987). The supplemental material purchased with Title I funds supports and assists students with meeting the state standards (Wilson, 2012). All schools receiving Title I funding must establish learning goals and provide support showing that students and subgroups are achieving the goals established through assessment data (NCLB, 2002).

School choice is also a provision within NCLB that allows students attending failing schools to attend a non-failing school (Dee & Jacob, 2011; Hastings & Weinstein, 2008; NCLB, 2002). This NCLB provision provides disadvantaged students an opportunity to attend a school that has proven to be successful (Dee & Jacob, 2011; Hastings & Weinstein, 2008). The act also mandates that highly qualified teachers teach students (NCLB, 2002; Spelling, 2008). The ambitious goals established to increase student learning while providing equality for all students do not eliminate underprivileged students, students with disabilities, or English Language Learner (ELL) students from the rigorous mandates (Hastings & Weinstein, 2008; Ingersoll, 2002; NCLB, 2002). According to NCLB (2002), 95% of the students in each subgroup must

be assessed (NCLB, 2002); a subgroup is any population group outside of the majority-testing group, which may be defined by race, economic status, and student with disabilities (NCLB, 2002). All subgroups must show progress each year toward the proficiency goal of 100% by 2014, and each state must document the progress. The AYP identifies subgroups that may need additional support, and the subgroups are monitored by the NCLB (2002).

As a result of NCLB, states, districts, schools, and teachers are faced with the challenge of increasing student proficiency (NCLB, 2002). This is due to legislative acts that are created and implemented to support student achievement and growth to align with NCLB legislation. Districts create policies that support the legislation and additional work is then expected of school personnel (Au, 2009). Teachers work to implement the additional requirements and prepare the students for academic success (Au, 2009). There are many research-based strategies that increase student achievement; however, to embrace all learners, increase academic performance, and provide rigorous instruction for all students, educators should specifically refer to instructional strategies, such as differentiated instruction (Tomlinson, 2005).

Across the board studies and differences in achievement clearly show racial links, though there is less evidence that provides a causal explanation; thus we cannot say that despite these gaps and differences, a student's race or teacher has caused the gap. We can ask, however, if federal educational mandates alone are strong enough to erase the achievement gaps caused by years of oppression, oppression that is surreptitiously in conjunction with policies, practices, and approaches that continue to segregate and separate Blacks from their higher achieving white peers in and out of school settings. Since we know that a disproportionate school population of students is predominately minority and predominately poor, can we afford to ignore the race of students when considering not only the gaps, but also the pedagogical approaches aimed at

addressing those gaps? And, finally can educators utilize researched-based strategies that are strong/effective enough to engage students and increase academic outcomes for the most vulnerable students in public schools? Before addressing those concerns and questions, discussions of considerations and context of race are necessary.

Considerations of Race in Context

Determined to remain separate by any means, whites have established “legal and extralegal” regulations to keep Blacks out of their neighborhoods including eliminating, contracting, and selling homes to Blacks (Herring, 2009; Drakeford, 2015). Separation laws also legally segregated schools via Plessy v. Ferguson allowing segregation as long as Black and white facilities were equal (Phelan, 2012). After many years of fighting for equality, subsequent court rulings changed and Plessy v. Ferguson ruled that separate but equal facilities were unconstitutional (Golub, 2005). Rulings from state-level desegregation cases began placing Black children in all white schools. The rulings did not consider that the education being provided to the Black students would be provided by the teachers who supported the laws of the community and many did not want Black children in their classrooms (Lieberson, Peach, Robinson, & Smith, 1981; Wu, 2002). Further, these same teachers were not trained to integrate Black and white students, and the teachers not exposed to the hidden rules associated with Black communities, poverty, or suppression (Payne, 1996; Gass & Laughter, 2015; Valleys & Ballalpando, 2013; Valleys & Villalpando, 2013). According to Peske & Haycock (2006), “when it comes to the distribution of the best teachers, poor and minority students do not get their fair share”, in part given the relatively inexperienced and undertrained teachers that large urban and poor rural districts hire (p. 1). Desegregating schools without appropriate training for the educators has contributed to the substandard education received by many Black and poor

children. This lack of teacher training even more directly disenfranchised the Black race, which began the application of inconsistent and unfair discipline policies (Grass, & Laughter, 2015; Rothstein, 2014; McFadden, Marsh, Price & Hwang, 1992; Monrow, 2005; Skiba, Horner, & Chung, 2011; Skiba, Micahel, Nardo, & Peterson, 2002; Lewis, Butler, Donner, & Jourber, 2010).

Between 1938-1980, school districts in America consolidated from small, local, community organizations to large districts, decreasing school districts from 83,642 to 15,987 (Kenny & Schmidt, 1992). While this resulted in decreasing the number of districts within the states and increasing the number of students within each district, it also increased the number of students within the classroom and increased the number of students naturally crossing community lines (Strang, 1990). As a result of segregation, Black students, especially Black male students, began receiving harsher punishments in and out of schools (Hary, 1994; Skiba & Patterson, 1999; Skiba et al., 2002). From 1960 to 2010, incarceration rates spiked to 30% for Black males between the ages of 25-34 without a high school diploma, while Black males incarcerated with a high school diploma were at 12%. On the contrary, incarcerated white males without a high school diploma were > 7% and incarcerated white males with a high school diploma >5% (Gao, 2014). The punishments in schools continued to climb and to replicate this pattern. In a recent study of 13 southern states where Black students were 24 percent of the total population, they were 55 percent of the suspended students and 50 percent of the expelled students (Gomez, 2015).

Voices from within the communities demanded additional “school choice” in the public sector, and a decrease in farming resulted in an increased need in public assistance (Malone, 2015). A large decline in teacher union enrollment noted a mistrust between teachers and unions

(Malone, 2015). While many states in the South Central region moved toward modernizing districts like the rest of the nation, while Louisiana resisted (Brown, 1999). Between 1949-1981, Arkansas reduced by 51 districts, Oklahoma reduced by 1,558 districts, Texas reduced by 2, 222 districts, while Louisiana reduced by 1 district (Kenney & Schmidt, 1994).

On the surface it appears that the educational and judicial systems have provided support to improve conditions for Blacks in America through favorable rulings at the Supreme Court level with cases such as 1954 Brown v. Board of Education overturning Plessy v. Ferguson desegregating schools; in 1968 Jones v. Alfred H. Mayer Co. ended discriminatory actions from public, private, and governmental housing providers (Winant, 2014). The abolition of slavery did not abolish America's instituted segregation but discriminatory practices continued through housing segregation, racial profiling, unfair discipline practices, and unfair sentencing (Gao, 2014; Gomez, 2015; Grass, & Laughter, 2015; Rothstein, 2014). Favorable laws and integrated living have not provided treatment equality, equal opportunities, or fair discipline practices for minority students (Gao, 2014; Gomez, 2015; Grass & Laughter, 2015). While much research has shown that there are large, disproportionate, and unfair discipline practices, suspensions in 84 school districts across the South noted 100% were Black students (Smith & Harper, 2015). Further, Smith & Harper (2015) reported:

Nationally, 1.2 million Black students were suspended from K-12 public schools in a single academic year – 55% of those suspensions occurred in 13 Southern states. Districts in the South also were responsible for 50% of Black student expulsions from public schools in the United States (p. 1).

In K-12 Louisiana's public schools, where Black students make up 45% of the total population, Blacks comprised 67% of suspensions and 72% of expulsions (Smith & Harper, 2015). In an attempt to level the disproportionate discipline consequences noted across school districts in America, many districts began adopting and implementing School-Wide Positive Behavior

Intervention and Support (PBIS), which was initially supported by the Individuals with Disability Education Act (IDEA) (ADA, 1992). The intent of PBIS was to improve behaviors that caused students' focus to be removed from education while teaching students appropriate behaviors (Oyson & Whittaker, 2015). At first glimpse, the PBIS strategy seemed to reach the student's problems that surfaced or those problems that could be recognized because they were dominant, but educators were not trained nor did PBIS support the ability to reach the meristemetic zone of the problem (Downey & Pribesh, 2004). Poverty impacts and crosses into the instructional components of the entire child (Payne, 2005).

To meet the needs of students, the public education system has gone through many reforms. Since 1965, the federal government has provided oversight of the educational system in America as established by the Elementary and Secondary Education Act of 1965, known as ESEA (U.S. Department of Education, 2015). Recommendations for educational improvement were made as a result of *A Nation at Risk*. The report highlighted the educational nation and local disparities while comparing the USA to other countries and providing recommendations that would be needed to fix the brokenness of America's education (USDOE, 1983).

In 2001, ESEA went through its eighth reauthorization, the No Child Left Behind (NCLB) Act of 2001, argued to be the one of the most oppressive and punitive educational reform policies ever mandated in the United States (Christ & Christ, 2010; Dee & Jackson, 2011). The NCLB Act of 2001 required that districts meet numerous federal requirements, many of which were tied to federal funding (Christ & Christ, 2010). While NCLB substantially altered the American public school system by implementing the adequate yearly progress (AYP) accountability system, which mandated that Title I schools show continuous and substantial yearly improvement in student English/Language Arts and mathematics performance

based on standardized assessment tests (Christ & Christ, 2010, p. 3), it did not close the achievement gap between the advantaged and disadvantaged students (Johnson-Bailey, 2002; Vanneman, Anderson, & Rahman, 2009). Schools where the students did not meet AYP were subject to numerous federal sanctions; instruction under NCLB focused on improving students' AYP test scores (Christ & Christ, 2010).

The ninth reauthorization of ESEA, Every Student Succeeds Act (ESSA) of 2015, ostensibly restructured the American public educational system by dismantling the federal AYP accountability system and placing the accountability requirements in the hands of state education administrators (Christ & Christ, 2010). Under ESSA, state educators must develop accountability plans that ensure that students receive the necessary educational services that promote life-long learning and 21st century skills (Christ & Christ, 2010). Yearly standardized tests are still a component of the national education system: ESSA mandates yearly assessments in English Language Arts and math in grades 3 through 8 and at least one time while the student is enrolled in grades 10 through 12 (Christ & Christ, 2010). The reauthorization of ESEA has not eliminated the achievement gap shown under NCLB (2001), but the states' assessments have continued to show the need to individualize instruction due to the achievement gaps seen in the assessment results (Johnson, Johnson, & Scott, 1978). Although the assessments are no longer tied to federal requirements they are instead utilized at the district level to inform and guide instruction, set short- and long-term goals of student and teacher performance, and monitor student progress to identify schools in need of improvement (Christ & Christ, 2010).

Considering Louisiana and Urban Education

In accordance with the ESSA mandate, the Louisiana Department of Education (LDOE) has established its 2015-2025 State Accountability Plan. According to this plan, LDOE will

maintain its accountability system that was created under NCLB (LDOE, 2016). LDOE will utilize information from standardized testing as well as other indicators (e.g., school climate scores) to calculate school and district performance (SPS) scores that will be used to monitor student performance and to identify schools and districts in need of improvement. Districts receive a grade from A to F (LDOE, 2016).

The school district under examination in this study was the Angelou Public School System (APSS), the second largest school district in the state of Louisiana, serving over 42,000 students (APSS, 2015). APSS is a district in need of improvement, and has been involved in and impacted by a considerable number of controversial actions, from a state segregation lawsuit only resolved in 2007, to the governor resisting the Common Core initiative and its federal funding to school audits (Public Affairs Research Council of Louisiana, 2015). APSS fell victim to white flight in the 1980s and in the 2000s was considered to be a “poorly performing, racially imbalanced school district” (Public Affairs Research Council of Louisiana, 2015, p. 2).

The most recent district data from school year 2014-2015 documented that 80% of APSS students were Black. Louisiana school district report card data documents that APSS’s district grade improved between 1999 and 2001, increasing from an F (59.8%) to a D (71.5%) in 2003 (LDOE, 2016). APSS retained its status as a D district until 2010 when it advanced to C status with a score of 79.8%, which it maintained in 2015 (LDOE, 2016).

Data from the 2014-2015 school year demonstrated that student performance in Angelou Parish School District remained subpar after over a decade of NCLB mandates and state and district reforms. School performance scores showed that a higher percentage of elementary, middle, and high schools in the district received a school performance score of F (15%) than

schools that received a score of A (10%) (LDOE, 2016). In comparison to the 27% of third through eighth grade students at the state level who performed at a mastery level on state standardized assessment, only 20% of ethnic minority students and 18% of economically disadvantaged students in the district received this distinction (LDOE, 2016). Moreover, only 66% of district high school students graduated in four years with a diploma, substantially lower than the state percentage of 75% and the national percentage of 81% (LDOE, 2016).

Increased assessment accountability on the district level has placed emphasis on the need for and use of effective evidenced-based instructional strategies to close the achievement gap and to increase student achievement, reduce student failure, and educationally engage all students, especially low-performing, ethically disadvantaged minorities. One promising evidence-based teaching method is Tomlinson's (1999, 2000, 2003) differentiated instruction (DI), a teaching practice that moves the academic objective away from "teaching to the test" to an objective of "teaching to the talent" of each student (Artiles & Trent, 1994; Subban, 2006, p. 937). DI, informed primarily by Vygotskij's zone of proximal development, Gardner's concept of multiple intelligences, and brain research, is personalized instruction that involves the use of varied and flexible teaching strategies to meet the needs of all learners (Tomlinson, 2000, 2014).

Statement of the Problem

Students may enter school at the same age but they do not enter with the same background, knowledge, or opportunities (Cook, 2015). As a result, students may receive inequitable treatment if educators, like Ms. Ann quoted previously, use the 'same' pedagogical approach in their delivery to students disregarding students' strengths, needs, and opportunities. Retention of, inequitable punishment for, and increased dropout rates among Blacks continue to

rise (Cook, 2015). Academic focus cannot continue to be one sided, but educators must address a more equity-based series of approaches to the learning of students. Many school administrators focus on only one type of academic intervention to increase student achievement while struggling with meeting the needs of diverse learners, who are consistently low performing and require additional support (Algozzine et al., 2012; Chamberlin, 2011; Cusumano & Mueller, 2007; Tomlinson, 2000). Not all students start at the same point but in some classrooms, students receive the same lesson that places limits on students who are behind as well as those who are ahead (Pashler et al., 2009; Siemer, 2009). To meet the NCLB requirement that states must ensure every student must demonstrate academic proficiency in ELA and math, it is important to meet each student at his or her point of need (Pashler et al., 2009). The problem addressed in this study was the consistent low performance of students attending schools in a large urban school district (APSS). To increase student achievement, I argue that educators must better consider methodological approaches that lead teachers to equitably meet the needs of all students. This consideration is important since all students were expected to reach the required level of proficiency by 2014, but schools have fallen woefully short of meeting that goal (Dunn, Beaudry, & Klavas, 1989; NCLB, 2002). Research (Hall, 2002; Lynch, & Warner, 2008; Richardson, Morgan, & Fleener, 2012; Smith, 2012; Waring & Evans, 2014) showed that using differentiated instruction based on the students' learning styles and differentiated instruction based on the students' learning levels increases students' performance (Karns, 2006; Landrum & McDuffie, 2010). Differentiated instruction takes into account each student's learning style, learning level, ability, and mode of learning (Landrum & McDuffie, 2010). An effective way to individualize instruction, differentiated instruction also may be an effective way to eliminate achievement gaps and meet the needs of learners,

particularly those in high poverty urban school districts plagued by generations of social and economic challenges.

Differentiated instruction based on learning level involves a heterogeneous classroom, offers support to students by recognizing the differences among students, and adjusts the delivery of instruction to meet individual needs according to the student's readiness level, while facilitating both learning and interest (Tomlinson, 1999, 2000, 2005). Differentiated instruction based on learning styles identifies the learning experiences, the method by which knowledge is transferred, and the learning preference of the student (Dunn & Dunn, 1986; Dunn & Dunn, 2010; Beaudry & Klavas, 2010; Gurpinar et al., 2010; Mupinga, Nora, & Yaw, 2006; Tomlinson, 2005). An individual's learning style also encompasses environmental factors important to a student during the learning process and the patterns identified during concentration (Dunn & Dunn, 2010). Individually, each method of instructional delivery has been shown to have an impact on increasing student achievement (Dunn & Dunn, 2010; Gurpinar et al., 2010; Tomlinson, 2005). However, the combination of differentiated instruction based on the students' learning style, and differentiated instruction based on the students' learning level based on STAR assessment, may allow schools to improve student performance to a greater level of proficiency.

Purpose of the Study

Adjustments have been made in education with respect to providing a uniformed standard that all students must learn by content and grade level. While standards have been adjusted, the children enrolling in urban public schools are not enrolling smarter. As a result of failing systems, causing failing children, the implementation and use of differentiated instruction by learning style and learning level may be a promising way to meet each learner at

his or her point of need and increase student achievement. While there is a significant literature about differentiated instruction (Dunn & Dunn, 2010; Gurpinar et al., 2010; Landrum & McDuffie, 2010; Tomlinson, 2005), we do not know much about urban elementary classroom teachers' understandings of differentiated instruction based on student's learning style and student's learning level. Consequently, this study aimed to provide a base of knowledge with respect to urban elementary school teachers' understanding of differentiated instruction based on student's learning styles, and differentiated instruction based on student's learning levels. This study may be important as districts work to obtain assistance with implementing authentic differentiated instruction into the learning landscape for students in an effort to increase student achievement. This study drew upon the observations, surveys, and narratives from a variety of teachers to determine what they understood and what they knew about differentiated instruction, learning styles, and learning levels, and how their understandings appeared to influence their pedagogical practices.

Research Questions

The state of Louisiana has a need to increase student achievement at the elementary school level to meet the national and state's requirements, but also to increase student engagement, quest for learning, and decrease the community disconnects and internal race wars (Fashing-Varner et al., 2015; LDOE, 2012; Fordham & Ogubu, 1986). The use of differentiated instruction may be one way to decrease external disconnects and increase student engagement and quest for learning (Tobin & Tippet, 2014). According to Louisiana's guidelines, students are not meeting basic or above levels of proficiency in the areas of ELA and math; thus, significant changes must take place to meet said requirements (LDOE, 2012). If students earn Approaching Basic or Unsatisfactory on the LEAP assessment, they do not

contribute any points toward the school's SPS; however, students whose score is Basic contribute 50 points, students who score Mastery contribute 150 points, and students who score Advanced contribute 200 points (Hatfield, 2009).

Differentiated instruction has been identified in the literature as a mechanism by which student performance may improve, but we know little about teachers' knowledge relative to differentiated instruction. The purpose of this study was to understand what teachers believe they know about differentiated instruction and how that knowledge impacts their pedagogical decision-making.

The following questions guided this study:

Q1. To what extent are teachers in a majority minority district in a state with a long history of struggles around race, especially in education, equipped to provide the differentiated instruction that should take place in the classroom to address persistent inequity?

Q2. What do classroom teachers in a large urban school district articulate as knowledge about differentiated instruction and the role of learning styles?

Q3. How does the knowledge teachers have align or misalign with the literature about differentiated instruction?

Q4. In articulating the approach to pedagogical engagement do teachers show an alignment or misalignment with what they say they know about differentiated instruction and the evidence in literature?

Q5. Based on the answers to these questions, as well as the extent to literature, what steps might districts take toward more incorporation of differentiated instruction?

Theoretical Framework

I drew upon Critical Race Theory's idea of Expansive/Restrictive and Racial Realism as well as Differentiated Instruction (DI) and Zone of Proximal Development (ZPD). A focus on CRT was important since DI and ZPD frameworks are most often presented as race neutral. As a result, in concert, these theoretical models can be used to focus both on the pedagogical and raced environment and race identities of those impacted in the public schools.

Critical Race Theory

Ladson-Billings and Tate (1995) introduced CRT to the field of education. CRT, a legal structure, focusses critically on the role of race in understanding inequity. Educational scholars draw upon CRT to understand the impact of educational approaches and experiences, particularly for vulnerable race populations (Ladson-Billings & Tate, 1995; Tate, 1997; Taylor, 2000; Delgado Bernal & Villapando, 2002; Duncan, 2006; Solorzano & Yosso, 2002; Fasching Varner, 2010; Zamudio, Russell, Rios, & Bridgeman, 2011). Two CRT concepts were useful as theoretical lenses by which to understand the pedagogical choices of teachers as they related to differentiated instruction: expansive/restrictive views and approaches, and the permanence of racism.

Expansive and Restrictive Views of Anti-Discrimination

CRT scholars have long sought to understand the distinctions between an expansive and a restrictive view of anti-discrimination, race, and racism, and the resultant approaches folks use to address or redress concerns that link to race (Crenshaw, 1995; Rousseau & Tate, 2003). Crenshaw (1995) suggested that an expansive view stresses equity as a result, casting a broad net with the complete recognition that racism, discrimination, and subjugation do not work in isolating or isolated ways. As a result, expansive approaches recognize issues of race (and

consequently the decisions of those raced – both white and Black) are systemic and not isolated or individualized. By engaging in an expansive approach, we recognize that one (say an educator as in the case of this dissertation) would work toward a change in practice when recognizing that racist, discriminatory, and subjugating practices and landscapes may be linked or associated with the gaps that persist among students. Restrictive views match those displayed, for example by Ms. Ann, where one remains focused on the ‘process’ [I teach all my children the same way] and not the larger umbrella considerations of the process [why would I treat someone the same way who has different needs and experiences, particularly when those needs and experiences are mediated by race] (Crenshaw, 1995; Dixson & Rousseau, 2006).

Racial Realism

Bell’s (1992) Racial Realism is an interrelated piece of CRT that may be helpful in explicating ideas related to the need for more differentiated instruction. Bell (1992) asserted that Black people will never gain full equality in this country. Even those herculean efforts we hail as successful will produce no more than temporary “peaks of progress”, short-lived victories that slide into irrelevance as racial patterns adapt in ways that maintain white dominance. All of history verifies this hard-to-accept fact. We must acknowledge it and move on to adopt policies based on what Bell called “Racial Realism”. This mind-set or philosophy requires us to acknowledge the permanence of our subordinate status. That acknowledgement enables us to avoid despair, and frees us to imagine and implement racial strategies that can bring fulfillment and even triumph (Bell, 1992, p. 373–374).

If we acknowledge that the learning and educational landscape is raced and racist, and that gaps between whites and Blacks will likely persist, we can free ourselves toward engaging in the work rather than working to create equal and incremental approaches. Bell (1992) stated

that “many of the Black people we sought to lift through law from a subordinate status to equal opportunity, are more deeply mired in poverty and despair than they were during the ‘separate but equal’ era, a reality confirmed not only through abysmal public schooling but also through the prison industrial complex” (p. 374). Bell suggested that the focus on ‘fixing’ the issues through the illusion of equality has detracted us from more expansive approaches toward a restrictive one-size fits all approach. Fasching-Varner, Mitchell, Martin, & Bennett-Haron (2014) stated that “those within dominant groups and even those within disenfranchised populations often point to a particular program, a particular effort, or a particular approach as a justification that things are changing”, but that the larger analysis shows the current school system “more segregated than during Jim Crow times...[with] approaches that look to maintain status quo, at best, through human exploitation” (p. 419). Racial realism, applied within the context of this dissertation, may be a mechanism to focus on sound pedagogical development of teachers without the illusion of the need for more incremental equal approaches to teaching.

Differentiated Instruction and Zone of Proximal Development

Not all students are meeting the requirements established by NCLB and in an attempt to increase students’ academic performance, strategies should be explored (NCLB, 2001; Pastorek, 2011). One method of instructional delivery that could be used to increase student performance is differentiated instruction (Levy, 2008). Differentiated instruction is a theoretical approach to teaching and learning whereby a student’s profile informs the teacher of the best approach to provide instruction to the student (Chamberlin, 2011; Lauria, 2010; Levy, 2008). Differentiated instruction is often falsely understood as a pedagogical approach – when in fact there are multiple methods, approaches, and manners that may represent differentiated instruction. For

purposes of this document, differentiated instruction refers to the larger theoretical underpinnings. According to the differentiated instruction theory, students should be viewed and taught individually (Subban, 2006). Teachers can use the differentiated instruction method of instructional delivery to provide lessons based on students' level by using strategies to adjust the level of the lesson as well as the method of learning, enabling teachers to meet students at their point of educational need (Tomlinson, 2005). When using the method of instructional delivery of differentiated instruction, the lessons are based on the individual student, and there is an elimination of one-size fits all classrooms (Pashler et al, 2009; Tomlinson, 1999, 2000, 2005).

Differentiated instruction is not a new theory, and the use of the differentiated instruction method of instructional delivery focuses on children's learning, similarly to Piaget's Theory of Cognitive Development (McDevitt & Ormond, 2008). As with differentiated instruction, the Theory of Cognitive Development posits that it is important to assess a student's readiness prior to instruction, and it is necessary to provide individualized support to teaching and learning in contemporary times (McDevitt & Ormrod, 2008). Differentiated instruction and the Theory of Cognitive Development support that lesson instruction should extend to the developmental level and interest of students, and, by doing so, the lesson content would be meaningful to students and would sustain the students' interest (McDevitt & Ormrod, 2008). Identifying the children's level will depend upon their ability to complete the task as not all students can complete the same tasks due to the difference in learning levels (Dunn, Beaudry, & Kiovas, 1989, Dunn 2010; Gurpinar et al., 2010).

The theory of the Zone of Proximal Development (ZPD) posits that a child's ability to successfully complete work without the assistance of others, compared to what the child can do

with the assistance of others, outlines the learning level (Lauria, 2010; Nguyen & Zhang, 2011; Salvin, 1987). Therefore, children are able to complete the same task; however, they do not all complete the task with the same method as shown in differentiated instruction (Tomlinson 1999, 2000, 2005).

One way to differentiate instruction is through the learning style theoretical approach that educators have used as a means to increase academic achievement (Hatfield, 2009). The use of learning style inventories focuses on putting each child's learning style first (Levy, 2008; Rogowski, Calhoun, & Tallal, 2015). Using this method of instructional delivery, teachers create lessons tailored to the way students learn best and, as a result, receive positive gains in the retention of information (Levy, 2008). According to proponents of differentiated instruction, education should not only revolve around skills but around the student's potential. Using the learning style inventory and aligning a student's current ability provides the teacher with powerful tools to influence a child's academic success to greater levels (Alavania, & Sadeghi, 2013; Rogowsky et al., 2015). Learning style inventory theorists argue that the classroom should not be guided by the teacher's curriculum but by the children (Alavania & Sadeigh, 2013; Rogowsky, 2015). Because all children do not learn at the same rate, it is important to individualize instruction enough so that the focus is not only on the child's ability to learn information, but also to design the information that is to be learned according to the child's learning style preference (Mumford & Honey, 1992). Since all children do not learn at the same pace nor do they all learn in the same way (Gupinar et al., 2010; Logan, 2011), differentiating the instruction based on learning style and learning level will provide students with the ability to learn using the same curriculum, but the learning that will take place will be most appropriate to their level (Gurpinar et al., 2010). To further support learning, the use of

differentiated instruction based on the results of the students' learning style inventory supports learning preferences and learning attitudes (Lauria, 2010; Nguyen & Zhang, 2011) and may also be used to increase student's academic achievement.

Although educators have used different theories, either through differentiated instruction based on learning styles or differentiated instruction based on learning level to support ways for learning, the increase on average is approximately 61% as applied to differentiated instruction based on the students' learning level; the use of differentiated instruction based on the students' learning style inventory has been shown to increase student achievement by 40% (Lovelace, 2005). Therefore, it is imperative to explore the impact that the use of differentiated instruction through the results of the students' learning style inventory and differentiated instruction based on the students' learning level has on student achievement.

Definition of Key Terms

Adequate Yearly Progress (AYP). Adequate Yearly Progress represents whether the public school or a district is progressing or regressing in reference to the standards addressed on the standardized assessment. The assessment points from standardized assessments are calculated to determine the year-to-year gain and also to determine the school's progress. In elementary schools, AYP is calculated by using weight from the students' attendance to determine the total School Performance Score (SPS) (Louisiana Department of Education, 2015).

Advanced score. Advanced score is the score given when the standards and benchmarks established at a grade level are met with high proficiency. Students scoring in this area have the ability to comprehend and apply the expectations with little to no error. Their

level of reasoning is beyond the lower level of thinking, and the students are able to justify the reasoning using judgment (Hatfield, 2009; Bulletin 741).

Approaching Basic. Approaching basic is the score given to students who have difficulty but are able to use most basic portions of the standards and benchmarks established for the grade level. Students who score approaching basic often have difficulty applying real-world problems and have difficulty justifying reasoning and using judgment. Students in this category are below the basic standards (Hatfield, 2009; Bulletin 741).

Auditory Learner. Auditory learners prefer listening to the information that should be learned. They retain information best through listening and are often good at retelling stories or conversations based upon what was conveyed to them (Kratzig & Arbuthnott, 2006). **Basic.** Basic is the score given to students who meet the standards and benchmarks established for the grade level. Students who score basic are able to use the given information to connect or correlate to other information. Conceptual knowledge, however, is difficult, and they generally have a difficult time supporting explanations with evidence from text (Bulletin 741; Hatfield, 2009).

Content Standards. Content standards were designed to assist with the goals students must meet to earn the highest achievement in each grade level and content by defining the skills, knowledge, and concepts each student should acquire. Content standards are regulatory policies adopted by the Board of Elementary and Secondary Education (BESE) and complied by the Louisiana Department of Education and BESE (van der Schaff & Stokking, 2011).

Differentiated Instruction. Differentiated instruction is an educational approach to teaching and learning where student results remain as a centered approach to teaching learners

of diverse needs. The results from assessments drive the instruction provided to the students. The assessment results also determine the variation of the lesson, which provides tiered instruction based on the readiness, interest, or learning profile of the student and can be changed by product, process, or content (Landrum & McDuffie, 2010; Tomlinson, 2000).

EADMS. EADMS benchmark assessment is a tool a teacher, district personnel, and school administrators can use to review student, class, grade-level average performance electronically while blending classroom learning with technology (Curriculum & Associates, 2015).

ESSA. The latest version of the Elementary and Secondary Education Act (2001) requires states to use at least one additional measurement beyond student tracking outlined in the Education and Secondary Education Act to measure and track student success (Bald, 2016; Robelen, 2005).

Kinesthetic Learner. Kinesthetic learners have a preference of touching or being physically involved with the materials that should be learned (Kratzig & Arbuthnott, 2006).

LEAP Assessment. LEAP is Louisiana's assessment aligning to Common Core State Standards in English Language Arts (ELA), mathematics, and benchmarks in science and social studies.

Learning Level. Completion of the STAR assessment on the Renaissance Learning System allows educators to identify a student's learning level, which is the academic level at which students are able to receive and retain information comfortably.

Learning styles. Learning styles categorize the traits that assist with processing, organizing, and applying information (Jonassen & Grabowski, 1993).

Learning Style Inventory. Learning style inventories are instruments used to measure an individual's reference for each of the learning modes. Learning style inventories provide information on the way students learn best and provide information as to the preferred methods for perceiving, processing, and retaining information (Jonassen & Grabowski, 1993).

Mastery. Mastery is the level ranking given to students who meet the standards and perform higher than students scoring basic. Students who score mastery use given information on the assessment to connect or correlate to other information (Louisiana Bulletin 741, 2016; Hatfield, 2009).

No Child Left Behind (NCLB) Act 2001. NCLB was implemented to close the achievement gap between disadvantaged students and minority students and their peers while significantly raising the expectations for all states (U. S. DOE, 1983). The goal of the act was to increase achievement by setting yearly assessment targets for subgroups based on students reaching 100% proficiency by 2014 (Butzin, 2007; Darling-Hammond, 2007).

Promotional Standards. Promotional Standards for fourth grade students in the state of Louisiana are: students must score Basic or above in either ELA or math, students must score Approaching Basic in the other subject, and students must pass the core classes for promotion to the next grade (Bulletin 1556).

Renzulli Learning Program. Renzulli Learning Program is an electronic search-engine based program to match students' interests, learning styles, and expression styles to enrichment activities, allowing teachers to differentiate instruction based on the results (Field, 2009; Renzulli, Siegle, Reis, Gavin & Systma 2009).

STAR Assessment. STAR Assessment is a computer-generated assessment that provides information about a student's reading ability for grades 1-12. This information could be used to tailor instruction, progress monitor students, or as an initial screening assessment. The software scores student's assessment and teachers are able to determine the student's reading level and monitor student's reading growth (Renaissance Learning, 2009).

School Performance Score (SPS). School Performance Score is a number score each school receives determining the proficiency level of the students and the rate of growth (or decline) based on assessments and attendance (Louisiana Department of Education, Bulletin 111, 2016).

Title I. Title I provides funding to assist with teaching and learning, ensuring that all children have an equal opportunity to obtain a quality education in an effort to reach proficiency on state academic achievement standards and state academic assessments (Watlington, 2009).

Unsatisfactory. Unsatisfactory is the ranking given to students who do not have the fundamental knowledge and skills needed for the next level of schooling. These students do not demonstrate the ability to use basic facts or apply concepts to solve real-life problems. Generally, they are unable to comprehend what they have read, have difficulty using text to connect with experiences, or they are unable to state a meaning within text. Students scoring Unsatisfactory also may lack the ability to use evidence from the text to provide support to ideas or their writing lacks clarity (Louisiana Department of Education (2016) Bulletin 741; Louisiana Department of Education (2015) Bulletin 1556).

Visual Learner. Visual Learners prefer to see the information they must process. Often they have a difficult time meeting requirements that subject them to listening (Kratzig & Arbuthnott, 2006).

Zone of Proximal Development. Measures the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers (Vygotsky, 1978, p. 33).

CHAPTER 2. REVIEW OF THE LITERATURE

Introduction

This chapter continues the conversation on racial achievement gap and education reforms aimed at addressing gap by looking specifically at differentiated instruction. Information in the previous chapter could have been included in the review of literature; however, I included it in the introductory chapter to set the context for my interest in this research. This chapter focuses on the literature and context of differentiated instruction, learning style inventories, as well as learning and teaching styles.

Considering Race

Considering the racial disconnects in achievement, race should be a fundamental concern to educational researchers, including those focused on pedagogical approaches. Race is a foundational and persistent consideration in the landscape of the United States since its formal establishment in the West during the modern period (Soss, Fording, & Schram, 2011; Tanum, 1992; Wilson, 2006) through modern day Obama-era racism. Through a history of forced immigration vis-à-vis slavery, through Plessy segregation, Jim Crow realities, Civil Rights Movement, and even through the election of the first Black president, the United States remains a racially divided country well into this 21st century (Enck-Wanzer, 2011; López, 2010; McAlister, 2009; Wise, 2013) Black children are still behind their white peers (Allen, 1992; Gee, 2015; Hemphill & Vanneman, 2011; Lareau, 2011; Lipman, 2013), and this phenomenon can be seen in the results of high stakes testing in educational settings (Pearlman, 2013). Through generations of unequal treatment, racial division, and generational poverty (Troyna, 2012; Jansen, 2009; Taylor, Guillborn, & Ladson-Billings, 2006), racism persists through most major social institutions in the United States (Adams & Bell, 2016; Bonillia-Silva, 2006; Omi &

Winant, 2014), and is evident in the educational achievement gaps between the Black and white students enrolled in public schools (Fryer & Levitt, 2004; Jencks & Phillips, 2011; Ladson-Billings, 2006). While laws were created to protect all Americans and to provide equal education for all students, years of suppression, segregation, and ascendancy have contributed to an achievement gap that will not be filled by the creation of more mandates requiring all students to perform at a higher level (Butler & Heckmann, 1977; Justice & Meares, 2014; Reiman & Leighton, 2015; Roberts & Wilson, 2009; Tyler, 2001; Wheeler, 2015). The achievement gap can best be understood in terms of performance on standardized testing between white and nonwhite peer groups, though this definition inherently ignores some of the larger considerations that parallel the achievement gap (Ladson-Billings, 2006; Ladson-Billings & Tate, 1995; Lomax, West, Harmon, Viator, & Madaus, 1995; West, 1993). Ladson-Billings (2006), in fact, suggested that if it was a gap, we could easily fill the gap in performance, but perhaps the achievement gap really functions more like an achievement debt, whereby efforts at reform have functioned like interest payments, never addressing the root causes (principle) of the debt, which she suggested are historic, economic, moral, and socio-cultural. Despite the sharp and important critique of “achievement gap” phrasing offered by Ladson-Billings, this document used Anderson, Medrich, and Fowler’s (2007) definition that stated the achievement gap can be considered “the differences in scores on state or national achievement tests between various student demographic groups,” and despite a desire for the “improved achievement for all student” the authors clarified that achievement gap focus should be on improving outcomes most rapidly for those most affected (p. 547).

Suppression due to the white supremacy and Black ascendancy established during slavery was not eliminated with the abolishment of slavery in 1865 by the 13th Amendment,

which only freed the slaves physically, and has not addressed the new forms of psychological, financial, and emotional slavery (Herring, 2009; Stone, 2006). For example, the legacy of Plessy lasted well beyond 13th Amendment considerations, legally through the mid-1950s. Post *Brown v. Board* segregation based on race was officially illegal, but we know it continues to exist and has been more formalized by the *Parents Involved in Community Schools v. Seattle School District No. 1*, 551 U.S. 701 (2007), for example, where the Robert's court said that race cannot be a consideration schools make, even if its aim is to balance out segregation that impacts students of color (Apfelbaum, Pauker, Sommers, & Ambady, 2010). With the election of President Obama, many articulated a post-racial environment, but the last four years have prominently displayed the multiple murders of Black and Brown people at the hands of police and community members acting in extra-judicial means (i.e. George Zimmerman), the poor investment in schools, the over-investment in the misery industries of prison, and school-to-prison pipeline and the 'school reform industrial complex' (Martin, Fasching-Varner, Quinn, & Jackson 2014; Fasching-Varner, Mitchell, Martin, & Bennett-Haron, 2014; Sigelman, Welch, Bledsoe, & Combs, 1997); with the distribution of low-wage service sector jobs disproportionately over representing minority laborers, slavery has simply taken on new forms. For those who have held the belief that we achieved the aims of integration across a variety of sectors owing to the election of the first Black president and other surface-level markers, what we have seen instead over the last eight years is an all-out assault against communities of color (Fasching-Varner et al., 2015), which has manifested in an intolerably high number of police extrajudicial shootings of Black citizens and race protests, and calls from the xenophobic right to remove all immigrants from our country and build a wall to separate the United States from Mexico. This environment is the foundation upon which schools and schooling rest.

Differentiated Instruction

Differentiated instruction could be associated with the Chinese philosopher Confucius, who believed that the effectiveness of teaching comes in part from educators responding to each student's ability at his or her readiness level (Gregory & Kuzmich, 2005; Tomlinson, 2005). Differentiated instruction offers student diversity by providing strategies for teachers that meet all students at their point of need by adjusting the instructional approach for each student, providing mixed-ability lessons, adjusting the delivery of instruction for the students, and acknowledging the learning paths students must take to reach the objective of the lesson (Aliakbari & Haghighi, 2014; Rock, Gregg, Ellis, & Gable, 2008; Tomlinson, 2005; Vehkakoski, 2012). To eliminate teaching on grade level in a classroom of students who are at various ends of the learning spectrum, educators must account for the variances in the levels of readiness for each student, which may be possible through the use of differentiated instruction, thus providing flexibility to instruction (Levy, 2008; NCLB, 2001; Subban, 2006; Tomlinson, 2005; Vehkakoski, 2012). The use of differentiated instruction also allows teachers to teach students according to their particular interests, individual needs, abilities, and understanding through flexible grouping (Levy, 2008; Subban, 2006; Tomlinson, 2005; Hall, 2002). Flexible grouping allows the teacher to place students in smaller groups to complete tasks to include readiness, interest, or learning profile (Levy, 2008). With flexible groupings, teachers may elect to have students work in groupings, pairs, or individually (Levy, 2008; Hall, 2002). The use of differentiated instruction acknowledges that students do not learn at the same rate, or by the same method; however, differentiating the instruction provides access to the curriculum for all students without eliminating any students (Tomlinson, 2005). One can provide differentiation within a classroom through subject content, process of learning, product,

learning environment, learning styles, and learning levels (Aliakbari & Haghighi, 2014; Rogowsky, Calhoun, & Tallal, 2015; Rosenfeld & Rosenfeld, 2008).

Differentiated instruction has also been called differentiated learning or differentiation as it provides support to needed instructional learning (Preszler, 2006; Rock et al., 2005; Tomlinson, 2005). As defined by Tomlinson (2001), “differentiation consists of the efforts of teachers to respond to variance among learners in the classroom. Whenever a teacher reaches to an individual or small group to vary his or her teaching in order to create the best learning experience possible, that teacher is differentiating instruction” (p.1; Aliakbari & Haghighi, 2014). Differentiated instruction can be applied in many areas as it provides students with the method of instructional delivery that they need based on the students’ learning level and method of learning (Aliakbari & Haghighi, 2014; Reis, McCoach, Little, Muller, & Kaniskan, 2011). Further, differentiated instruction allows lessons to be both challenging and engaging while eliminating the frustration of the instruction not being on the students’ academic learning level (Reis et al., 2011). A differentiated classroom provides a balance of activities that are challenging, thought provoking, interesting, and matching student abilities (Reis et al., 2011; Rock et al., 2008; Tomlinson, 2005).

Differentiated classrooms are successful, flexible in grouping, and provide independent support (Subban, 2006; Tomlinson, 2000; Vehkakoski, 2012). For example, in a differentiated classroom, higher performing students are given flexible independence, and lower performing students are able to receive additional support from the teacher (Vehkakoski, 2012).

Differentiated instruction also allows the higher performing students to work as peer teachers or work independently on a skill previously mastered (Tomlinson, 2000; Vehkakoski, 2012). Teachers who use differentiated instruction strategies employ a variety of instructional

strategies, such as the use of flexible grouping, assessment based tiering, and skill based groups (Subban, 2006; Tomlinson, 2000; Vehkakoski, 2012). Flexible groupings allow opportunities for the teacher to provide small group instruction according to the skill deficit shown on the student's previous assessment (Subban, 2006; Tomlinson, 2000). When using flexible groups, students do not remain in the same group for the entire year; teachers constantly change the groups based on both formative and summative assessments (Tomlinson, 2000). Formative assessments allow teachers to assess student learning during the lesson, and the assessment results are not punitive, but rather provide information to the teacher to determine if the lesson should be modified; summative assessments are used at the end of the lesson to summarize the learning that took place (Austin, 2012; Berridge, Penney, & Wells, 2012).

By using flexible grouping, teachers allow students to move throughout different groups based on the readiness of a certain topic or skill (Subban, 2006; Tomlinson, 2000). Flexible groups are important to both the teacher and the student because they provide the students with the opportunity to continue learning and provide the teachers with the data to keep learning moving forward for all students (Levy, 2008; Tomlinson, 2000). Flexible groupings allow the teacher to reach each student's deficit in a small group setting (Levy, 2008; Tomlinson, 2000). Students are able to develop at individualized speed while working on the same standards as the rest of the class (Subban, 2006; Tomlinson, 2000). Although research supports the premise that students do not learn in the same way (Subban, 2006; Tomlinson, 2000), differentiated instruction is often not used toward the student's advantage (Tomlinson, 2000).

DI is guided by six principles. The first principle is that instructional practices are proactive and not reactive; from the start, the teaching activities are planned and implemented to address learner differences (Tomlinson 2003, 2014). The second principle, that instruction

works best in small learning groups, provides the opportunity for students of differing levels of skills to learn from one another and to increase teacher understanding of and responding to individual learner needs (Tomlinson 2003, 2014). The third principle says that the learning material (e.g., texts, multimedia) should not be the same for all students and should instead be matched to the students' level of readiness, interest, and learning style (Tomlinson 2003, 2014). The fourth principle says that instruction should be paced (Tomlinson 2003, 2014). The fifth principle is that the teacher needs to have a sound knowledge of her/his discipline to be effective in translating this knowledge (Tomlinson 2003, 2014). The sixth principle is that instruction is "learner centered" and thus should involve the shared management of learning, with the learner playing an active role in his/her academic skill-building (Tomlinson 2003, 2014). The central tenet of DI is that students should be taught to their (a) learning style, (b) learning level, and (c) learning interest (Tomlinson, 2000, 2014).

Despite more than a 15-year empirical history, DI has received minimal research attention with regard to comparing the impact of the different types of DI (i.e., DI focused on student's learning style, level, and interest) on student achievement outcomes, especially in mathematics and ELA achievement. A review of the literature revealed that much of the empirical work has instead focused on training, implementation, and instructional issues of DI. The majority of empirical work on DI has concerned: teacher professional development in DI (Chien, 2012; Kan, Keum, & Lee, 2012); teachers' ability to implement DI in the classroom (Tricarico & Yendol-Hoppey, 2012; Wu & Chang, 2015); recommendations for DI practices for specific student populations such as gifted students (Callahan, Moon, Oh, Azano, & Hailey, 2015); ELL students, (Chien, 2012); children with autism, (Zenko, 2015) and the development

of assessment tools for DI (Brimijoin, Marquissee, & Tomlinson, 2003; Nelson, Demers, & Christ, 2014; Roy, Guay, & Valois, 2013).

Comparative examination of different types of DI on student achievement in ELA and mathematics is minimal. The reasons given for this lack of empirical attention are the difficulty in transforming a school to embrace DI due to financial and resource constraints (Tricarico & Yendol-Hoppey, 2012), and the lack of teacher knowledge of DI instructional and assessment tools (Roy et al., 2013; Wu & Chang, 2015). The studies that exist primarily have examined the effects of DI versus traditional teaching approaches in ELA, with fewer studies on mathematics achievement. Additionally, most studies have been conducted with elementary students.

While the studies on DI versus traditional approaches on ELA academic outcomes have documented that DI results in improved ELA outcomes for students, some results have differed according to student and school type. In a quasi-experimental study conducted with 479 fourth grade students in five schools, Valiandes (2015) found that students in DI classrooms had significantly higher levels of reading achievement than did students in traditional classrooms regardless of student gender or school. Aliakbari and Haghighi (2014) examined achievement in reading comprehension among 94 Iranian elementary students taught in either DI or traditional classrooms. While both female and male students in the DI classrooms achieved at a higher level than did female and male students in the traditional classrooms in both schools, female students in the DI courses achieved at a higher level than did male students in the DI courses (Aliakbari & Haghighi, 2014). Reis, McCoach, Little, Muller, & Kanksan's (2011) study was conducted with 1,192 second through fifth grade students at five elementary schools in Connecticut, and examined whether students' reading fluency and comprehension was influenced by DI combined with school-wide enrichment pedagogy practices, as compared to a

traditional instructional approach. Reis et al. (2011) found that only the students in high-poverty urban schools benefitted more from DI combined with school-wide enrichment pedagogy practices than the traditional reading instructional approach.

A few studies have examined mathematics achievement among students in DI versus traditional classrooms. Muthomi and Mbugua (2014) conducted a quasi-experimental study with 374 third-grade students in Kenya. Mathematical achievement was higher among students in the DI classrooms versus traditionally taught classrooms. Similar findings were noted by Jitendra et al. (2013) in a study with third-grade students at risk for mathematics difficulties and who participated in either a DI classroom or a traditionally taught classroom. In Jitendra et al.'s (2013) study, students in the DI classroom not only had significantly higher mathematics scores on class tests, but they scored significantly higher on AYP mathematics achievement tests than did students in the traditional classroom setting. Differences in the effects of DI on mathematics achievement by school was noted in a methodologically rigorous study with third grade students in 43 schools in 12 states by McCoach, Gubbins, Foreman, Rubenstein, and Rambo-Hernandez (2014). McCoach et al. (2014) found that the type of school moderated between type of instruction and mathematics achievement in that the highest achieving third grade students in DI classrooms in the lowest achieving schools noted the most extensive academic progress in mathematics.

The studies of DI versus traditional instruction on ELA and mathematics achievement have been rigorous, with most studies utilizing experimental or quasi-experimental methodologies. These studies have also shown consistency in outcomes, with students in DI classrooms achieving at a greater level in ELA and mathematics than students in traditional classrooms. The review of the literature, however, did not uncover any studies on the effects of

different modalities of DI based on the student's learning style and learning level on students' mathematics and ELA achievement. The purpose of this study was to address this gap and was conducted in response to the lack of research examining differences in DI instructional goals (i.e., teaching to the student's learning level, style, and interest) on student achievement in mathematics and ELA.

Studies support the use of differentiated instruction to increase student achievement (Brimijoin, Marquissee, & Tomlinson, 2003; Chamberlin & Powers, 2010; Rock et al., 2008). The use of differentiated instruction can have different implementations depending upon the focus and desired outcome (Levy, 2008; Vehkakoski, 2012). Teachers can decide to individually prepare lessons, group lessons, or have students work in pairs (Levy, 2008; Vehkakoski, 2012).

Teachers can also prepare lessons based on students' interest, learning level, or learning style (Chamberlin & Powers, 2010; Rock et al., 2008). Differentiated instruction can also include lessons that support the diversity in the student population to include on academic level students, below academic level students, and above academic level students (Levy, 2008; Vehkakoski, 2012). The implementation of differentiated instruction has resulted in performance at the 94th percentile compared to the control group, whose score was at the 56th percentile (Chamberlin & Powers, 2010).

When used in full potential, differentiated instruction results in significant increases in student performance, as indicated by the post-assessment results (Levy, 2008). Teachers often use differentiated instruction as the method of instructional delivery in segments, such as grouping students based on performance (Tomlinson, 2005). Teachers may allow students who have mastered a skill to provide support to students who have not mastered the skill. However,

the teachers can use differentiated instruction as the method of instructional delivery to reach the core of each student, sustain student's interest, and reach students at their learning level (Gurpinar et al., 2010; Pashler et al., 2009). Further, differentiated instruction can be used to identify students who are not ready for the current skill and need scaffolded lessons for additional support (McDevitt & Ormond, 2008). The use of differentiated instruction should incorporate students' learning deficits, address diversity among students, and identify students' academic level and academic readiness (Levy, 2008; Vehkakoski, 2012). The use of the differentiated instruction as the method of instructional delivery should also include students' instructional preference (Landrum & McDuffie, 2010; Tomlinson, 2000). The full use and fluidity of DI can empower a teacher to eliminate deficits in learning while moving every student forward (Chamberlin & Powers, 2010).

Learning Style Inventories

An individual's learning style categorizes the traits that assist with processing, organizing, and applying information that is learned (Kratig & Arbuthonott, 2006). A learning style inventory is a series of questions focused on the way learning takes place, and it can be used to provide information about the way a student learns. It serves as a guide, identifying the particular styles of learning most suitable for the learner. A learning style is the personal preference that influences the way the learner interacts with his or her learning environment and others in the learning environment (Katsioloudis & Fantz, 2012). The information obtained with the learning style inventory provides information that can support the way the learner processes newly learned information (Nguyen & Zhang, 2011; Platsidou & Metallidou, 2009). The use of learning style inventories allows the teacher to provide support to the student by matching the instructional design to the instructional need of the learning style of the student.

Therefore, the use of learning style inventories can result in improved speed and quality of learning material (Nguyen & Zhang, 2011; Platsidou & Metallidou, 2009).

Knowledge of a student's learning style can be used in various ways in the classroom. For example, the results from learning style inventories can be used to guide the way the teacher directs the instruction and provides instructional support to the students (Platsidou & Metallidou, 2009). Individual learning styles determine the selection of word choice when writing and speaking and determine the way an experience is represented (Platsidou & Metallidou, 2009). Different learning styles use different parts of the brain and when learning involves more of the brain, students can recall more of what was learned (Nguyen & Zhang, 2011). When the results from learning style inventories are used to match the delivery of instruction to the student's learning preference, student learning is increased and retention of information is longer (Platsidou & Metallidou, 2009). Students are able to recall information at a more rapid pace. The learning style inventory provides clear reference to the style of the learner (Nguyen & Zhang, 2011).

Cognitive styles are often described as the process by which individuals obtain and process information and affect how information is obtained, arranged, processed, and used (Kim, Choi, & Park, 2012). Cognitive styles and learning styles are different. Cognitive styles are specific individual characteristics of processing, which are particular to the individual or group, whereas learning style is the manner in which the learner interacts with, responds to, or perceives the information and or the environment where learning is taking place (Kim, Choi, & Park, 2012; Samms & Friedel, 2012).

Because of the variety of learning styles students may possess and the degree to which the style is present, some students' learning style inventory scores may show dominance in one

area whereas other areas or other students' styles are developing (Kolb, 2011). Students can also show strengths in more than one area on the learning style inventory. When this occurs, students' preference for learning can be supported with either of the strong learning preferences. While students have individually preferred learning styles, the styles are developed over time and with experience (Penger, Tekavcic, & Metallideau, 2008). Further, the learning styles are not inherited but are developed, and they promote students' understanding of material (Katsioloudis & Fantz, 2012; Penger et al., 2009). Often most students sustain learning styles at the college level and beyond (Katsioloudis & Fantz 2012). While differentiated instruction is important for differentiating the atmosphere of learning to include all students, the use of learning style inventories assists teachers in adapting instruction to suit all students in different ways and in multiple forms (Hawk & Shah, 2007; Jonassen & Grabowski, 1993; Gurpinar et al., 2010).

Learning Styles and Teaching Styles

The use of learning style inventories supports students' preferences to learn using one style over other styles of learning. Theorists, such as Dunn and Dunn (2010) and Honey and Mumford (1992), who supported the use of learning style inventories, also believed that when the educational experiences, the curriculum, and instructional approaches are matched to the learning styles of the students, academic achievement increases (Katsioloudis & Fantz, 2012). Further, literature supports students' ability to learn material more quickly and efficiently when the style of instruction reflects the style of the learner (Chapman & Calhoun, 2006). A few examples of compatibility style matching would include a kinesthetic learner using manipulative objects during a math lesson and an auditory learner listening to a taped lesson for the review.

However, when the style of teaching does not match the students' learning styles, students may encounter learning difficulties, such as not processing information as quickly and having difficulty with retention of material (Friedel & Rudd, 2009; Oxford & Lavine, 1992). A significant increase in learning is evident when the results from the LSIs are used to provide the guidance for the material selected for instruction (Zokaee, Zafernieh, & Nasser, 2012), although some researchers do not support this theory (Romanelli, Bird, & Ryan, 2009).

Many educators would agree there are different approaches to teaching, such as whole language, brain based teaching, didactic instruction, differentiated instruction, language model, and the 4 MAT system (Hall & Mosley, 2005; Reiff, 1992). Although using instructional models may assist students in retaining knowledge, not all students learn the same way and different factors influence students' performance; therefore, if a teacher provides the same lesson to all students, the teacher will only reach some students (Bembenutty, 2008; Chapman & Calhoun, 2006; Evans & Waring, 2011; Hawk, & Shah, 2007; Spencer, Detrich, & Slocum, 2012; Walton & Spencer, 2009). One could conclude that this type of instruction is inequitable, whether intended or not. And the degree of inequity is exacerbated in urban, rural, and large populations schools where the diversity among learners is greater, and some of it more foreign to teachers differentiation is more limited. However, by using Dunn and Dunn's Learning Style Model to provide instruction for students, academic performance can increase by an average of 32% (Lovelace, 2005). There is a direct link between the learning style of students and academic increase (Lovelace, 2005; Tseng, Chu, Hwang, & Tsai, 2008). Researchers found that students achieved higher efficiency, greater learning, greater self-understanding, more effective peer relationships, and positive attitudes while learning when materials presented by teachers align with students' learning styles (Denig, 2004; Lovelace, 2005; Minotti, 2005; Pedrosa de

Jesus, & Teixeira-Davis, 2011; Tseng et al., 2008). Although not all educators support matching the learning styles of the students with the instruction provided to the students, there is conclusive evidence that learning styles influence the attention and perceptions of students' learning (Kratzig & Arbuthnott, 2006). The advantage of learning styles based instruction is that it assists in all academic areas and experiences by students of all ages (Collinson, 2000; Honigsfeld & Schiering, 2004; Monotti, 2005).

Learning styles do more than identify the best learning approach for students (Hawk & Shah, 2007). With a need to improve students' education, teachers who understand the use of learning styles inventories have a greater understanding and can increase their effectiveness in instruction and assessment (Hall & Moseley, 2005; Hongfield & Schiering, 2004; Stenberg, Grigorenko, & Zhang, 2008). Many researchers support the field of learning styles in an effort to increase understanding and improve student performance (Evans & Waring, 2006; Hall & Moseley, 2005; Rosenfield & Rosenfield, 2008). Teachers who are aware of their teaching style as well as their students' learning styles can make more informed choices for effective teaching for each student, as each may require different material and vary in learning abilities (Gurpinar et al., 2010; Hawk & Shah, 2007). The use of learning styles also increases the rate of student academic achievement when teachers incorporate learning style inventories into the method of instruction; according to Lovelace (2005), students have an average increase of 40% in comparison to the traditional methods of instruction.

The use of learning style inventories to tailor student lessons has proven to be effective in providing quality learning opportunities for students (Hawk & Shah, 2007; Lovelace, 2005). Studies show a significant increase of between 32% and 40% when learning styles are embedded into instruction, whereas traditional instructional methods only have a 30% increase

in expected student success (Hawk & Shah, 2007; Lovelace, 2005). The use of learning style inventories assists teachers in identifying the learning mode of students, which assists with planning for the delivery of instruction, while keeping in mind the way each student intakes information during learning (Hawk & Shah, 2007).

Summary

The system of education has been under continuous reform for many years (Kolb, 2011). The current reform addresses the lack of literacy increase and the decrease in college enrollment (School, 2011; Grassian & Kaplowitz, 2001). Many policies have had an effect on education, but none as rigorous as NCLB. Policies that are an offshoot of the NCLB are written at the state level; however, they are aligned with and support the NCLB legislation (Au, 2009). To support the current education reform, educators seek research-based strategies that will assist with increasing student performance while meeting students at their point of need (Pashler et al., 2009). Research supports using DI and LSI as measures to increase student achievement (Chamberlin & Powers, 2010; Rock et al., 2008). DI, for instance, provides instruction to students on their instructional level (Chamberlin & Powers 2010); teachers deliver instruction using flexible grouping to assist with increasing student achievement (Salvin, 1983). Further, learning style inventories increase student achievement by determining the learning intake process and giving the teacher support to determine how students learn (Samadi, 2013). LSIs provide reference that can identify the way students learn (Nguyen & Zhang, 2011; Platsidou & Metallidou, 2009). Learning style inventories assist teachers in determining how to adapt instruction for all students (Gurpinar et al., 2010). Finally, processing and retention may be difficult for students when teaching styles do not incorporate learning styles (Friedel & Rudd,

2009). The mandates from the latest education reform can be met with the use of researched based strategies, such as differentiated instruction and learning style inventories.

CHAPTER 3. METHODOLOGY

General Introduction

The purpose of this case study was to explore how teachers in an urban school district elementary school understand, implement, and reflect on pedagogical differentiated practices within a classroom. Although much research supports the implementation of differentiated instruction based on learning styles and learning levels to increase student achievement (Grasha, 2002; Patton, 1987), there is limited research that aligns the teacher's understanding, implementation, and reflection on pedagogical differentiated practices within the classroom.

As an employee of the district and former supervisor of the school, I examine the role of the researcher in Chapter 3. I further examine the process I used to obtain participants within the schools. To better understand teachers' perspectives about differentiated instruction relative to students' learning style and student's learning level compared to theoretical and pragmatic understandings outlined in research literature, I used walk-throughs, surveys, teachers' lesson plans, teachers' videoed taped lessons, teachers' reflection journal, and recorded interviews. With the knowledge obtained from this process, I provide recommendations about future directions for district implementation of differentiated instruction in the classroom to increase student achievement; I also provide reflective practices that support teachers' pedagogical improvement for the implementation of differentiated instruction and the development of reflective pedagogical practice to increase student achievement (Schmoker, 2010).

This chapter has seven sections. The first section provides a review of the research questions and the second section describes the research design. Following the research design, I provide background information of the population and a description of the sample used for the

study in section three. The fourth section provides details about the instruments used to collect the datum. Section five describes the datum collected, findings from the instruments used, variables noted, and ethical considerations. The sixth section reviews the findings from the datum and the methods that were used to ensure the integrity of the data collected. The final section of this chapter is a summary.

After following the appropriate protocols established to begin collecting data and to address research question 1 of identifying classroom teachers in a large urban school district articulate knowledge about differentiated instruction and the role of learning styles, I collected data on teacher's instructional practices through four unannounced walk-throughs of each class. After walk-throughs were conducted on the ten participants, I analyzed the findings to determine if particular instructional practices were used more often than other instructional practices to determine if the level of student work provided by the teacher was differentiated, relevant, or rigorous, to determine the strategies used, and to determine if the teacher used technology. After the walk-throughs were completed, I sent each participant a non-experimental survey through Google Drive that was designed to determine (a) the teacher's definition of differentiated instruction, (b) the teacher's implementation of differentiation based on content, product, and process, (c) the teacher's ability to implement activities that align with the student's learning style, and (d) the teacher's ability to implement activities that are aligned with the student's learning level. The survey also collected information pertaining to the teacher's understanding of planning lessons based on differentiation and based on students' learning style and learning level. Gay, Mills, and Airasian (2009) defined survey research as "collecting data to test hypotheses or answer questions about people's opinions on some topic or issue" (p. 175). The survey datum was created to collect a snapshot of the teacher's knowledge of differentiated

instruction, gain further understanding of how often teachers differentiated instruction, and what type of differentiation teachers used (Fowler, 2008).

The next phase of the data collection process allowed one teacher from each school to submit their lesson plan, videos of their lesson, and a teacher's reflection journal documenting their response to the instruction provided on the videoed lesson, prior to reviewing and reflecting on the submission of the lesson. The teachers received a journal with reflection questions created from the teacher's evaluation rubric. Noting that teacher's reflection is "one of the most significant ways teachers examine and change their professional selves and their practice" (Steeg, 2016), the teachers' reaction to their videotaped lessons significantly assisted with determining the instructional practices incorporated in the lesson in comparison to the definition of differentiated instruction. Through a face-to-face interview review of the video, the reflection process allowed the teachers to review their instructional practices and determine if their practices were aligned, or if they were misaligned with the instructional domains that support a teacher's proficiency level, as evidenced by the teacher rubric and the teacher's articulation of differentiated instruction.

At the end of one week of recording, the teachers submitted a copy of the recorded lesson they considered to be the strongest lesson and as well as the lesson they considered to be their weakest lesson; they also submitted their journal reflections. I then dichotomized each teacher's journal to determine if there were similarities within the teacher's instructional practices.

Research Design and Rationale

The research questions for this study were:

Q1. To what extent are teachers in a majority minority district in a state with a long history of struggles around race, especially in education, equipped to provide the differentiated instruction that should take place in the classroom to address persistent inequity?

Q2. What do classroom teachers in a large urban school district articulate as knowledge about differentiated instruction and the role of learning styles?

Q3. How does the knowledge teachers have align or misalign with the literature about differentiated instruction?

Q4. In articulating the approach to pedagogical engagement do teachers show an alignment or misalignment with what they say they know about differentiated instruction and the evidence in literature?

Q5. Based on the answers to these questions, as well as the literature, what steps might districts take toward more incorporation of differentiated instruction?

Differentiated instruction is one of the methods that teachers use to increase student academic performance and to meet the needs of all students. Currently, research is limited that explains teachers' understanding, implementation, and reflection on pedagogical differentiated instructional practices within a classroom, and what teachers know relative to differentiated instruction. Little research explores the teacher's reflection of the differentiated instruction practices within the classroom, although teachers are willing to use the instructional strategy (Weisberg et al., 2009); however, administrators' failure to support teachers with appropriate training and support leads to inadequate results (Tomlinson & Santangelo, 2012).

While there is literature supporting the implementation of differentiation, little research provides evidence about what elementary school teachers know about differentiating instruction based on learning styles and learning levels of students. The focus of this study was on the teachers' understanding, implementation, knowledge, and reflection of differentiated instructional practices within elementary classrooms within a large urban school district. Several methods of data collection were used to determine if the teachers' differentiated instructional pedagogical practice, understanding, and interpretation of differentiated instruction were either aligned or misaligned with what the literature explains and defines as differentiated instruction.

Role of the Researcher

As the only person collecting data for this research, my role was to be undistracted and competent (Bowen, 2009). I was the former principal and former supervisor of one of the schools selected to participate. During the implementation of the study, I did not have a personal relationship with the principal or the participants who volunteered to participate.

I followed procedures outlined by Louisiana State University Institutional Review Board as well as the Angelou Parish School System and I received permission prior to conducting the study. All ethical standards were implemented to ensure the safety of all participants.

As a researcher, I was also a participant. I met with the teachers at each school during a faculty meeting to introduce and to explain the study and the requirements for participation. I distributed the agreement forms to all teachers and then submitted a copy in the teachers' mailboxes. The teachers were asked to submit their replies to the school's secretary; I collected the forms from the school's secretary and established a one-on-one meeting with each teacher to review the study again, to obtain the consent, and to answer any questions they had.

This study had two phases. In phase I, all ten of the participants participated in the data collection of four classroom walk-throughs and completed a survey which provided information about each teacher's background, degree, and delved deeper into their understanding and implementation of differentiated instruction. Participants from each school were asked to participate in phase II of the study with only one participant representing each site. For phase II of the data collection process, I asked the teachers to volunteer if they were interested in videotaping their lessons for one week and reflecting on their instructional practices. One teacher from each school agreed to participate in the second phase of the data collection process. Teachers agreed to submit their lesson plans, videotape one subject for a week, use a journal to reflect on the recorded lesson, and submit their strongest and their weakest lessons. Upon submission of the lessons, I scheduled a face-to-face interview with the teachers. The data collected in the second phase of the study included the teacher's lesson plan, journal, videotaped lesson, and face-to-face interview.

I chose a case study approach to be able to use teacher's interviews, journals, and personal testimonies in the data gathering process, capture the events in the study as a narrative, and provide key information about the teacher's knowledge and application of differentiated instruction while telling the teacher's story (Borrego, Douglas, Amelink, 2009). The use of this method allowed me to analyze and code the responses from the teacher's walk-throughs, survey, lesson plans, video, reflection journals, and interview, while identifying any correlation and themes within the data. I analyzed the data sets to determine if there were any common practices among teachers. While I am a proponent of differentiated instruction, I did not share my personal opinions with the principals of the school or the participants to avoid influencing

the study participants. Confidentiality was paramount during this process and teachers were given pseudonyms.

Table 3.1 Video Reflection Questions

<u>Writing a Teaching Diary</u>
Lesson Objectives   • Was the lesson (delivery of instruction and activities selected to support the lesson) aligned to the students' ability? What measurement was used to capture the students' ability level? Did the outcomes represent high expectations and rigor? Were the outcomes clear for the students? Were the initial intended outcomes met?   Using Questioning Prompts and Discussion   • Was the lesson (delivery of instruction and activities selected to support the lesson) aligned to the students' ability? What measurement was used to capture the students' ability level? Did the outcomes represent high expectations and rigor? Were the outcomes clear for the students? Were the initial intended outcomes met? Did the questions you generated cause the students to think, discuss with each other, and/or assist the students' ability to further understand the lesson? Were any of the questions tiered for different groups? Were the tiered materials and activities based on students' level? Were the tiered materials based on the students' interested? What parts of the lesson could have been done differently?   Engaging Students   • Based on your observation, were the students intellectually engaged in the lesson? If not, why? Which parts of the lesson did the students seem to enjoy the most? And the least? How were the students grouped for this lesson? Why was this type of grouping selected? Did the lesson meet your intended expectations and outcomes?   Managing Classroom Procedures   • Describe the students' level of engagement during group work. Did the transitions between activities, distribution and collection of materials and supplies, and classroom routines function as you expected?   Assessment   • What type of assessment was provided to measure the learning and mastery of the objective? Were different assessments created? Did you have to adjust your lesson to enhance student learning?

Population and Sample

This section describes population, sample, and generalizability issues of the study participants.

Population

The Angelou Parish School System (APPS) consists of 85 public schools and 12 charter schools; 33 of the schools have gifted and talented programs, and 20 of the schools are academic magnet schools. Under jurisdiction of Angelou Parish School System, there are 48 public elementary schools, 14 public middle schools, and 13 public high schools that are not charter schools. Two elementary schools with total populations exceeding 400 were invited to participate in the pilot of the study, Barrack Hussein Obama Elementary School and Langston Hughes Elementary School. For both phases of the study, no data was collected from any other sites in or out of the parish. BHOES had a School Performance Score (SPS) of 63.8 and LHES had an SPS of 61.8, and both were considered low-performing elementary schools due to their SPS during the 2015-2016 school term. Further, both schools had a high percentage of students eligible for free or reduced lunch, an indicator used to determine at-risk status in Louisiana (Louisiana Department of Education, 2012). For the 2015-2016 school term, BHOES had a school performance score of 63.8, 492 total students and 84.4% of the students were eligible to receive free or reduced lunch. During the same year, LHES had a school performance score of 61.2, 405 students and 88.6% of the students were eligible to receive free or reduced lunch. Both of these schools were within the APSS school district. The district's school performance score during this same year was 79.8, a total student enrollment of 41,617 and 81% free and reduced lunch (Louisiana believes, 2015).

The total number of teachers at each site was 26 teachers at BHOES and 23 teachers at LHES for a total of 49 classroom teachers. The teachers in the sample taught English Language Arts, math, science, and or social studies and were both self-contained and departmentalized teachers. Other teachers and support staff such as paraprofessionals, librarians, principals, interventionists, principals, assistant principals, and deans of students were excluded. Other support staff members were excluded as those employees did not provide direct instruction, did not have consistent daily interactions with the same students, nor did they have the same amount of exposure to academics and instruction as the classroom teachers.

Sample

After receiving permission from Louisiana State University and Angelou Parish School System to conduct the study, a permission request was sent to five principals, three of whom responded. Two schools with similar demographics were selected to participate. A sample of all classroom teachers from BHOES ($N = 23$) and all classroom teachers from LHES ($N = 23$) was asked to participate in this study. Nine teachers responded from BHOES and 14 responded from LHES. The teachers selected to participate were chosen based on their timely submission of the agreement coupled with grade levels of the request to the office.

For the first phase of the study, ten teachers were selected, five teachers from each site. For the second phase of the study, only one teacher from each site participated, although a total of five teachers responded to the request.

Generalizability Issues

I focused on the Angelou Parish School System, and therefore, the results from this study would only be generalizable to similar districts that are interested in researching teachers' understanding, implementation, and reflection on differentiated instruction practices based on

learning styles and differentiation based on learning level. Another factor that may impact generalizability was the response rate from teachers and principals as participation in the study was voluntary. The researcher's goal was to attain 90% participation of the teachers from both campuses for phase one and 10% of the population sample for phase II. Gay et al. (2008) noted a low response rate could affect the generalizability of the results and that a limited sample could skew data depending on the population that was not represented. Since all grade levels were not represented, I could have drawn incorrect generalizations since the entire population was not represented.

Instrumentation

The instrumentations used in this study included a teacher instructional walk-through form, instructional survey, teachers' lesson plans, journals, videos of the lesson, and interviews (Froddy, 1993). The walk-through document and survey instruments aligned to research questions 1 and 3. The lesson plan, journal, video, and interviews aligned to research questions 1, 2, and 3.

Walk-Throughs

The teacher walk-through document was developed by the district and used with permission for this study. The walk-through document was created to provide an overview of a teacher's classroom. For this study, the walk-through was used to identify the teacher's instructional strategies used within the classroom.

Two of the walk-through questions centered on teacher's focus on instruction and teacher's focus on instructional practices that aligned to research question 1: What do classroom teachers in a large urban school district articulate as knowledge about differentiated instruction?

Teacher's implementation of differentiated instruction through class setting, release of responsibility, focus on the learning, level of engagement, level of student work using the Revised Bloom's Taxonomy, and implementation of technology aligned with question 3: In articulating the approach to pedagogical engagement, do teachers show an alignment or misalignment with what they say they know about differentiated instruction and the evidence in literature (Brown & Warschauer, 2006)?

Teacher Survey

A four-section teacher survey was used to gather additional information pertaining to the teacher's understanding, implementation, and practices associated with differentiated instruction. In section 1, teachers were asked to complete background information about their highest degree earned, how many years taught in their current site, and the number of years within the local school district. This information provided insight about the participants in the study. Section 2 asked teachers to define differentiated instruction and requested that they provided their interpretation of the definition they provided. The teacher's definition and Tomlinson's (2001) definition of differentiated instruction determined whether the teacher's understanding of differentiation was aligned or misaligned to literature. For analysis, the teachers' responses were coded using a 4-point Likert scale to measure each teacher's definition and understanding of differentiated instruction. To measure the level of awareness, a 0 was assigned if the teacher was not at all aware; a 1 was assigned if the teacher's definition showed the teacher was slightly aware; the number 2 was assigned if the definition showed the teacher was somewhat aware, and a 3 was assigned if the teacher's definition appeared to be moderately aware. Finally, a 4 was assigned if the teacher was extremely aware.

For this study, I used the mean scores from the instructional survey and the walkthrough results to determine the performance level of the teachers. A 4 indicated a very high response while a mean score 0 indicated a very low response. The Likert scale allowed me to analyze each question and identify any possible trends. To determine the likeness of the teacher's definition of differentiated instruction to that found in literature, if the teacher's definition appeared to show the teacher was unable to define differentiated instruction, the teacher received a very low rating. If the teacher's definition appeared to show the teacher was slightly aware of differentiated instruction, the response was given a low rating. If the teacher's definition showed the teacher was able to slightly define differentiated instruction, the teacher's response was given a moderate rating. If the teacher's definition appeared to show the teacher's definition was strongly aligned to the definition found in literature, the teacher's definition received a high rating.

Section 3 of the teacher instructional survey measured differentiated instruction based on process, product, and content. The participants used a 4-point Likert scale to answer the questions in reference to how often differentiated instruction was used in the classroom. To measure the level of frequency, a 0 was assigned if the teacher did not use differentiated instructional practices to differentiate the product, process, or content; a 1 was assigned if the teacher rarely used differentiated instruction strategies to differentiate the students' product, process, or content; a 2 was used if the teacher sometimes used differentiated instructional practices to differentiate the students' product, process, or content; a 3 was used if the teacher often used differentiated instructional practices to differentiate the students' product, process, or content; and a 4 was used if the teacher always used the differentiated instructional practices to differentiate the students' product, process, or content.

A 4-point Likert scale was created to measure the frequency of the teacher's differentiation practices based on differentiating student's product, process, or content. A 0 was assigned if the teacher response was *never*; a 1 was assigned if the teacher's response was *rarely*; a 2 was assigned if the teacher's response was *occasionally* and a 3 was assigned if the teacher's response was *often*. Finally, a 4 was assigned if the teacher's response was *always*. *Never* received a score of 0 while *always* received a score of 4. The Likert scale allowed me to analyze each question individually and identify any possible trends.

The fourth part of the teacher's instructional survey asked teachers to use a Likert scale to identify the frequency of the use of differentiated instruction during planning. A 4-point Likert scale was created to measure the implementation. To measure the level of implementation, a 0 was assigned if the teacher response was *never*; a 1 was assigned if the teacher's response was *rarely*; the number 2 was assigned if the teacher's response was *occasionally* and a 3 was assigned if the teacher's response was *often*. Finally, a 4 was assigned if the teacher's response was *always*. *Never* received a score of 0 while *Always* received a score of 4. The Likert scale allowed me to analyze each question individually and identify any possible trends.

The fifth and final part of the teacher's instructional survey asked teachers to use a Likert scale to identify the content that was differentiated in their classes. A 4-point Likert scale was created to measure the content that was differentiated. To measure the level of implementation, a 0 was assigned if the teacher response was *never*; a 1 was assigned if the teacher's response was *rarely* the number 2 was assigned if the teacher's response was *occasionally* and a 3 was assigned if the teacher's response was *often*. Finally, a 4 was assigned

if the teacher's response was *always*. *Never* received a score of 0 while *always* received a score of 4. The Likert scale allowed me to analyze each question individually and identify any possible trends.

Other Data Collected

For the second phase of the qualitative case study, I collected multiple sources of data from the two participating teachers (Hatch, 2002). Each teacher submitted a copy of the week's lesson plan, a reflection journal, and participated in a face-to-face interview. Prior to the interview, I reviewed the lesson plans individually and then compared the plans to determine any commonalities and differences pertaining to instructional practices. To document the findings, I watched each submitted video to improve my understanding of the teacher's instructional delivery, compare the teacher's plan with the teacher's action in the video, compare the teacher's actions with the state's teacher evaluation rubric to determine the performance level of the teacher, and finally to compare the teacher's survey and walk-through results with the teacher's practices. From the findings, I formulated additional questions needed for the face-to-face interview to assist with determining the teacher's understanding, implementation, and reflection on pedagogical differentiated practices within a classroom. The triangulation of these data sets provided a scaffold analysis (Denzin, 1998).

The face-to-face interviews provided the most significant information for this case study (Kwasnicka, Dombrowski, White, Sniehotta, 2015; Kvale, 1996). Both interviews accommodated the participant's schedules and were conducted in a location with minimal external distractions. The participants agreed to have the interviews recorded, which was done using a small digital recorder for accurate and inconspicuous data collection. Each interview was saved in a digital folder on the recorder and downloaded to a personal computer. The files

were immediately burned to a CD in duplicate and stored with the original files obtained from the participants. The download and the transferred files were then deleted from the recorder and computer.

Coding

After I transcribed each of the interviews, I used markers and highlighters to code the documents and to find notable similarities between the teachers' interviews (Saldaña, 2015). I then reviewed the items grouped for similarity to determine and derive any themes and or sub themes from the interviews that were common with the data from the walk-throughs and or surveys. While Chapter III provides the explanation of the instruments used, Chapters IV and V provide the analysis of the data sets, details from the interviews, and recommendations from the teacher interviews.

Ethical Considerations

I ensured all ethical procedures were followed during and after completion of the research study. Louisiana State University's Institutional Review Board gave approval before all research was conducted; permission was also granted from Angelou Parish School System's Superintendent before any data was collected. Both administrators signed and received copies of the consent form. All participants for this study volunteered to participate and provided signed consent to participate in phases I and II of the study. Each participant understood that consent could be withdrawn for any reason and there were no restrictions or limitations placed on the participants. They were further provided with contact information for additional questions regarding the study specifics about the investigator.

The needs of this study were never placed above or before maintaining the well-being of all participants. All research materials were secured in a locked filing cabinet and/or a database

to which only I had access and that were confidential. Confidentiality is an ethical right granted to all participants. Participants were not deceived during this study and all participants were kept anonymous.

Data Collection

Permission was granted from Louisiana State University's Institutional Review Board and the Superintendent of Angelou Parish School System prior to data collection. Phase I of the research study consisted of both quantitative and qualitative methods. The teachers' instructional walk-through was used to collect data on all teachers and the 10 teachers participants were each observed four times. The data was disaggregated to look for common practices among teachers and then reviewed the data for themes and subthemes. Finally, I dichotomized the data by teachers' years of experience and teachers' degrees to determine if those factors contributed to a difference in performance.

Permission was granted from Louisiana State University's Institutional Review Board and the Superintendent of Angelou Parish School System to modify the initial research request through the Institutional Review Board (IRB) and Request to Conduct Research (RCR) prior to data collection. For phase II, a teacher instructional survey was created using a Google form and was e-mailed to the 10 participating teachers by the researcher; the survey was available for two weeks and teachers completed the survey using the link provided in the email. The teachers received one email reminder to complete the survey. All of the participants submitted a response as evidenced by the responses collected through the Google Drive. The survey data was analyzed after the two-week period.

A factor analysis and a descriptive statistical analysis were used to analyze the quantitative data. A multiple regression analysis was conducted using teachers' perceived

knowledge of differentiated instruction as the dependent variable. Two variables were entered separately in blocks. This regression analysis examined the amount of variance in teachers' perceived use and knowledge of differentiated instruction as explained by the responses in the teachers' survey.

Evidence collected from phase I of the study guided and supported phase II. Phase II of the study consisted of two teacher reflections on their instructional practices using a variety of tools. Two of the participants videotaped themselves teaching one subject and reflecting on the lesson. At the end of the week, the participants then selected one lesson they thought was their strongest and one lesson they thought was their weakest and submitted both lessons to the researcher. I read and coded the journal entries from the participants to determine if there were commonalities between the lessons the teachers perceived to be strong and weak lessons. I then scheduled an interview with each participant to review the video lessons with the intent of understanding why each teacher selected the video lesson submitted as the strongest and the video lesson submitted as the weakest. During the video reviews, I used the lesson plans submitted by the teacher to review the documented methods of differentiation the teacher used within the instructional planning and compared the lesson plan with the lesson implementation. I asked the teacher open-ended questions about the lesson to determine if the teacher's perception of differentiated instruction was aligned with the practices noted in the teacher's lesson plan, videos, walk-thoughts, journal, and was aligned with the teacher evaluation tool provided by the state. This meeting allowed me to compare the teacher's understanding and implementation of differentiated instruction to what the literature states about it, while uncovering the reflective process needed to improve educational practices.

Interview Data Analysis

The individual interviews provided multiple types of data through the video recordings, journals, lesson plans, walk-throughs, surveys, and interviews. The data sets allow verification and reporting while also providing insight into what the interviewee thought and felt (Dilley, 2004). After the interviews, I studied all of the transcripts and ensured all of the teacher's identifiable information was coded properly. Using a time stamp to track the interview coding, I classified commonalities, looking for connecting themes and subthemes, categories, and subcategories to identify any existing similarities between the teachers' perceptions of their lessons. I then contextualized the participants' responses with what literature notes about differentiated instruction.

Summary

The U.S. Department of Education (2002) has identified that low performing schools and low student achievement is a national problem. Increasing proficiency rates among students has been part of the US post-NCLB. Currently, the focus of single strategies does not meet all students at their point of need and, while differentiated instruction appears to be promising, we know little about teachers' actual knowledge of differentiated instruction. Consequently, this research sought to take a step back from measuring differentiated instruction in schools, and a step toward understanding what teachers know or do not know relative to differentiated instruction; it also looked at how that knowledge matched the literature on differentiated instruction. Information from this study will help administrators, educators, and pre-service educators to understand the type of professional development and knowledge teachers need to best implement differentiated instruction in their classrooms. This study provides a precursor to the work of measuring differentiated instruction by claiming that we need to know what

teachers know, and to provide authentic professional development and learning to teachers before we measure differentiated instruction's relationship to student achievement, if we believe in differentiated instruction.

CHAPTER 4. RESULTS

Introduction

The purpose of this case study was to explore what elementary school teachers in a large urban school district articulated as knowledge of differentiated instruction, the role of learning styles, and to determine if the teachers' instructional practices was aligned or misaligned with the literature. The following research questions guided the study:

Q1. To what extent are teachers in a majority minority district in a state with a long history of struggles around race, especially in education equipped to provide the differentiated instruction that should take place in the classroom to address persistent inequity?

Q2. What do classroom teachers in a large urban school district articulate as knowledge about differentiated instruction and the role of learning styles?

Q3. How does the knowledge teachers have align or misalign with the literature about differentiated instruction?

Q4. In articulating the approach to pedagogical engagement do teachers show an alignment or misalignment with what they say they know about differentiated instruction and the evidence in literature?

Q5. Based on the answers to these questions, as well as the extent to literature, what steps might districts take toward more incorporation of differentiated instruction?

The first overall question was the broad framing – Questions two through five are addressed in the discussion below.

In Chapter IV, I discussed the data collected, the analysis process, how data was analyzed, and the results of the findings. Further, I provided evidence of the patterns noted within the process, the similarities and differences between the data sets, and the themes found. Lastly,

I concluded the chapter with evidence of trustworthiness, validity, dependability, and conformability.

Setting

This study took place in two elementary schools in the district. Teachers at both schools served children from Pre-Kindergarten through 5th grade. The district was located in the southern region of the United States and was the second largest district in the state with eighty-six public schools and twelve charter schools. Of the eighty-six schools, thirteen were high schools, fourteen were middle schools, forty-eight were elementary schools, three were alternative schools, and three were discipline centers. Although both of the schools within the study contained a magnet component, the magnet classes were not a part of the study.

According to the Louisiana Department of Education's 2009-2010 Districts-At-A-Glance Report, Angelou Parish School System had a total enrollment of 41,617 students. The district had 4,200 employees and there were 81% free and reduced lunch students and 78% Black students at the time of the report (LDOE, 2015).

Two elementary schools selected for this study were located in the northeastern and southern parts of the parish. The buildings were constructed in 1969 and 1970 respectively and each school served over 400 students. Both schools were within a middle-class family community and were low performing schools as indicated by the School Performance Scores (SPS). One school had a SPS of 63.8 and the second school had an SPS of 61.2 (LDOE, 2015).

All of the classroom teachers were invited to participate in the study. Of the teachers who indicated an interest in participating, five teachers were randomly selected from each school and, consequently, ten teachers participated in the study.

Teachers were expected to use differentiated instruction and learning style inventories to increase student achievement and for teachers to receive a highly effective rating in instructional domains on the Teacher Evaluation Rubric. The district used differentiated instruction and learning style inventories to increase student achievement among students who received services using Individual Education Plans. While teachers were expected to use these strategies, Angelou Parish School System had not provided consistent professional development for regular education teachers to implement differentiated instruction in the classroom.

For phase I of the study, I conducted four walk-throughs of each teacher and submitted an electronic survey. For phase II of the study, I asked for one volunteer from each site to video one subject they taught for one week, to use a journal and reflection questions I created, to write a weekly reflection of their daily teaching that reflected on their instructional practices, and to participate in a separate interview. I conducted all walk-throughs, collected all surveys, and met with the teachers between the spring semester of 2016 and the fall semester of 2016. The study did not interfere with instruction or with mandatory state testing. I ensured that all classroom visits were organized outside of the testing and make up windows, and conducted the interviews for phase II away from the elementary campuses.

Demographics

All of the participants in phases I and II volunteered to participate. In phase I, one male teacher and nine female teachers were randomly selected from the volunteers to participate; both teachers who participated in phase II were female. The data was analyzed by years of experience and their college degree (bachelor's, master's, Ph.D. or Ed.D). Five teachers in phase I of the study had zero to three years of teaching experience, and five teachers had seven or more years of experience. Based on the survey, five teachers had a master's degree in education and five

teachers held a Bachelor of Arts in Education. The teachers ranged from Kindergarten through 5th grade at each school with only one teacher represented at each grade level. Two teachers who participated in the study taught at another school site in the district prior to their current site. All teachers participating in the study spent their teaching careers in the identified district.

The teachers in Kindergarten through 2nd grades taught in a self-contained classroom; however, the teachers in 3rd – 5th grades were departmentalized. For this study, there were 5 teachers with a Bachelor of Arts degree and 5 teachers who successfully earned a Masters of Arts degree in Education. Two teachers who taught Kindergarten, two teachers taught 2nd grade, three teachers taught 3rd grade, two teachers taught 4th grade and two teachers taught 5th grade. Of the 10 teachers, two teachers had 2 years of teaching experience, one teacher had three years of experience, two teachers had six years of experience, and one teacher who had nine years of experience; additionally there was a one teacher with 10 years of experience, one had 15 years of experience, one had 16 years of experience and one had 39 years of experience. While eight of the teachers only had taught at their current location, the teacher with 39 years of experience and the teacher with 10 years of experience both taught at different sites other than their current site.

Data Collection

Data was collected using a walk-through form to observe teachers teaching in the classroom, a survey, interviews, and videos. In phase I of the study, four walk-throughs were conducted on each teacher. Each teacher submitted an electronic survey that collected demographic data, the teacher's definition, use, understanding and implementation of differentiated instruction and learning styles. For phase II of the study, one volunteer from each school videoed one lesson on any subject of their choice for one week. Teachers were instructed to do a daily reflection on their lesson for one week about their thinking on their instructional

practice. In an interview we discussed the lesson they selected and on which they reflected in their journal. During the interview, teachers were asked to reflect on questions created from the Compass Rubric used by the district to evaluate teachers.

Each documented walk-through lasted thirty minutes. The Teacher Walk-through instrument was divided into nine sections: (a) class setting, (b) focus on instruction, (c) implementation of instructional practices, (d) release of responsibility, (e) grouping format, (f) focus on the learner, (g) the level of cognitive engagement, (h) the work level as it related to Bloom's Taxonomy; and (i) the use of technology (see Walk-through form in Appendix A). The survey instrument solicited information on teacher's background, teacher's definition of differentiated instruction, and the teacher's understanding of the role of learning styles; teacher's implementation of differentiated instruction based on process, product, content; and teacher's planning for and implementation of differentiated instruction and learning styles in the classroom (see survey form in Appendix B). The data was collected using a Google Form and submitted to my personal email address.

Phase II delved deeper into understanding the teacher's instructional practices compared to the teacher's knowledge. This step compared the teacher's knowledge about differentiated instruction and the role of learning styles communicated in the survey and the teacher's instructional practices. One teacher from each site was selected for phase II of the study. At individual meetings with each teacher, the second phase of the study was explained and questions regarding participation in this phase were answered.

In phase II, teachers submitted to me a copy of their lesson plan for the week and prior to filming the lesson. I provided a journal to teachers with directions requesting them to reflect daily on their lesson (see reflection journal directions Appendix C). When teachers submitted

their videos, they indicated which days they wanted me to view as their best day and their worst day. The reflective journal was submitted with the videos.

Prior to meeting with the teachers to review each video, I reviewed the lesson plans provided by the teacher, which was a guide for their intended outcomes. I watched the lesson the teacher indicated was the worst lesson once and documented the findings on the walk-through form (see Walk-through form in Appendix D and E).

I watched each video the teachers selected as their best lesson twice. The first time I watched the video I documented the findings of the lesson on the walk-through form (see walkthrough form F and G). The second time I watched the video I evaluated the teacher on the teacher evaluation rubric. (see Teacher Evaluation Rubric H and I). After reviewing and rating the videos of the lessons using the Walk-through form and the Compass Evaluation rubric, I created open-ended questions based on what the teacher articulated as differentiated instruction and the role of learning styles from the survey as compared to the Walk-through document, teacher reflection journal, teacher created lesson plan, and Teacher Evaluation Rubric.

I held the interviews in my office away from the school site. Although multiple employees work in the office building, there were no distractions during the interview. Each interview lasted between 75 and 85 minutes and was digitally recorded. For ease and comfort of the interviewee, the initial interview began with an opening introduction of pre-created questions (see teacher introduction questions in Appendix H). During the interview, I provided the teachers with a copy of the teacher evaluation framework used by the district.

A second meeting was held in my office with each phase II teacher in the study. The teacher was provided with a copy of the transcript I created from the recorded interview to determine if any adjustments were needed. I scheduled this meeting for 25 minutes but the

process only took 15 minutes. When the teacher agreed with the final transcript, I provided the teacher with a copy and placed a copy with my research files and locked the drawer.

Data Analysis

When analyzing the release of responsibility for the ten teachers observed in this study, 85% of the time the teachers led, negotiated, or suggested; students questioned, collaborated, responded, read, or wrote. The findings with this data set did not allow for dichotomizing based on the teacher's years of experience or degree; in doing so, the data findings would have been less than 10%. The teachers with 0-3 years of experience used an average of 36 different instructional strategies, and incorporated 90% of the instructional strategies identified. In comparison, the teachers with 10 or more years of experience used an average of 24 different instructional strategies, and incorporated different instructional strategies 60% of the time. While all of the teachers used instructional strategies in the area of engagement, the teachers who had been teaching for 0-9 years showed a 30% increase in strategy use in comparison to the teachers with 10 or more years of experience. When dichotomizing the teachers based on degree, the teachers who had a master's degree used 20% more instructional strategies than the teachers who had a Bachelor of Arts degree.

Research Results

This investigation was concerned with the teacher's knowledge of differentiated instruction and the role of learning styles and if this knowledge aligned with the literature. Ten elementary teachers responded to the exploration of several questions of two demographic variables. This chapter contains analysis of the data obtained from a questionnaire survey returned by the ten teachers who were randomly selected from two schools, based on the 20152016 school year placement figures at the schools.

The information in this chapter is organized as follows: the first section is devoted to demographic data related to participants in this study; the second section focuses on the responses to the questionnaire survey and walk-through data used in phase I of the study and the interview data collected in phase II of the study; the third section includes the study questions that provided the focus for the research and a general discussion of them.

The descriptive statistics for the results from the instructional walk-throughs and the survey results were reported by grouping the instruments in subscales; thus I was able to provide statistical conclusions for each instrument. The Teacher Walk-through instrument had nine sections observed by the researcher: (a) class setting, (b) focus on instruction, (c) implementation of instructional practices, (d) release of responsibility, (e) grouping format, (f) focus on the learner, (g) the level of cognitive engagement, (h) the work level as it relates to Bloom's Taxonomy; and (i) the use of technology. The teacher instructional survey was broken into seven parts: a) teacher's background, (b) defining differentiated instruction, (c) differentiated instruction based on process, (d) differentiated instruction based on product, (e) planning for differentiated instruction, (f) differentiated instruction based on content, and (g) differentiated instruction based on content. I then reviewed all data independently to identify any subscales, and to identify the statistical conclusions of the initial subscales, before dichotomizing the data by years of experience and by degree of the teacher to determine if there was a difference.

Demographic Data

The information from the teacher's definition of differentiated instruction and the role of learning styles was dichotomized based on the teacher's years of experience to see if the years of experience made a difference in the teacher's responses; the data was useful in analyzing

intricate parts of this chapter. To determine if the teacher's definition was similar to the one found in literature, a Likert scale was used to compare the respondents' definition of differentiated instruction and the role of learning style and the definition found in the literature. The teachers' responses were then dichotomized by the teacher's degree. This determined if the definitions provided from the teachers with a Bachelor of Arts degree were more or less similar to that in the literature, and more or less similar than the definitions provided by the teachers with a Masters of Arts degree.

The group with a definition more similar to the one provided in literature was the teachers with 10 or more years of experience. Definitions provided from the teachers with 0 to 3 years of experience were more related to their grouping patterns or activities, whereas the definitions of respondents with 10 years of experience and above were more related to their tiered and small groups. Half of the teachers in this study were able to articulate a definition about differentiated instruction that was similar to the definition found in literature.

The similarities in learning styles definitions provided by the teachers in comparison to the definition in the literature were moderately similar. The definitions provided by the teachers with a Master of Education degree were closely related to the definition in literature. Further, the teachers articulation of the role of learning styles was compared to the role of learning styles found in literature. The results were dichotomized by the years of experience and the teacher's degree. In comparing of the role of learning styles by respondents with a Bachelor of Arts degree and the respondents with a Masters of Education degree and the literature, both groups displayed a similar definition to the literature at 60%.

Question 2 determined the teachers' knowledge about differentiated instruction and the role of learning styles, as indicated by the results presented above. The datum showed that

teachers with four years of experience or above and a master's degree could articulate the definition of differentiated instruction and the role of learning styles moderately similar to the definitions quoted in the literature. While the articulated definitions were defined based on grouping, strategies teachers used, and activities to address student needs, they pointed to the diverse needs of students and how the teachers planned to address those needs. In phase 1 of the study, the walk-through data substantiated that knowledge with the teachers actual teaching in the classroom. Again, teachers with more experience planned and taught their lessons to address the needs of the students when teaching the core standards. In phase II of the study, the datum from the interview verified their understanding of differentiated instruction and the role of learning styles in their teaching. This datum proved that teachers could articulate their knowledge of differentiated instruction, and the role of learning styles and the use strategies to address the varied needs of students in their lesson.

Jonassen & Grabowski (1993) defined learning styles as the traits that assist with processing, organizing, and applying information. I used a Likert scale to identify the likeness and the following number scale: the number 1 meant the teacher's implementation of a student's learning style in comparison to how the literature identifies ways teachers should use learning style indicated the teacher was not at all aware of how or why to use a student's learning style; the number 2 meant the teacher's implementation of a student's learning style in comparison to how the literature identifies ways teachers should use learning style indicated the teacher was slightly aware of how or why to use a student's learning style; the number 3 meant the teacher's implementation of a student's learning style in comparison to the way the literature identifies ways teachers should use learning style indicated the teacher was slightly aware of how or why to use a student's learning style; the number 4 meant the teacher's implementation of a student's

learning style in comparison to the way the literature identifies ways teachers should use learning style indicated the teacher was well aware of how or why to use a student's learning style; and the number 5 meant the teacher's implementation of a student's learning style in comparison to the way the literature identifies ways teachers should use learning style indicated the teacher was extremely aware of how or why to use a student's learning style. The teacher's articulation of the role of learning styles was compared with the findings from the literature and rated. One teacher's definition received a 1, five teachers received a rating of 2, two teachers who received a rating of 3, and only two teachers received a rating of 4.

To address research question 3, regarding the alignment or misalignment to literature of the teacher's definition of differentiated instruction and the role of learning styles, I compared the teacher's definition of differentiated instruction and the role of learning style to the findings in literature. I then reviewed the results from the coded responses and noted the teacher's scores. I then dichotomized the results by degree and years of experience. The teachers with a bachelor's degree were placed in one group and the teachers with master's degree were placed in another group. The teachers who taught for 0-9 years were grouped together and the teachers who taught for 10 or more years were grouped together. The teachers with master's degrees provided a definition of differentiated instruction that was more similar to the definition provided by literature. There was better articulation from the teachers with a Bachelor of Arts degree than the teacher's with a master's degree.

The next step was to dichotomize the data by teacher's years of experience to determine if there was a difference between the definitions provided by the teachers with 0-9 years of experience and teachers with 10 or more years of teaching experience. The teachers with a master's degree had a stronger definition than the teachers with a bachelor's degree and had a

stronger definition of differentiated instruction when comparing the teacher's definition to the literature's definition.

To support research question 4, "In articulating the approach to pedagogical engagement do teachers show an alignment or misalignment with what they say they know about differentiated instruction and the evidence in literature?", and to determine alignment, I used the responses from the teachers from phase I of the study. The teachers in phase I of the study indicated that to differentiated instruction the classroom teacher must provide instruction to students using heterogeneous and homogenous grouping, must provide work based on student's instructional level, use scaffolding approaches during instruction, and must use various data sources to assist students with mastering standards. Teachers indicated the role of learning styles was to assist with delivering the instruction based on the way students learn, provide instruction to meet the needs of students, provide students with different avenues of learning, and use the way students learn and their interests to tailor instruction. While 90% of the teachers' articulation about learning styles from the Teacher Instructional Survey focused on the way students learn, Teacher 3 further expounded on the definition stating, "The implementation of learning styles also encouraged students' long-term academic abilities". According to the survey responses, the teachers articulated knowledge about differentiated instruction and the role of learning styles.

During phase II of the study, teachers were asked a series of open-ended questions that assisted me with understanding their definitions of differentiated instruction and their articulation of learning styles. After both interviews were completed, I began the process of open coding

using the inductive process to look for repeated words, phrases, and differentiated instructional practices within each interview. I then looked for repeated words, phrases, and differentiated instructional practice similarities from both teachers, and determined if any of the differentiated instruction strategies were alike. I reviewed each of the questions from the interviews in isolation to determine the presence of any of the themes from the teacher's walk-through or submitted survey instrument.

Using highlighters, markers and color pencils, I identified the commonalities using the open coding and axial coding process, and then noted specific themes, categories and codes that emerged. I used Tomlinson & Santangelo's (2012) definition for differentiated instruction: "A systematic way to conceptualize the process of teaching and learning such that each student's learning needs are honored and, consequently, each student's learning potential and outcomes are maximized" (p. 212). While the definitions from teachers with a master's degree are more closely related to differentiated instruction and the role of learning styles, the teachers with 0-3 years of experience used 40% more instructional strategies.

Evidence, Trustworthiness, Validity, and Transferability

Strategies to form validity within this study included: (a) data analysis of multiple data sets from each teacher, the teacher's walk-through data and an examination of experience and application from the teacher's survey; (b) face-to-face interviews with the teachers participating in phase II of the study in a private environment, the teacher's journal, and reflection of the lessons; and (c) a current reference to literature of Vygotsky's Zone of Proximal Development theory (1978).

CHAPTER 5.

DISCUSSION

This chapter discusses what was learned from this research, and reflects on the meaning of the research questions in terms of these learnings and the (dis)connects between what participants said about differentiation and learning styles, and what they actually did. Part of the discussion revisits the theoretical framings before offering recommendations for school districts like APSS to consider as they move forward. I also examine some limitations and realities of this study.

Finally, I provide directions for future research.

Differentiated Instruction and Articulated Ideas

Four themes emerged that could characterize participants' articulated stances toward differentiation. First, respondents highlighted that providing differentiated instruction to students should involve both heterogeneous and homogenous grouping. Participants articulated that there were times in which grouping reflect same and different levels of student understandings, background knowledge, skills, and abilities. The participants also shared the frequency with which these groups change.

Second, participants articulated a belief in providing work based on students' actual instructional levels. While not directly stated by participants, we might infer that such a theme reflects participants' understanding that their students differed in ability, experience, and prior knowledge, and that to differentiate, one must address students where they are in their learning process.

Third, participants' articulated that using scaffolding during instruction is important. During phase II of the study, Teacher one realized the disconnect between her intended use of differentiated instruction based on scaffolding the lesson and her lack of implementation.

Finally, participants articulated the need for various data sources to assist students with mastering standards. While teachers articulated the use of heterogeneous grouping as a way to differentiate instruction, the strategy was not always used. The teachers with a Bachelor's of Arts Degree in Education changed their groups less frequently than the teachers with Master's Degree in Education. One teacher with a Bachelor's degree and one teacher with a Master's degree responded that the heterogeneous groups within the class did not frequently change. Two teachers indicated their groups changed frequently changed. Of the 10 respondents, three teachers indicated their heterogeneous groups changed moderately, and one teacher indicated the heterogeneous groups within the classroom always changed.

The teachers with a Master's Degree in Education changed their homogeneous groups more often than the teachers with a Bachelor of Arts in Education. While both homogeneous and heterogeneous groupings are effective theoretical ways to group students (Becker et al., 2014; Mazanec, Crotts, Gursay, & Lu, 2015), it is implied that teachers are not using fully the strategies as tools to increase student achievement. Four teachers did not frequently change their homogeneously grouped students, two teachers indicated they homogeneously grouped their students frequently; of the ten teachers, three indicated they moderately homogeneously grouped the students and only 1 teacher who always homogeneously grouped the students.

To respond to the needs of all learners, teachers use a scaffolding approach during instructional delivery. Scaffolding aligns with Vygotsky's learning theory and is defined as the process by which one may come to understand a concept or skill beyond the unassisted efforts

(Chou, 2013). According to the teachers' survey, teachers indicated they used scaffolding approaches when delivering the lesson. The results from the survey indicated that three out of four teachers with a master's degree scaffold always and the remaining two teachers use a scaffold approach moderately. Two out of five teachers with their Bachelor of Art's degree scaffold instruction most of the time and the remaining three teachers scaffold the lesson always. A Likert scale for frequency was used in reporting the teacher's survey response to the question, "How often do you scaffold instructional delivery?" Teachers were asked to respond to a survey determining frequency. While the teachers indicated scaffolding was used to deliver instruction, the walk-through datum did not align with the teachers' survey response. Teachers were asked to self-rank using a 1-4 scale where 1 was not frequent and 4 was always. While no teachers selfranked themselves as a 1, three of the teachers ranked themselves as a 2 indicating they frequently scaffold during instruction and two of the teachers self-ranked themselves as a 3 indicating they moderately scaffold during instruction. Of the ten teachers who completed the survey, three of the teachers self-ranked themselves as always scaffolding during instruction.

It can be inferred from the data collected during both phases of the study that, while teachers document on their lesson plans the scaffolding and differentiated methods they intend on using to differentiate the instruction to meet the needs of all students, including those with varying learning abilities, the instructional outcomes do not always match the planned intentions. The use of instructional scaffolding is one method used to improve student's understanding (Kang, Shin, Hyun, & Chae, 2015), as scaffolding provides students with the support needed during the lesson and the results from a scaffold lesson provide teachers with the pulse on student progress (Bendixen, 2016; Chou, 201).

During phase II of the study, Teacher two planned to meet the needs of varying learners through the creation of small groups. The small groups were created based on the pre-assessment given as well as the students' responses to the questions generated during the lesson's delivery. The teacher indicated that with each lesson, she worked to ensure appropriate scaffolding to meet the needs of all learners. Reflecting on the video of the lesson, Teacher two thought that, while the strategies incorporated within the lesson were intended to meet the needs of all learners due to the selection of questioning during the lesson, many of the higher performing students became disengaged. She thought this was because the higher performing students were not challenged and the questioning was not rigorous. While she worked daily in small groups with the lower performing students, she realized that not providing additional support to the higher performing students during instruction was limiting those students.

Teacher one was unable to tier the questions to engage all of the students; as a result, while most of the students were engaged initially, she realized that instructional engagement was lost as the lesson proceeded. The results from the teacher's walk-through revealed that more than 70% of the time the students were in a whole group setting.

Another effective method teachers use to differentiate instruction is to use data from students' formal and informal assessments (Brimijoin, Marquissee, & Tomlinson, 2003; Smit, & Humpert, 2012). The use of student's datum to differentiate instruction allows the teacher to align the instruction to the student's needs and to provide a moderate challenge, which is what Vygotskij referred to as the zone of proximal development (ZPD). While the use of data is one of the most reliable ways teachers can effectively plan for differentiated instruction, not all teachers incorporate the use of data when planning for a lesson. The teachers were asked to reply to the survey statement, "I use data to drive Differentiated Instruction". Disconnects were

noted when comparing the responses from the teacher survey in phase I of the study to the teacher's actual practices. The first disconnect I noted was that three of the teachers indicated they used data to differentiate instruction all of the time, and seven of the teachers indicated they frequently used data to differentiate instruction, but the walk-through results indicated that 70% of the instructional delivery was done in a whole group setting. In phase II of the study, the use of data to provide guidance during planning the lessons may have revealed both teachers' ways to promote and to engage students of all levels. While all teachers could articulate a definition pertaining to differentiated instruction, seven teachers indicated they moderately use data to differentiate instruction and three of the teachers indicated they always use data to differentiate instruction.

Participating teachers articulated definitions of differentiated instruction to that similar found in the literature. While three out of five teachers with a Master's Degree in Education provided a definition that was similar to the definition found in literature, none of the teachers with a bachelor's degree was able to provide a definition that was similar to the definition found in literature. Three of the teachers with a bachelor's degree were able to provide a definition that was somewhat similar and the remaining teacher with a bachelor's degree was able to provide a definition but the definition did not align with the definition found in literature.

In this study, there was a discrepancy between teacher's implementation and the teacher's articulation of differentiated instruction. Implementation of a strategy is often aligned with the teacher's knowledge, however, this study revealed the opposite. While teachers with a bachelor's degree were not able to articulate the meaning of differentiated instruction, the average implementation from the teacher's walk-through indicated that the teachers with a

bachelor's degree incorporated more instructional strategies than the teacher's with a master's degree. The teachers' implementation of differentiated instructional strategies as evidenced when the instructional walk-through instrument was reviewed. The data was initially scaled based on the total correlation by computing the total possibility and then creating a matrix to determine the Likert scale possibilities. While the articulation from the teachers with a bachelor's degree did not align to the definition found in literature as well as the teacher's with a master's degree, the level of incorporation of instructional strategies aligned to differentiated instruction was much stronger from the teachers with a bachelor's degree than from the teachers with a master's degree. Based on the walkthrough data, half of the teachers used five or less differentiated instruction strategies, two teachers used seven strategies, and three teachers used ten or more strategies.

Providing instruction that aligns with student's needs is critical to increase student achievement in a nonthreatening environment. Even after years of teaching, some teachers such Ms. Ann have a difficult time understanding students. Teachers may not realize how the environments created can threaten the student's academic performance. When students are not the majority, they often enter new situations and initially attempt to identify the others to whom they are similar. In *Threatening Environments*, Inzlicht, Good, Levin, & van Larr (2006) described environmental constraints some students face when entering a new environment or remaining in an environment unappreciative of, or that does not acknowledge, their race.

“When I find myself in a new public situation, I will count” (Ashe, 1993, p. 131). Ashe — who played a sport that was and still is dominated by whites—counted his “Blackness” frequently. By “counting”, Ashe was referring to the difficulty he encountered as a member of a group that was outnumbered and devalued in American society; he counted the number of Black

faces in a room to determine how well his social identity was valued and represented. Many of us engage in a similar, albeit less conscious, form of mental arithmetic. We scan the environment and “count” those features about ourselves that stand out. When those features are related to a stigmatized social identity, like Ashe, we may be distressed and burdened by negative stereotypes associated with our identity.

While the incorporation of differentiated instruction is an expansive approach to teaching and learning and is an approach that is not directly linked to race, using the strategy to increase the academic level for all students, especially low performing Black students, is important (Coan, 2011). Black students have underperformed against their white counterparts for many centuries. While Black students are no longer required to have a separate education from their white peers, the teachers who provide instruction with the use of a single instructional method to meet the needs of all students further increase the achievement gap for Blacks, whose assessments indicate their performance is lower than that of white students (Desimone & Long, 2010).

In Practice

In practice, teachers provided little to no differentiation of instruction. Over 70% of the classes incorporated whole group instruction and limited use of engagement strategies. While teachers were able to articulate what differentiated instruction is, the incorporation of differentiated instruction was limited. Teacher’s lesson plans and interviews reviewed during phase II of the study further revealed that teacher’s planning and knowledge were misaligned. While teacher’s knowledge supported differentiated instruction through content and product and process as articulated through the teacher’s survey, the incorporation of such practices was not seen during the walk-throughs.

Of the ten teachers who participated in the study, six teachers articulated that they differentiate instruction based on product all of the time and the other four participants articulated they differentiated instruction based on product most of the time. While the articulation was strong, the walk-through revealed the teachers used whole group instruction and the same activity for all students 70% of the time. Further, based on the teacher's survey, two teachers differentiated instruction all of the time. Both of the teachers who indicated they differentiated instruction all of the time had master's degrees whereas four of the teachers with bachelor's degrees indicated they differentiated instruction rarely.

Anderson (2007) supported differentiating instruction at various points of the lesson by allowing students to demonstrate what they have learned (p. 51). This demonstration allows the teacher to correct any misconceptions and to align the student's knowledge with products. While students may study the same units, in a differentiated classroom, student products may be different (Algozzine & Anderson, 2007; Chan, 2016; Weiss, Pasley, Smith, & Banilower, 2013). During phase II of the study, teachers realized the incorporation of differentiated instruction was limited. Students were not asked to create a product but provided choral responses that often were guided by the teacher and on the recall level of Blooms Taxonomy. The use of choral responses during instruction did not allow the students to articulate what they knew or did not know, nor did it allow the teacher to correct any misconceptions.

Content differentiation tells the teacher how to teach while standards tell the teacher what to teach. While all teachers incorporated a standards based instructional delivery, very often the process by which the teacher delivered the content, as well as the content being delivered, was the same. In the teachers' survey, the majority of the teachers articulated that they differentiated the instructional content some of the time. While teachers differentiate instruction one way or

another, providing instructional support that is tailored to the instructional needs of the student increases student achievement more than instruction that is delivered without differentiation. Research supports that all students do not learn the same way and therefore teachers can't teach the same way to all learners (Levy, 2008; Richardson, Morgan, & Eleanor, 2012; Subban, 2006; Westwood 2008).

Students bring external experiences, their values and beliefs, and perceptions into learning. Differentiating instruction based on process allows all learners to approach learning and articulation of the material learned individually (Kendal & Stacey, 2001). While many teachers find this strategy difficult to manage, it is beneficial to students. Only 30% of teachers in this study articulated that they differentiated instruction based on process all of the time and 60% of the teachers indicated they differentiated instruction based on process most of time. The instructional walk-throughs of this study were random and took place during various points of the lesson. While not articulated on the walk-through form, it can be inferred that the teacher's articulation of differentiation was based on process when 70% of the classroom instruction was captured during whole group instructional delivery. During phase II of the study Teacher one incorporated one assessment, that is the same assessment was given to all students; however, Teacher two incorporated many small assessments during the lesson, including assessments during the tiered small group instruction and assessments to students during the week to gauge student's knowledge and readiness for the next standard of focus. Providing instruction that does not align to the students ZPD (whether too high or too low) causes students to become frustrated and disconnected (Bontis, Crossan, & Hulland, 2002; Darling-Hammond, 2000; Dunn & Dunn, 1975; Gregorc, 1979). While teachers are most comfortable with delivering instruction and providing one way that students can display knowledge, by varying the processes by which

students display their learning, they are more likely to show a variance in the teaching. Differentiation provides engagement that assists students with connecting, achieving, and engaging at school (Tomlinson, 2000).

Learning Styles

Articulated Ideas. Learning styles refers to the way people process information during learning. Different people process information in different ways and many researchers argue that when information is provided to the learner the way he/she learns, learning is more effective (Cuevas 2015). The incorporation of the student's learning style into the method of instruction deepens the student's learning (Darling-Hammond, 2000; Dunn & Dunn, 1978; Keshock, Puch, Heitman, Forester, & Bradford, 2012). Some research indicates that instruction that is tailored outside of a student's learning style makes learning more difficult than instruction that is congruent with the student's learning style (Saiajan, Mount, & Prakki, 2015; Robertson, Ford-Connors & Paratore, 2014).

Many instruments can be used to determine a student's learning style and have proven to be useful. Teachers who incorporate student's learning style into the method of instruction see an increase in student's learning. While the inventory itself does not articulate the student's strengths and weaknesses, it does show how the students learn best (spatially, globally, or sequentially). On the survey, teachers articulated the incorporation of learning style based on importance. From the instructional survey, the teacher's response to the role of learning styles was linked to a Likert scale. If the teacher indicated the role of the student's learning style was very important, the response was given a four, and if the teacher's response indicated the role of the student's learning style was moderately important, the response was given a 3. A 2 was given if the teacher's response indicated the role of the student's learning style was somewhat

important, and a 1 was given if the teacher's response indicated the role of the student's learning style was not important. None of the teachers articulated that the role of the student's learning style was very important to student learning; two of the teachers with a master's degree indicated the role of a student's learning style was moderately important while only two of the teacher's with a bachelor's degree indicated the role of the student's learning style was somewhat important.

When the teacher identifies and recognizes a student's learning style the teacher is embracing the whole child (William, 2015; Yonder, 2013). Racial realism in the 21st century are practices whereby teachers focus on standards based instruction without giving consideration to the children being taught, not recognizing the unequal access to a quality education that Black students have not had for years, and not recognizing that all students learn differently and at different times. The implementation of ZPD supports placing students at the center of teaching and learning and supports incorporating the student's learning profile into the planning. Teachers who use a standards based curriculum in instruction isolation, exempting consideration of the student's learning style, do not increase student achievement as much as the teacher who differentiates the instruction with the student's learning style, educational, and social experiences in mind (Entwistle, 2015; Younder, 2013). The most important aspect of teaching and learning is the learner (Dunn & Dunn, 1978; Entwistle & Ramsden, 2015). By acknowledging the individual differences of students, especially Black students, the teacher begins to proportionally distribute and build the student's knowledge and begins, as Bell (1992) suggested, to 'fix' the issues that are most important.

In Practice

While the study participants were able to articulate the role of learning style and the importance of learning style in the method of instruction during phase II of the study, the lesson plans they provided did not reflect consideration of the students' learning style. During their interviews, I asked each teacher to articulate how he/she identified the students' learning styles and how were they incorporated in the lesson being reviewed. Teacher two indicated that she did take into consideration the student's learning styles for this lesson and she had given a learning style inventory assessment to assist with determining the student's dominant style. Her diary reflection also reflected that "the activities are geared to meet all students at their area of need and learning style". Further, Teacher two indicated she incorporated Whole Brain Teaching strategies to capture all students' learning styles. In contrast, Teacher one did not consider or use the student's learning style when planning or delivering the lesson. During the observations, teachers used strategies that could support the use of learning styles when planning for instruction; however, there was no clear way of determining how many of the teachers incorporated the use of the student's learning styles into the lesson without individual interviews or reviewing planning documents such as the teacher's lesson plan.

A learning style inventory identifies the way learning takes place based on responses to a series of questions that focus on the way learning takes place and provides information about the way an individual learns. While the inventory may serve as a guide, the outcome allows others to understand the styles that are most suitable for the learner. While the learning style is the personal preference that influences the way the learner takes place within a learning environment (Katsioloudis & Fantz, 2012), the information obtained from the use of the learning style inventory provides information that can support the way the learner processes newly learned

information (Nguyen & Zhang, 2011; Platsidou & Metallidou, 2009). The outcome of the learning style inventory is the learner's learning style. The use of the results from the learning style inventory match the lesson delivery and allow students to recall and learn the information quicker.

Expansive v. Restrictive

Drawing upon Critical Race Theory's idea of Expansive/Restrictive and Racial Realism, differentiated instruction based on learning style is race neutral; these theoretical models can be incorporated because both frameworks are race neutral. While teachers articulate what differentiated instruction is and the role of learning styles, they do not always consider the students' learning styles when planning the lesson. The articulation of the strategies and the incorporation of the strategies show that while teachers are able to provide an expansive view in articulating the strategy, the implementation is much more restrictive. With the outcry for racial equality, the number of disproportionate opportunities for Black students and the unfair treatment of Blacks, the implementation of differentiated instruction and the use of the student's learning styles into the method of instruction are assistive in eliminating isolation among Black students. Further, with the incorporation of differentiated instruction and learning styles, teachers align instruction to the needs of students, which will ultimately begin eliminating the achievement gap between Black and white students.

Larger Implications

Since the inception of the United States, race has been the landscape and continues to be an indication of separation between Blacks and whites in the United States. Externally, some may believe Americans have embraced the cultural and differences, since the laws that were

created to keep Blacks and whites separated are no longer articulated, but silent practices continue to separate the races. If teachers do not embrace instructional practices that are race neutral, the achievement gap between the Black students and white students will continue to exist. Incorporating instructional practices that increase student achievement is vital in this era of high stakes testing. How can teachers embrace all children if they do not understand all children? How can teachers close the achievement gap, if they do not recognize the very things that make up the achievement gap? When will teachers realize that generations of unequal treatment, not limiting education, have been instrumental in creating the disproportionate education between Black and white students?

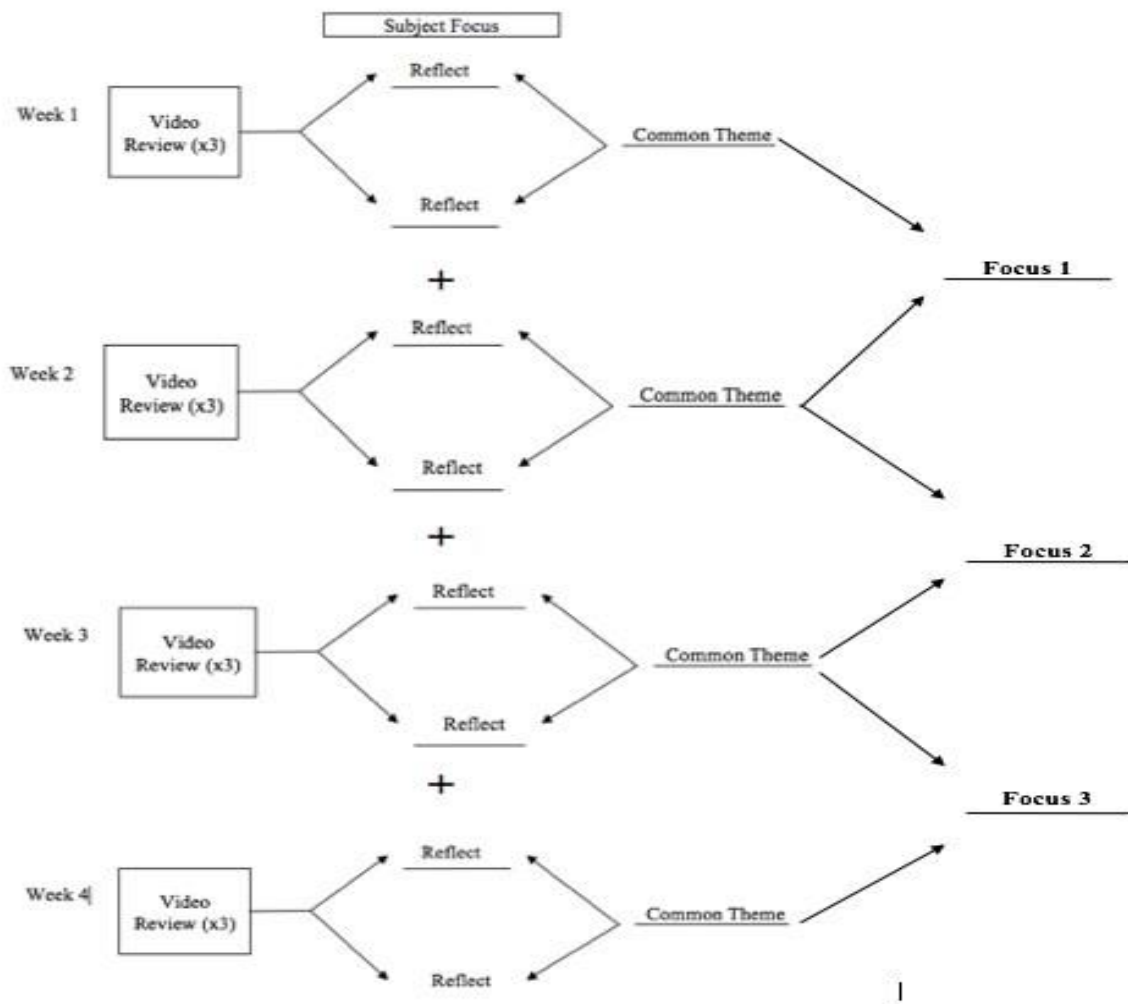
While the study of race and the implications of race in education would have been interesting, I focused on the instructional practices that, I believe, have a larger impact on pedagogical practices and student achievement. Instructional practices that are race neutral such as differentiated instruction assist with aligning the instruction to the instructional of the needs of students. Teachers, such as Ms. Ann, want a one size fits all class and to teach all students by the same method, and are so disconnected from the Black students that they cannot figure out why the white students “get it” while the Black students do not. When teachers consider a student’s background, generational circumstances, parental contribution and employment status, and how each contribute in education, the approach to teaching is different. Teachers who fail to see color, gender, or race, ignore many of the aspects that make up the student (Reid & Konrad, 2004). The findings of this study are not only important to the field of education, but they are vital to the district in which the study was conducted. The years of experience noted in this study reflected that there were many teachers with 0-3 years of experience and teachers revealed that they had little to no training with using differentiated instruction. The media has exposed those within the

district to the many racially intense situations that demand justice, and while racism within the district and surrounding areas has existed in silence, the exposure of racism and the outcry for equality has not silenced (Martin, Fashing-Varner, Quinn & Jackson, 2014).

So What Next

To address the achievement gap between Black students and white students and to align instructional practices with instructional intentions, districts could use the following reflective model that I created based on the reception from the teachers who participated in phase II of the study. To implement, the instructional leader should provide professional development on each component of the teacher's evaluation tool and ensure the teachers understand the evaluation expectation. With assistance from the principal, teachers should select the academic subject to video and video at least two lessons per week. Using a reflection journal, the teacher's evaluation tool, and the teachers' lesson plan, the teachers should review and reflect upon the lesson, identifying reoccurring areas that need improvement. After four weeks of reflection and documenting, the teachers will have three areas on which to focus and to improve over the course of the year. The teachers should continue this cycle as needed to improve, adjust, and align instructional practices with intended outcomes. The table below illustrates an example of using a video-incorporated reflective practice.

While the incorporation of reflective practice is not a component of practice within APSS, I intend to explore the interest among teachers. The goal is to determine if the teachers' alignment of their pedagogical intention with their instructional practice increases student achievement with the implementation of video reflection.



Limitations of the Study

Phenomenology and differentiated instruction give accounts of perspective of the individual based on their experiences (Chiari & Nuzzo, 1996; Berger, 2014; Oyson, III & Whittaker, 2015), which limited the study as only two teachers provided their perspectives in phase II of the study. Although the focus of this study was on teachers' perspective of differentiated instruction and the role of learning styles, the study's perspective is only from participants from two low performing schools and did not explore the teacher's perspectives and

implementation of differentiated instruction, and the role of learning styles, at higher or average performing schools within this district.

While phenomenology requires the participants to be conscious of the experiences they lived in (Christensen, Horn, Johnson, 2008; Johnson & Christensen, 2012), during phase II, the participants had difficulty articulating and aligning a lesson that contained differentiated instruction based on the student's learning style, without my rephrasing the question or allowing additional time. Kanevsky's (2011) research suggested that participants might respond to a question and not fully understand the question. I relied on the participants to provide honest and reliable responses and I believe the responses were truthful. While some researchers (Miles & Huberman, 1994; Saldaña, 2015) suggested that sampling is an imitation of qualitative research, the ten participants in phase I and the two participants in phase II provided sufficient data for this study. The instruments used during phase I and phase II of the study were consistent and did not vary from one teacher to the next.

If I could redo this research, I would include participants from schools with different School Performance Scores (SPS) to determine if there is a difference between the articulation, practice, and knowledge of teachers at a low performing school and a higher performing school. Since teachers are observed and evaluated by the principal, I would also include the principal in phase I and phase II of the study. In phase I, I would evaluate the principals' articulation of differentiated instruction and the role of learning styles, and determine if the knowledge aligned or misaligned to literature; additionally, I would examine the principals' instructional knowledge with their evaluation of teachers' practices.

Future Directions for Research

The data from this study may be used to extend research and assist with implementing reflective practice based on the implementation of differentiated instruction. During phase II of the study, Teacher one was startled when she analyzed the discrepancy between her actions, the intention of the instructional delivery indicated on her lesson plan, and what she saw on the video. In analyzing her lesson statements such as, “I do not think the questions I generated gave the students enough opportunity to think or discuss with one another; the lesson was too long and drawn out”, she “scaffolded” and did “not interrupt” students. And Teacher two thought the “questions were not very rigorous” but the overall lesson, implementation of centers, and intent and implementation were aligned. Both teachers stated that measuring the intentions from the lesson planning and the implementation assisted with increasing their alignment and instructional delivery.

Consideration and recommendations for future research include expanding this study to participants in high performing schools, middle schools, and high schools. I also recommend identifying the teacher’s learning style to determine if the students’ learning style and the teacher’s dominate teaching style are reasons that teachers in this study used many of the same strategies during the walk-throughs of phase I of the study. In determining the teachers’ knowledge, usage, and challenges with implementing differentiated instruction and understanding the role of learning styles, the ideas may be used by many school districts to generate the implementation of reflective practice relative to differentiated instruction and the role of learning styles in professional development opportunities for students.

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APPENDIX A. IRB APPROVAL

Please sign and submit this document with your IRB application

Security of Data

Number: PS06.20

SECURITY OF DATA

PURPOSE

I certify that I have read and will follow LSU's policy on security of data – PS06.20 (<http://sites01.lsu.edu/wp/policiesprocedures/policies-procedures/6-20/>) and will follow best practices for security of confidential data (http://www.lsu.edu/it_services/its_security/best-practices/sensitive-data.php)

This Policy Statement outlines the responsibilities of all *users* in supporting and upholding the security of *data* at Louisiana State University regardless of *user's* affiliation or relation with the University, and irrespective of where the *data* is located, utilized, or accessed. All members of the University community have a responsibility to protect the confidentiality, integrity, and availability of *data* from unauthorized generation, access, modification, disclosure, transmission, or destruction. Specifically, this Policy Statement establishes important guidelines and restrictions regarding any and all use of *data* at, for, or through Louisiana State University. This policy is not exhaustive of all *user* responsibilities, but is intended to outline certain specific responsibilities that each *user* acknowledges, accepts, and agrees to follow when using *data* provided at, for, by and/or through the University. Violations of this policy may lead to disciplinary action up to and including dismissal, expulsion, and/or legal action. It is recommended that all personnel on your project be familiar with these policies and requirements for security of your data.

In addition it is recommended that PIs review any grant, non-disclosure/confidentiality agreement, or restricted data agreements before publishing articles using the data.

I certify that I have read and understand these policies

Name:

D. Kenneth Hensley-Vann PhD

Date: _____

ACTION ON EXEMPTION APPROVAL REQUEST



TO: Sharmayne Rutledge
Education

FROM: Dennis Landin
Chair, Institutional Review Board

DATE: March 23, 2016

RE: IRB# E9851

Institutional Review Board
Dr. Dennis Landin, Chair
130 David Boyd Hall
Baton Rouge, LA 70803
P: 225.578.8692
F: 225.578.5983
irb@lsu.edu | lsu.edu/irb

TITLE: Teacher Observations in an Urban Setting

New Protocol/Modification/Continuation: New Protocol

Review Date: 3/18/2016

Approved X Disapproved _____

Approval Date: 3/23/2016 Approval Expiration Date: 3/22/2019

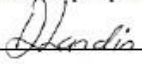
Exemption Category/Paragraph: 1: 2a

Signed Consent Waived?: No

Re-review frequency: (three years unless otherwise stated)

LSU Proposal Number (if applicable):

Protocol Matches Scope of Work in Grant proposal: (if applicable)

By: Dennis Landin, Chairman 

PRINCIPAL INVESTIGATOR: PLEASE READ THE FOLLOWING –
Continuing approval is **CONDITIONAL** on:

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects*
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the individual participants, including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the study.
7. Notification of the IRB of a serious compliance failure.
8. **SPECIAL NOTE: When emailing more than one recipient, make sure you use bcc. Approvals will automatically be closed by the IRB on the expiration date unless the PI requests a continuation.**

*All investigators and support staff have access to copies of the Belmont Report, LSU's Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at <http://www.lsu.edu/irb>

Application for Exemption from Institutional Oversight

Unless qualified as meeting the specific criteria for exemption from Institutional Review Board (IRB) oversight, ALL LSU research/ projects using living humans as subjects, or samples, or data obtained from humans, directly or indirectly, with or without their consent, must be approved or exempted in advance by the LSU IRB. This form helps the PI determine if a project may be exempted, and is used to request an exemption.

— Applicant, Please fill out the application in its entirety and include the completed application as well as parts B-F, listed below, when submitting to the IRB. Once the application is completed, please submit the completed application to the IRB Office by e-mail (irb@lsu.edu) for review. If you would like to have your application reviewed by a member of the Human Subjects Screening Committee before submitting it to the IRB office, you can find the list of committee members at <http://sites01.lsu.edu/wp/ored/human-subjects-screening-committee-members/>.

— A Complete Application Includes All of the Following:

(A) This completed form

(B) A brief project description (adequate to evaluate risks to subjects and to explain your responses to Parts 1&2)

(C) Copies of all instruments to be used.

*If this proposal is part of a grant proposal, include a copy of the proposal and all recruitment material.

(D) The consent form that you will use in the study (see part 3 for more information.)

(E) Certificate of Completion of Human Subjects Protection Training for all personnel involved in the project, including students who are involved with testing or handling data, unless already on file with the IRB. Training link: (<http://phrp.nihtraining.com/users/login.php>)

(F) Signed copy of the IRB Security of Data Agreement: (<https://sites01.lsu.edu/wp/ored/files/2013/07/IRB-Security-of-Data.pdf>)

LSU

Institutional Review Board
Dr. Dennis Landin, Chair
130 David Boyd Hall
Baton Rouge, LA 70803
P: 225.578.8692
F: 225.578.5983
irb@lsu.edu | lsu.edu/irb

1) Principal Investigator:

Rank:

Dept:

Ph:

E-mail:

2) Co Investigator(s): please include department, rank, phone and e-mail for each

*If the Principal Investigator is a student, identify and name supervising professor in this space

3) Project Title:

4) Proposal? (yes or no)

If Yes, LSU Proposal Number

Also, if YES, either

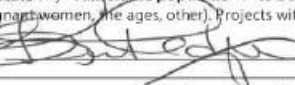
☐ This application completely matches the scope of work in the grant

OR

☒ More IRB Applications will be filed later

5) Subject pool (e.g. Psychology students)

*Indicate any "vulnerable populations" to be used: (children <18 the mentally impaired, pregnant women, the aged, other). Projects with incarcerated persons cannot be exempted.

6) PI Signature 

Date

(no per signatures)

** I certify my responses are accurate and complete. If the project scope or design is later changes, I will resubmit for review. I will obtain written approval from the Authorized Representative of all non-LSU institutions in which the study is conducted. I also understand that it is my responsibility to maintain copies of all consent forms at LSU for three years after completion of the study. If I leave LSU before that time the consent forms should be preserved in the Departmental Office.

Screening Committee Action:	☐ Exempted	☐ Not Exempted	Category/Paragraph ____
Signed Consent Waived?:	☐ Yes	or	☐ No
Reviewer ____	Signature ____	Date ____	

Continue on the next page

Part 1: Determination of "Research" and Potential For Risk

- This section determines whether the project meets the Department of Health and Human Services (HHS) definition of research involving human subjects, and if not, whether it nevertheless presents more than "minimal risk" to human subjects that makes IRB review prudent and necessary.

1. Is this project involving human subjects a systematic investigation, including research, development, testing, or evaluation, designed to develop or contribute to generalizable knowledge?

(Note some instructional development and service programs will include a "research" component that may fall within HHS' definition of human subjects research).

☒ YES

☐ NO

2. Does the project present physical, psychological, social or legal risks to the participants reasonably expected to exceed those risks normally experienced in daily life or in routine diagnostic physical or psychological examination or testing? You must consider the consequences if individual data inadvertently become public.

☐ YES - Stop. This research cannot be exempted - submit regular application for IRB review.

☒ NO-Continue to see if research can be exempted from IRB oversight

3. Are any of your participants incarcerated?

☐ YES - Stop. This research cannot be exempted--submit regular application for IRB review.

☒ NO-Continue to see if research can be exempted from IRB oversight.

4. Are you obtaining any health information from a health care provider that contains any of the identifiers listed below?

A. Names

B. Address: street address, city, county, precinct, ZIP code, and their equivalent geocodes. Exception for Zip codes: the initial three digits of the ZIP Code may be used, if according to current publicly available data from the Bureau of the Census: (1) The geographic unit formed by combining all ZIP codes with the same three initial digits contains more than 20,000 people; and (2) the initial three digits of a ZIP code for all such geographic units containing 20,000 or fewer people is changed to '000'. (Note: The 17 currently restricted 3-digit ZIP codes to be replaced with '000' include: 036, 059, 063, 102, 203, 556, 692, 790, 921, 830, 831, 878, 879, 884, 890, and 893.)

C. Dates related to individuals

i. Birth date

ii. Admission date

iii. Discharge date

iv. Date of death

v. And all ages over 89 and all elements of dates (including year) indicative of such ages. Such ages and elements may be aggregated into a single category of age 90 or older.

D. Telephone numbers;

E. Fax numbers;

F. Electronic mail addresses;

G. Social security numbers;

H. Medical record numbers; (including prescription numbers and clinical trial numbers)

I. Health plan beneficiary numbers;

J. Account numbers;

K. Certificate/license numbers;

L. Vehicle identifiers and serial numbers including license plate numbers;

M. Device identifiers and serial numbers;

N. Web Universal Resource Locators (URLs);

O. Internet Protocol (IP) address numbers;

P. Biometric identifiers, including finger and voice prints;

Q. Full face photographic images and any comparable images; and

R. Any other unique identifying number, characteristic, or code; except a code used alone or in combination with other information to identify an individual who is the subject of the information.

☐ YES - Stop. This research cannot be exempted--submit regular application for IRB review.

☒ NO- Continue to see if research can be exempted from IRB oversight.

Continue on the next page

Part 2: Exemption Criteria For Research Projects

Please select any and all categories that relate to your research. Research is exemptible when all research methods are one or more of the following five categories. Check statements that apply to your study:

- ☒ 1. In education setting, research to evaluate normal educational practices.

- ☒ 2. For research not involving vulnerable people [prisoner, fetus, pregnancy, children, or mentally impaired]; observe public behavior (including participatory observation), or do interviews or surveys or educational tests:

The research must also comply with one of the following:

- ☒ a) The participants cannot be identified, directly or statistically;

or that

- ☐ b) The responses/observations could not harm participants if made public;

or that

- ☐ c) Federal statute(s) completely protect all participants' confidentiality; Please cite the statute(s) if selecting this item

- ☒ 3. For research not involving vulnerable people [prisoner, fetus, pregnancy, children, or mentally impaired]; observe public behavior (including participatory observation), or do interviews or surveys or educational tests:

- ☐ All respondents are elected, appointed, or candidates for public offices.

- ☒ 4. Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

The research must also comply with one of the following:

- ☒ a) Subjects cannot be identified in the research data directly or statistically, and no-one can trace back from research data to identify a participant;

or that

- ☐ b) The sources are publicly available

- ☒ 5. Research or demonstration service/care programs, e.g. health care delivery.

- ☐ a) It is directly conducted or approved by the head of a US Govt. department or agency.

and that

- ☐ b) It concerns only issues under usual administrative control (48 Fed Reg 9268-9).
e.g., regulations, eligibility, services, or delivery systems;

and that

- ☐ c) Its research/evaluation methods are also exempt from IRB review.

- ☐ 6. For research not involving vulnerable volunteers (see "2&3" above), do food research to evaluate quality, taste, or consumer acceptance.

The research must also comply with one of the following:

- ☐ a) The food has no additives;

or that

- ☐ b) The food is certified safe by the USDA, FDA, or EPA.

PART 3: Consent Forms

* The consent form must be written in non-technical language which can be understood by the subjects. It should be free of any exculpatory language through which the participant is made to waive, or appears to be made to waive any legal rights, including any release of the investigator, sponsor, institution or its agents from liability for negligence. (Note: the consent form is not a contract.)

* For example consent forms, please refer to our website, www.lsu.edu/irb

* The IRB prefers using signed informed consent; However, if that is impractical, an application to waive signed consent can be requested below. However, even if this waiver is requested, **the IRB must be provided with the consent script** that will present the information to human subjects regarding the study/research. All consent forms or scripts must include a statement that the study was approved or exempted by the IRB and provide IRB contact information to participants.

I am requesting waiver of signed Informed Consent because:

☐ (a) Having a participant sign the consent form would create the *principal risk* of participating in the study.

or that

☒ (b) The research presents *no more than minimal risk* of harm to subjects and involves no procedures for which having signed consent is normally required.

Now that your application is complete, please send it to the IRB office by e-mail (irb@lsu.edu) for review. If you would like to have your application reviewed by a member of the Human Subjects Screening Committee before submitting it to the IRB office, you can find the list of committee members at <http://sites01.lsu.edu/wp/ored/human-subjects-screening-committee-members/>.

Institutional Review Board
Dr. Dennis Landin, Chair
130 David Boyd Hall
Baton Rouge, LA 70803
P: 225.578.8692
F: 225.578.5983
irb@lsu.edu | lsu.edu/irb

Please sign and submit this document with your IRB application

Security of Data

Number: PS06.20

SECURITY OF DATA

PURPOSE

I certify that I have read and will follow LSU's policy on security of data – PS06.20 (<http://sites01.lsu.edu/wp/policiesprocedures/policies-procedures/6-20/>) and will follow best practices for security of confidential data

(http://www.lsu.edu/it_services/its_security/best-practices/sensitive-data.php)

This Policy Statement outlines the responsibilities of all *users* in supporting and upholding the security of *data* at Louisiana State University regardless of *user's* affiliation or relation with the University, and irrespective of where the *data* is located, utilized, or accessed. All members of the University community have a responsibility to protect the confidentiality, integrity, and availability of *data* from unauthorized generation, access, modification, disclosure, transmission, or destruction. Specifically, this Policy Statement establishes important guidelines and restrictions regarding any and all use of *data* at, for, or through Louisiana State University. This policy is not exhaustive of all *user* responsibilities, but is intended to outline certain specific responsibilities that each *user* acknowledges, accepts, and agrees to follow when using *data* provided at, for, by and/or through the University. Violations of this policy may lead to disciplinary action up to and including dismissal, expulsion, and/or legal action. It is recommended that all personnel on your project be familiar with these policies and requirements for security of your data.

In addition it is recommended that PIs review any grant, nondisclosure/confidentiality agreement, or restricted data agreements before publishing articles using the data.

I certify that I have read and understand these policies.

Name: 

Date: 3/16/2016

APPENDIX B.
WALK-THROUGH DOCUMENT

 Walk Through Document

* Required

Evaluator

School *

Teacher Name

Grade

Subject

- ☐ Math
- ☐ Science
- ☐ Social Studies
- ☐ English
- ☐ Elective
- ☐ Ancillary
- ☐ Career & Tech Ed
- ☐ Other:

Class Setting

- ☐ Regular Ed
- ☐ ESS

- Gifted
- Magnet

Focus on Instruction

Instructional Practices
Release of Responsibility
Grouping Format

Identify the instructional practices

Observers may mark multiple instructional practices.

- ☐ Class discussion or seminar
- ☐ Composing
- ☐ Distance Learning
- ☐ Hands-On/Experiments/Labs
- ☐ Informal Assessing
- ☐ Content Enhancement Routines
- ☐ Cooperative Learning
- ☐ Group Work
- ☐ Coaching
- ☐ Lecture
- ☐ Homework/Practice*
- ☐ Cues/Questions/Advance Organizers*
- ☐ Generating/Testing Hypotheses*
- ☐ Identifying Similarities/differences*
- ☐ Non-Linguistic Representations*
- ☐ Summarizing/Note Taking*
- ☐ Setting Objectives/Providing Feedback*
- ☐ Reinforcing Effort/Recognition*
- ☐ Seatwork
- ☐ Student Presentations
- ☐ Video
- ☐ Learning Stations
- ☐ Question and Answer

- ☐ Reading and Responding
- ☐ Self-Evaluation/Reflection
- ☐ Modeling
- ☐ Peer Evaluation
- ☐ Providing Directions/Instructions
- ☐ Researching
- ☐ Reading
- ☐ Testing

Release of Responsibility

- ☐ Teacher is disengaged; students may or may not be engaged
- ☐ Teacher tells, shows how to do it; students listen, observe, minimally participate
- ☐ Teacher leads, negotiates, suggests; students question, collaborate, respond, read or write
- ☐ Students take charge, approximate, practice; teacher encourages, clarifies, confirms
- ☐ Students initiate, self-direct, self-evaluate; teacher affirms, coaches

Grouping Format

Observers may mark multiple grouping formats in this section.

- ☐ Whole Group
- ☐ Small Group
- ☐ Paired
- ☐ Individual

Focus on the Learner

Percent of Students Engaged

Level of Engagement

Level of Student Work (Revised Bloom's Taxonomy)

Technology

Percent of Students Engaged

Behavioral engagement is aimed at measuring the extent to which students conform to classroom norms and expectations and participate in the classroom process (Fredricks,

Blemenfeld, & Paris, 2004; Harris, 2008). This measure specifically quantifies behavior. It is defined at the minimum level by conformity to the classroom's norms and expectations, including following the rules, attending school, answering questions when prompted, and paying attention to the teacher (Finn, 1993).

- ☐ Disengaged - Less than 50% of students are behaviorally engaged in the learning experience.
- ☐ Low - Between 50 – 74% of students are behaviorally engaged in the learning experience.
- ☐ Moderate - Between 75 – 89% of students are behaviorally engaged in the learning experience.
- ☐ High - Above 90% of students are behaviorally engaged in the learning experience.

What is the students' level of cognitive engagement?

* (What are 75% or more of the students doing?)

- ☐ Authentic Engagement
- ☐ Compliance
- ☐ Retreatism/Rebellion

Determine level(s) of student work (Revised Bloom's Taxonomy)

- ☐ Remembering
- ☐ Understanding
- ☐ Applying
- ☐ Analyzing
- ☐ Evaluating
- ☐ Creating

Technology

- ☐ No use of technology is evident
- ☐ Teacher uses technology to disseminate information
- ☐ Students use technology to explore content
- ☐ Teacher and students seamlessly integrate technology with a focus on the learner

Submit

APPENDIX C.
SURVEY INFORMATION

Staff Survey

Name _____ Grade _____

1. Please list any strategies that you use frequently to challenge your students.

2. How often do your students work in groups? (Circle one)

All of the time   Most of the time   Some of the time   Almost never
Never

3. If your students do work in groups, how are the groups organized? (Circle all that apply)

Randomly   Ability   Interest   Let students choose   Learning style   Learning level

4. How often do groups change? (Circle all that apply)

Learning groups are chosen and stay the same   Each time   When students request

When behavior warrants   With a new unit   By Project   When learning levels change

5. Have your students taken a learning styles inventory this year? (Circle one)

Yes   No

6. Please list any resources that you use to determine your students' readiness.

7. How often are students given choices in how they complete their assignments or projects?
(Please explain your answers in needed)

All of the time   Most of the time   Some of the time   Almost never
Never

Dear Administrator:

I am in the process of completing a dissertation study under the guidance of Dr. Kenneth Varner at Louisiana State University. For this dissertation I will be collecting information on teaching strategies commonly used in schools. Upon completion, this information will be shared with the educational community at large through a published dissertation. To ensure confidentiality of our teachers, no one will be identified by name including the school district, the location of the district and the name of the school. I plan to begin collecting this data in March and be completed by mid-May.

As a part of this research, I will be observing classes. There will be no disruption to what is currently happening in each of the classrooms. While there are no inherent risks for participating in this study, I do need to inform you of the purpose and expected outcomes. I am hoping this research will identify sound, instructional practices for teachers in our district, state and nation.

In order to complete this study, I need your permission to come in and observe teacher practices. I anticipate coming in multiple times but for no more than 4 class periods per teacher to ensure a complete picture of the strategies used. I will select classrooms based on teacher survey results. With your permission, I would like to distribute the attached permission forms in your teachers' mail boxes and I will leave a collection envelop with you to pick them up by March 28, 2016. Thank you for your help in allowing me to collect this information. If you have any questions, I can be reached at (225) 938-9490 or you may contact Dr. Varner at Louisiana State University at (225) 916-7615.

You do not have to respond if you are not interested in this study. If you do not respond, no one will contact you, but you may receive another letter in the mail, which you can disregard if you are not interested.

Thank you for your consideration,

Sharmayne Rutledge
Louisiana State University Student

Dear Teachers:

I am in the process of completing a dissertation study under the guidance of Dr. Kenneth Varner at Louisiana State University. For this dissertation I will be collecting information on teaching strategies commonly used in schools. Upon completion, this information will be shared with the educational community at large through a published dissertation. To ensure confidentiality of our teachers, no one will be identified by name including the school district, the location of the district and the name of the school. I plan to begin collecting this data in April and be completed by mid-May.

As a part of this research, I will be observing classes, conducting a brief interview, and short survey. There will be no disruption to what is currently happening in each of the classrooms. While there are no inherent risks for participating in this study, I do need to inform you of the purpose and expected outcomes. I am hoping this research will identify sound, instructional practices for teachers in our district, state and nation.

In order to begin this study, I need your permission to come in and observe your practices. I anticipate coming in during 4 class periods to ensure a complete picture of the strategies used. Please sign below and return this form to your building principal no later than Friday, April 8, 2016. Thank you for your help in allowing me to collect this information. If you have any questions, I can be reached at (225) 938-9490 or you may contact Dr. Varner at Louisiana State University at (225) 916-7615.

You do not have to respond if you are not interested in this study. If you do not respond, no one will contact you, but you may receive another letter in the mail, which you can disregard if you are not interested.

Thank you for your consideration,

Sharmayne Rutledge
Louisiana State University Student

I, _____ would like to participate in this study. I understand that I will not be penalized in any way for not participating and may opt out of the study at any time.

Signed _____

Date _____

Administrator's Consent Form

Study Title: Teacher Observations in an Urban Setting

Performance Site: Urban Low Performing Schools

Investigators: M-F 8:00 am. – 5:00 p.m.
Sharmayne Rutledge (225) 938-9490

Purpose of the Study: The purpose of this research project is to determine the instructional strategies used by teachers in low-performing schools to see if there is an association between instructional strategies in different classrooms.

Subject Inclusion: Teachers who have been teaching for 1 or more years.

Number of Subjects: 10

Study Procedures: The observer will observe each teacher at 4 different times using the classroom observation form to document the strategies used by each teacher.

Benefits: The information collected will contribute to the current research as well as to identify the current instructional strategies being used in classrooms by educators in low performing schools.

Risks: There are no risks involved with this study. Every effort will be made to maintain the confidentiality of the study records. All documents will be kept in a secure locked cabinet which only the investigator will have access.

Right to Refuse: Subjects may choose not to participate or to withdraw from the study at any time without penalty or loss of any benefit to which they might otherwise be entitled.

Privacy: Results of the study may be published but no names or identifying information will be included in the publication. Subject identity will remain confidential unless disclosure is required by law.

Financial Information: There is no compensation or incentives provided for participating.

Signatures:

The study has been discussed with me and all my questions have been answered. I may direct additional questions regarding study specifics to the investigators. If I have questions about the study, I can contact Dr. Varner, Professor at (225) 916-7615, varner@lsu.edu. If I have subjects' rights or other concerns, I can contact Dennis Landin, Institutional Review Board, (225) 578-8692, irb@lsu.edu, www.lsu.edu/irb. As the building principal, I agree to allow the teachers who agree to participate in the study described above and acknowledge the investigator's obligation to provide me with a signed copy of this consent form.

Administrator's Signature: _____ **Date:** _____

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that
Sharmayne Rutledge successfully completed the NIH Web-based training course
"Protecting Human Research Participants".

Date of completion: 02/12/2016.

Certification Number: 2001985.

VITA

Sharmayne LaToya Raby-Rutledge was born in Central America, Panama, on April 22, 1975, to Bruce M. Raby and then Sharon Creque-Raby. She graduated from Belaire High School in 1993 and received a Bachelor of Arts degree, majoring in English Liberal Arts in 2000 from Southern University and Agricultural & Mechanical College (Baton Rouge, Louisiana). While staying at home with a young son, Mrs. Rutledge returned to her alma mater and became certified in Secondary Education. She began working on her master's degree at Southern University and Agricultural & Mechanical College (SU) while teaching at Pointe Coupee Central High School and Tara High School. Mrs. Rutledge earned a Master of Education in Administration and Supervision in 2002. Mrs. Rutledge worked as an Assistant Principal for one year and became the principal at Greenbrier Elementary School in Baton Rouge, Louisiana. She later earned the Educational Specialist degree in Curriculum and Instruction in 2016 from Northcentral University. In 2014 she served as Executive Director of Education and Leadership for East Baton Rouge Parish School System in Baton Rouge, Louisiana. In addition to her professional memberships in ASCD (Association for Supervision and Curriculum Development), Phi Delta Kappa, Phi Kappa Phi, Delta Sigma Theta, and the True Vine Baptist Church, she serves on several committees and is active in campus and community activities. She and her husband, Domoine D. Rutledge, esq., have two children, Darren D. Rutledge and Dillon D. Rutledge. They all live in Baton Rouge, Louisiana.