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JOURNAL OF K-12 EDUCATIONAL RESEARCH
TABLE OF CONTENTS

TABLE OF CONTENTS

JOURNAL OF K-12 EDUCATIONAL RESEARCH PUBLISHING INFORMATION

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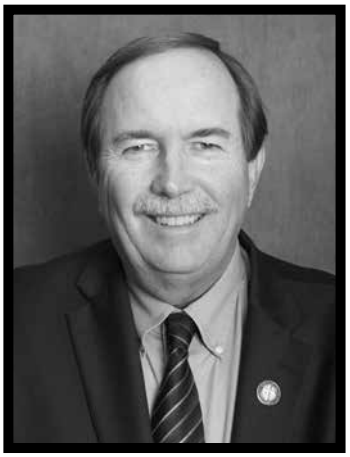
GREETINGS FROM THE DEAN

Neil Dugger, Ed.D.



Greetings from Dallas Baptist University!

We are pleased to provide you with the second edition of our doctoral research journal, composed of eleven articles on timely K-12 educational issues in North Texas! The articles are summaries of doctoral dissertations defended at DBU in the past couple of years, and it is our hope the research will provide local schools with answers and perspectives to issues in their own settings.

These are challenging times in our schools, and it requires outstanding leaders using solid research. Earning a doctorate is difficult, but the mark of a great leader is one who does not shy away from hard work and challenges. To move forward with all students achieving at a high level, we need research to show what does and does not work.

The vision of DBU is to produce "servant leaders who are transforming the world," and that is happening in a significant way with graduates of DBU's Ed.D. in Educational Leadership K-12 program. The 85 educators who have graduated since 2015 are in key positions in nearly every major school system in North Texas, and the authors of the enclosed articles are wonderful representatives of DBU's graduates. I feel confident in the future of education, knowing it will be led by this outstanding group of "next generation" leaders.

Our doctoral program currently has over 125 students enrolled, including traditional public school educators, charter school educators, and private school educators. It is designed to be a practitioner's degree, helping students to be well prepared for the challenging roles in our schools. Most students finish in less than four years, and their dissertation (treatise) topic is selected with the goal to have an impact on their school or district. Feel free to reach out to the authors for the full dissertation or with any questions.

Thank you for the critical role you play in the education of the children in our state and nation—there is no greater calling. For more information about the degree, please contact me at neil@dbu.edu.

Sincerely,
Neil Dugger, Ed.D.
Dean, College of Education
Director, Ed.D. in Educational Leadership K-12

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2018, VOL. 2, ISSUE 1
www.dbu.edu/doctoral/edd

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A WORD FROM THE EDITOR

Sharon Lee, Ph.D.

Dallas Baptist University is proud to present the second annual issue of the Journal of K-12 Educational Research. In this issue, you will read articles written by a selection of recent graduates of the Doctorate of Education in Educational Leadership K-12. The Ed.D. K-12 program is a practitioner's degree which highlights skills needed to lead districts in North Texas and beyond. The final project of the degree is a treatise that provides data and potential answers to a question of local interest. While the data for the treatise may come from a single district, we believe the answers may be applicable to many districts in this area. Student researchers are encouraged to look for immediate and site-based solutions that could be easily transferrable to issues that concern schools in the North Texas region.

In this issue, you will find articles that have statewide impact such as the study by Dr. Mark Ramirez who interviewed Texas superintendents about issues related to Hispanic student achievement and how the district's highest-ranking educator can influence that achievement. Dr. DeAnna Jenkins developed and deployed a survey about teacher evaluation systems in Texas (PDAS and T-TESS) and the importance of using reflective conversations as part of those evaluations.

Some of the research was conducted in the authors' home districts on topics of local interest, yet can be applied in all districts in Texas. Dr. James Howard and Dr. Shea Stanfield-McGarrah studied the impact of an effective pre-kindergarten program on student achievement both in Kindergarten and in later elementary grades. Their findings will be interesting for any district with a pre-K program.

Many districts in the North Texas region have been using instructional coaching for both job-embedded professional development and teacher growth. Dr. Pamela Reece and Dr. June Ritchlin have rich qualitative data to add to the discussion of coaching as a viable professional learning model.

Dr. Sally Scoggins and Dr. Ladye Welpman explored STEM education and student performance. Both studies provide information about science education—grouping for advanced academics and preparation for college readiness. Dr. Lacey Rainey provides information about a standards-based grading system with interesting insights for districts who may want to explore this system.

The second issue ends with an exploration of teacher preparation and pathways to certification. Dr. Joey Grizzle interviewed school leaders about their perceptions of alternate pathways to certification, and Dr. Pamela Linton explored the retention rates of alternatively and traditionally certified teachers. Both studies have strong impact for hiring and retention of highly qualified teachers.

DBU's Ed.D. K-12 program is based on the Biblical servant leader model of putting the needs of others first. Students explore problems that have immediate concern in their districts and are encouraged to bring answers to their districts. The articles included in this issue and the final treatises upon which they were based have the potential to empower educational leaders and classroom educators, while making a difference for students in the classroom throughout the North Texas region and beyond.

Sharon Lee, Ph.D.
Director of Research in K-12 Education
Editor, *Journal of K-12 Educational Research*

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SUPERINTENDENTS AND HISPANIC STUDENT ACHIEVEMENT: LEADERSHIP PRACTICES UTILIZED BY K-12 URBAN SUPERINTENDENTS TO INFLUENCE AND INCREASE THE ACHIEVEMENT OF HISPANIC STUDENTS

Mark A. Ramirez, Ed.D.

Introduction

The role of the superintendent has evolved into a formidable and powerful position allowing the superintendent to become the definitive instructional leader of the school district (Lauen & Gaddis, 2012; Byrd, Drews, & Johnson, 2007). Improving the quality of instruction and increasing student achievement for all students is the wave of the future for superintendent evaluation and accountability (Houston, 2001; Lashway, 2002; Sherman 2008). The number one priority for 21st century urban school superintendents is student achievement (Byrd et al., 2007; Lewis, Rice, & Rice, 2011; Rammer, 2007).

The most recent data from the Texas Education Agency (2015b) indicates that in addition to economically disadvantaged students, the performance gap among Hispanic students must be addressed by districts across the state. According to the Texas Education Agency (TEA) 2014-2015 Texas Public School Pocket Edition Statistics, Hispanic students represented 52.0%, White students represented 28.9%, African American students represented 12.6%, and Asian students represented 3.9% of the student population in Texas (Texas Education Agency, 2015c). In 2015, there were 2,722,272 Hispanic students enrolled in Texas public schools (Texas Education Agency, 2015c).

The 2015 State of Texas Assessments of Academic Readiness (STAAR) for all subjects reveal 72% of Hispanic students met the Level II passing standard as compared to 87% of White students in the state of Texas (Texas Education Agency, 2015b). This issue is of critical importance to Texas, where Hispanic students scored 16 percentage points lower than their White counterparts in reading and 12 percentage points lower in math on the 2015 STAAR exam (Texas Education Agency, 2015b). The underachievement of Hispanic students can no longer be overlooked and superintendents must rise to the challenge to implement leadership practices aimed at influencing and increasing the academic performance of Hispanic students.

Literature Review Overview

Impact of Effective Superintendent Leadership

The impact of effective superintendent instructional leadership may be difficult to determine, but it is clear that leadership does matter (Fullan, 2001, 2005, 2006; Marzano, 2003; Waters & Marzano, 2006) and may be key to closing the performance gap. A meta-analysis completed by Waters and Marzano (2006) found the academic achievement of students in a district is directly correlated to superintendent leadership. In addition, a study conducted by Leithwood and Jantzi (2008) found five superintendent leadership practices that lead to increases in student achievement. The two studies reported four common leadership behaviors that lead to increases in student achievement. The four specific leadership behaviors were: (a) collaborative goal-setting to develop a compelling vision, (b) setting clear, non-negotiable goals for student achievement, (c) establishing progress monitoring systems for identified goals, and (d) using district resources for structured and sustained professional development aligned to district goals (Leithwood & Jantzi, 2008; Waters & Marzano, 2006).

Performance Gap

With the signing of the No Child Left Behind (NCLB) Act on January 8, 2002, school districts were charged with closing the performance gap among all subgroups by requiring districts to disaggregate the data and provide interventions for underachieving subgroups (Linn, 2005). The current study defines the performance gap as the disparities in STAAR scores between Hispanic students in comparison to the all student group category (Texas Education Agency, 2015a). There is lack of consensus among educational leaders and policymakers on what strategies are the most effective in reducing the performance gap (Jeynes, 2015). A meta-analysis conducted by Jeynes (2015) suggests superintendents need a broad and multidisciplinary approach to eliminate the performance gap.

Hispanic Students

Hispanic students are the largest minority group attending schools in the United States (Camera, 2016), and they account for 52.0% of all students enrolled in Texas public schools (Texas Education Agency, 2014). The Pew Hispanic Center (2009) reports that Hispanic Americans make up the largest percentage of the country's youngest citizens and are the largest and fastest growing minority group. There continues to be growing concern regarding the academic achievement of Hispanic students (Valencia, 2011). Educators must begin by acknowledging the underachievement of Hispanic students and then set high expectations for the potential of the same students to be academically successful (Murillo et al., 2010).

Purpose of Study

The purpose of the current sequential explanatory mixed methods research study was to examine the leadership practices and instructional beliefs that effective urban school district superintendents have used to influence and increase the achievement of Hispanic students. The study aimed to investigate the possibility that superintendents in K-12 Texas urban school districts, whose Hispanic student population showed academic growth as measured by STAAR results, shared a common set of leadership beliefs and district best practices that impacted the performance gap for Hispanic students.

The study utilized the Superintendents' Leadership Practices Survey (SLPS) developed by Dr. Jacqueline Mora (2010) to identify specific leadership practices to increase the academic achievement of Hispanic students. A purposeful sample of 44 superintendents working in Texas urban cities of at least 100,000 residents were invited to participate in this study. Out of the 44 superintendents, 30 of the surveys were returned for a return rate of 68.1%. The performance gap over the past three years for Hispanic students of the participating districts ranged from 12.8% to 13.4%.

A Pearson-*r* correlation coefficient was used to measure the linear relationship between the performance gap comparing Hispanic and White students and the superintendent leadership practices reported in the SLPS. A quantitative approach was used to determine the relationship between superintendent leadership practices and the performance gap for Hispanic students defined in research question 1 (RQ1).

A qualitative approach was used for both research question 2 (RQ2) and research question 3 (RQ3). Five superintendents were interviewed to obtain their perspective on the leadership practices used in their school districts to impact Hispanic student achievement. A qualitative analysis was completed using NVivo Pro 11 to identify emerging themes and patterns to connect the qualitative data to the STAAR index 3 performance gap data for Hispanic students.

Summary of Findings and Interpretation of Results

Research Question 1 (RQ1)

Is there a relationship between urban superintendent leadership practices and the performance gap for Hispanic students as measured by the State of Texas Assessments of Academic Readiness (STAAR)?

Quantitative Data

The results of the Pearson-*r* correlation coefficient comparing the SLPS average score to the 2015 index 3 score for each corresponding district showed there is not a linear relationship between the two variables. The conclusion was that there was not a linear relationship between the SLPS average and the district index 3 score from the state accountability system. The researcher failed to reject the null hypothesis indicating there was no relationship between urban superintendents' leadership practices and the performance gap of Hispanic students as measured by STAAR. Based on Cohen's guidelines, the correlation of -.124 corresponds to a small effect size, suggesting a small negative correlation between the SLPS and the district 3 index score

(Cohen,1992). The coefficient of determination (R^2) indicates the leadership practices on the SLPS account for 1.54% of the variability in index 3 scores. Only 1.54% of the variance in the two variables is common variance and there is no statistical significance.

A second Pearson-*r* correlation coefficient comparing the SLPS sum and the three-year performance gap for Hispanic students based on the Texas accountability system was also performed. The conclusion was that there is not a linear relationship between the SLPS sum and the three-year gap change. Once again, the researcher failed to reject the null hypothesis indicating there was no relationship between urban superintendents' leadership practices and the performance gap of Hispanic students as measured by STAAR. Based on Cohen's guidelines, the correlation of .145 corresponds to a small effect size, suggesting a small correlation between the SLPS sum and the three-year performance gap change for each participating district (Cohen,1992). The coefficient of determination (R^2) indicates the leadership practices on the SLPS sum account for 2.10% of the variability in the three-year performance gap for each district. Only 2.10% of the variance in the two variables is common variance so there is no statistical significance.

Descriptive Statistics

There was a total of six core leadership practices identified by Waters and Marzano (2006) and Leithwood and Jantzi (2008) that directly corresponded with all the questions on the SLPS developed by Mora (2010). The six core leadership practices identified were: (a) collaborative goal-setting to develop a compelling vision, (b) setting clear non-negotiable goals, (c) establish progress monitoring systems, (d) use of district resources for structured professional development, (e) board alignment of district goals, and (f) defining autonomy to campus principals. Pearson-*r* correlation coefficients for each leadership practice were performed by using the sum of the SLPS questions associated with each leadership practice and the three-year gap change for each district. All corresponding *p*-values for all six leadership practices revealed there was no statistical significance.

The SLPS was designed with a Likert-type rating scale ranging from 0 to 4. A rating of 4 was the highest possible score and indicated the leadership practice was a very important strategy all schools were implementing throughout the district. The lowest possible score on the SLPS was a zero and this rating indicated the leadership practice was not used by the school district. There were six superintendent leadership practices that were rated 3.8 or higher by participating superintendents and were directly correlated to the five superintendent interviews. The top six leadership practices used by superintendents to increase the achievement of Hispanic students are listed in Table 1.

There were four leadership practices identified by superintendents as being between somewhat important and important to impact Hispanic student achievement and eliminate the perfor-

Table 1. *Top Six SLPS Leadership Practices*

Question	Description	Mean	Standard Deviation
10	Emphasize strong instruction is the key	3.87	.346
25	Develop instructional leadership capacity at the district and school level	3.87	.346
41	School practices characterized by high expectations and opportunities	3.87	.346
37	Professional development for principals	3.80	.407
38	Clearly defined expectations for principals	3.80	.407
39	Classroom visits and teacher evaluation as a priority	3.80	.407

Table 2. *Bottom Four SLPS Leadership Practices*

Question	Description	Mean	Standard Deviation
20	Adopt a 5-year non-negotiable plan	2.43	1.305
17	Include community leadership in goal-setting processes	2.70	1.149
14	Analyze factors with school board	2.83	1.234
15	Work with school board to consider options and strategies	2.87	1.137

mance gap. The four lowest rated leadership practices had an average score of 2.87 or lower on the SLPS. The bottom four leadership practices according to the 30 participating superintendents are listed in Table 2.

Qualitative SLPS Findings

The final question on the Superintendents' Leadership Practices Survey (SLPS) asked superintendents to discuss the top three leadership practices they believe were the most important in improving the instruction and achievement of Hispanic students in their district that may or may not have been included in the SLPS. The major themes that emerged from the open-ended question were: (a) developing a clear vision and goals with high expectations for Hispanic students, (b) using data to progress monitor Hispanic student achievement throughout the school year, (c) providing targeted professional development to address the needs of Hispanic students in their district, and (d) hiring talented teachers who will use data to guide instruction for Hispanic students.

Research Question 2 (RQ2)

What specific leadership practices related to planning, prioritizing, and visioning are utilized by school superintendents to influence the closing of the performance gap for Hispanic students?

Qualitative Data

RQ2 focused on superintendent leadership practices related specifically to the planning, prioritizing, and visioning for the school district. The five major themes along with the minor themes that emerged are referenced in Figure 1.

(See Figure 1 on page 9)

Governance

The major theme relating to governance reflects the personal beliefs of each superintendent. Superintendents feel strongly about their leadership style in making a positive impact on student achievement. Superintendents learn from their experiences and continue to utilize the successful leadership strategies that have a positive impact on student achievement.

Resources

The superintendents referenced resources as it relates to professional development and the hiring of personnel. Superintendents must ensure they are hiring the "right" people to lead campuses, teach students, and influence the Hispanic performance gap. Effective principals are able to lead the work at each campus and effective teachers work directly with students on a daily basis to increase student achievement.

Progress Monitoring

Superintendents should consistently analyze campus data, have data conversations with their campus principals, and hold every campus accountable for student learning. A key recommendation for a superintendent to make a significant impact on the performance gap is to be visible. The most successful superintendent in closing the performance gap made frequent visits to schools and asked specific questions related to the performance gap.

Strategic Planning

Strategic planning included setting high expectations, establishing a common vision, and setting specific goals and targets. A superintendent cannot leave learning to chance and everyone in

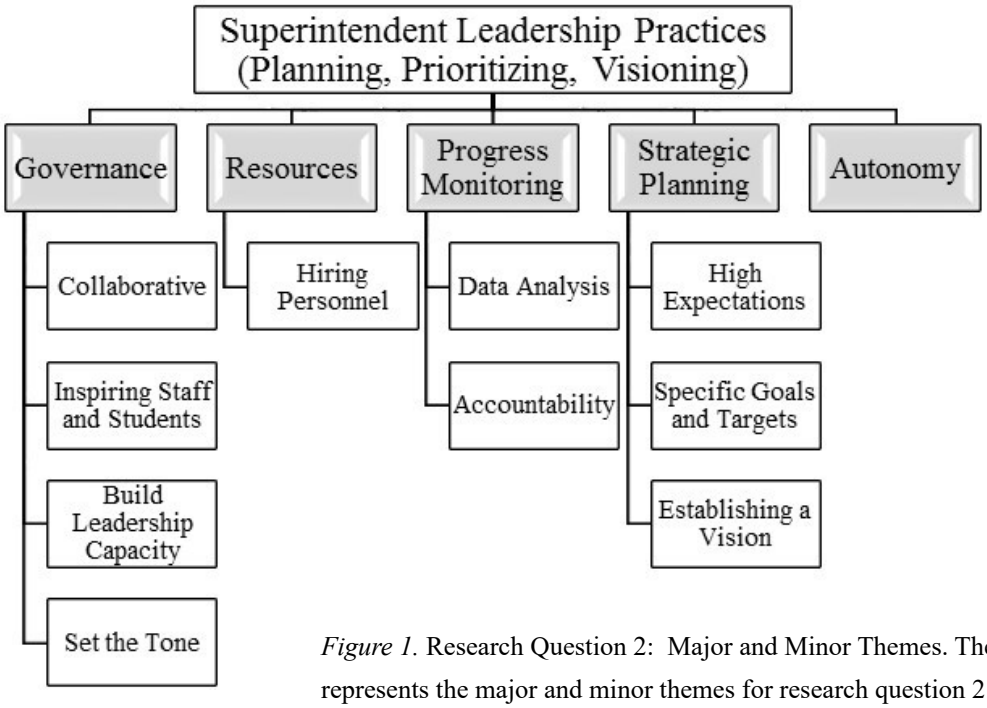

Figure 1. Research Question 2: Major and Minor Themes. The figure represents the major and minor themes for research question 2 using NVivo Pro 11.

the organization needs to know exactly what they are aiming for regarding the closing of the performance gaps. A superintendent can develop a high quality strategic plan, but the closing of the performance gap is dependent on the execution of the strategic plan.

Autonomy

Superintendents stressed that autonomy has its limits and must be done within the confines of the system of the school district. Autonomy does not give principals the right to do whatever they want to do in their building. Clear parameters need to be established by the school district and superintendent to distinguish which campuses have earned autonomy for their campus. Campuses with earned autonomy must continue to have some accountability to ensure increases in student achievement and continued success in the closing of the performance gap.

Research Question 3 (RQ3)

What specific instructional practices are supported by the superintendent and implemented district-wide to increase the academic achievement of Hispanic students?

Qualitative Data

RQ3 focused on superintendent leadership practices related specifically to instructional practices that were implemented district-wide. The themes of progress monitoring and resources were duplicate themes that emerged for both RQ2 and RQ3. There was much more variation in interview responses related to instructional leadership practices. Figure 2 shows the major themes and the minor themes that emerged for RQ3.

(See Figure 2 on page 10)

Language Acquisition

The general findings around language acquisition included: a literacy focus, the use of dual language models, and addressing the readiness gap at an early age. In an effort to determine the readiness gap, school districts must assess students at an early age and develop interventions to ensure students are able to read on grade level as quickly as possible. The focus on language acquisition does not necessarily mean that every Hispanic student is deficient in the English language. The emphasis on language acquisition must be targeted to those Hispanic students that enter schools with an English language barrier.

Progress Monitoring

Progress monitoring as an instructional practice refers to data analysis by individual students. In order to close the performance

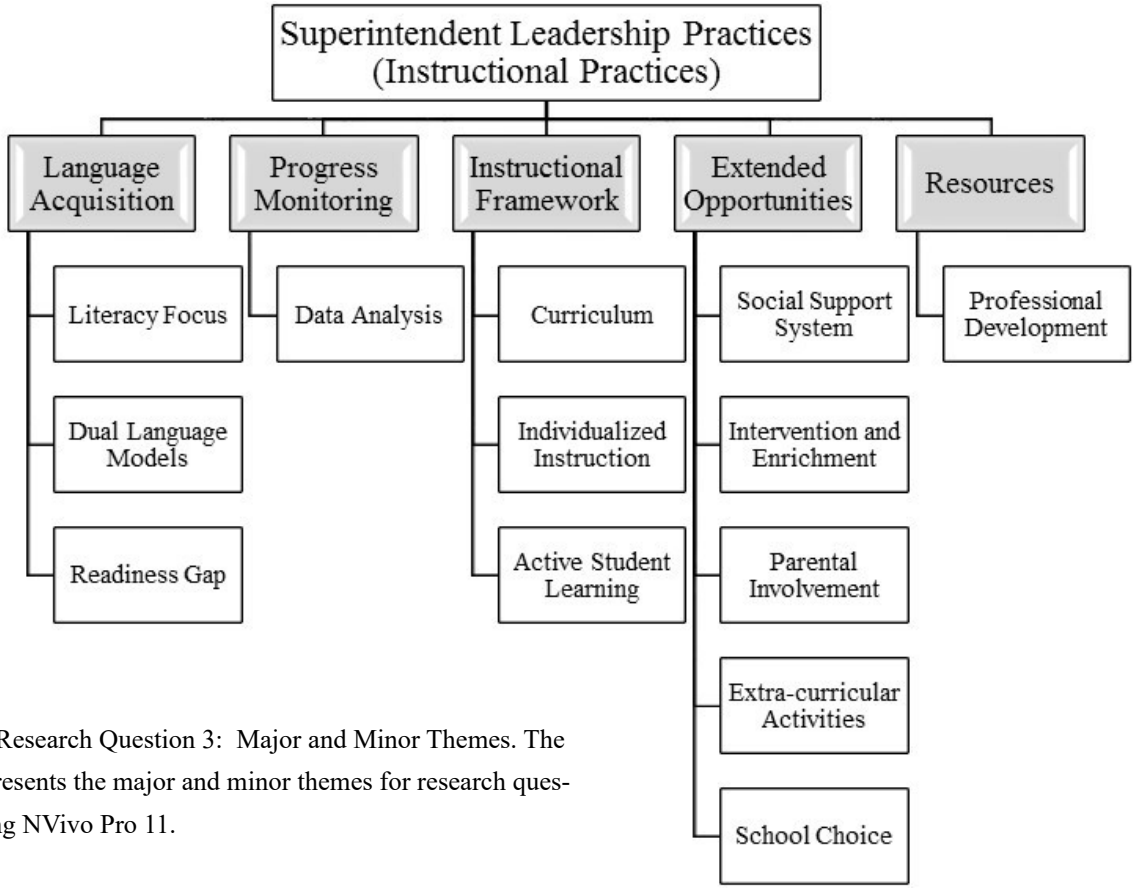

Figure 2. Research Question 3: Major and Minor Themes. The figure represents the major and minor themes for research question 3 using NVivo Pro 11.

gap, a system to monitor individual students has to be implemented. The superintendent of a large urban district may not be able to know every single student, but systems for campuses to closely monitor individual students can be established. The monitoring of struggling students by each campus is one way superintendents can supervise if the performance gap is closing for Hispanic students.

Instructional Framework

The superintendent is responsible for the instruction taking place in schools throughout the school district and the differentiation of instruction based on individual student needs. The instructional framework defines exactly what students are required to know and be able to do at each grade level. Individualized progress monitoring leads to personalized instruction as part of a district's instructional framework. A personalized approach for each student is a major leadership practice for superintendents to close the performance gap for Hispanic students.

Extended Opportunities

The major theme of extended opportunities had the most varying viewpoints as to which would be the most beneficial. A strong mentoring program and ensuring the basic needs of each student is met on a daily basis were two specific strategies mentioned. Superintendents focused on interventions, but a need to look at enrichment opportunities embedded with the curriculum became evident with the current study. Magnet schools and specialized opportunities previously only reserved for the top performing students must be made available to all students. Superintendents acknowledged the need to increase parental involvement throughout the school district and how enrolling a student means enrolling an entire family.

Resources

The final major theme that emerged was the use of resources related to professional development. Once a superintendent hires the "right" people, district resources must be used to provide quality professional development for both principals and teachers. On a larger scale, structured and aligned professional development ensures the major district initiatives are being implemented effectively throughout the district.

Implications

The current study revealed there was no statistically significant

relationship between urban superintendents' leadership practices and the performance gap of Hispanic students as measured by STAAR index 3 data. This initial finding supports research by Chingos, Whitehurst, & Gallaher (2014) who believe there are so many causes of the student achievement gap and the factors leading to the achievement gap cannot be separated using quantitative and methodological tools of modern science. These findings support the belief by some educators that the superintendent has a minimal impact on student achievement because the superintendent does not engage directly with teachers or students in the classroom (Kowalski, 2006).

The 30 superintendents who returned the SLPS identified six instructional practices they believed were very important in influencing and increasing the academic achievement of Hispanic students. This finding supports the belief by some scholars who believe superintendents who are able to use the managerial levels at their disposal; such as, staff recruitment and selection, principal supervision and evaluation, articulation of clear goals, and distribution of financial resources can directly improve instruction for students (Björk, 1993; Bridges, 1982; Cuban, 1984; Fullan, 1991; Kowalski, 2006).

The major findings of the open-ended responses revealed superintendents believed developing a clear vision and goals with high expectations, using data to progress monitor, providing targeted professional development, and hiring talented personnel who will use data to guide instruction were critical to Hispanic student success. This finding directly aligned with the Waters and Marzano (2006) research suggesting working collaboratively with the community to set goals, identifying non-negotiable goals, providing the necessary support, and resources impacts student achievement.

One discrepancy of the findings from the current study involved the mention and work between the superintendent and the school board. Research by Waters and Marzano (2006) identified board alignment and support of district goals as a leadership practice that positively impacted student achievement. In both the interviews and the SLPS, there was minimal support for involving the board and ensuring alignment of district goals. Two of the lowest scoring questions on the SLPS were questions related to analyzing factors with the school board and working directly with the school board to consider options and strategies. A school board that is aware of the data and the need to close the performance gap for Hispanic students could lead to more emphasis and district-wide support of high leverage leadership practices identified in this research.

The most successful superintendent in closing the performance gap was directly involved in instructional decisions, professional development, and analyzing data. In addition, a primary role of an urban superintendent is to influence curriculum policy, diagnose educational needs, and recommend strategies to increase student achievement (Andero, 2000). The results of this study indicate superintendents must have a hands-on approach in curriculum decisions, analyzing the data, and have specific strategies implemented in the most struggling schools. Collaborating with all stakeholders to develop strategic plans, monitoring data, holding educators accountable, and hiring effective educators are a few common leadership practices used by superintendents. The expectation of today's urban superintendents is to be able to provide direction, craft a vision (Carter & Cunningham, 1997), manage a variety of expectations (Jackson, 1995), while being able to meet state accountability standards of closing the performance gaps.

There was no clear evidence to suggest specific leadership practices led to increases in Hispanic student achievement; however, there were common leadership practices used by the most successful superintendents to impact the Hispanic performance gap. A meta-analysis conducted by Jeynes (2015) claims there is still a lack of consensus about what strategies and at what levels they must be implemented to reduce the performance gap. Based on the findings from the qualitative data, superintendents can implement specific instructional leadership practices throughout their district to positively impact Hispanic student achievement.

Conclusions

There has been specific leadership practices identified that urban superintendents can implement to close the performance gap for Hispanic students. A compilation of both the quantitative and qualitative findings indicate urban superintendents should do the following:

- be directly involved in instructional decisions, professional development, and analyzing data;
- implement an early childhood literacy program with the goal that all students will be reading on grade level by the end of 3rd grade;

- be highly visible by making frequent campus visits and asking questions related to the campus performance gap;
- require campus principals of the lowest performing campuses to present quarterly data directly to the superintendent;
- have a direct involvement in the hiring of principals, especially those assigned to the lowest performing campuses; and
- incorporate an individualized progress monitoring system leading to a personalized approach for each student as part of the district's instructional framework.

A paradigm shift must take place in order to view Hispanic students as "at-potential" instead of being labeled as being "at-risk" (Murillo et al., 2010, p. 280). The reform challenge facing Hispanic students begins with overcoming a deficit mindset that blames poor, Hispanic, and minority students for school failures (Valencia, 2011). The performance gap for Hispanic students is a complex, multidimensional concern that requires a wide lens to be able to capture all viable solutions to improve student achievement (Valencia, 2011).

The current study identified a potential blueprint of leadership practices that can be used by superintendents to significantly close the performance gap for Hispanic students. The leadership practices identified in the current study bring a future of hope and unlimited potential for urban school districts to have a significant impact on the closing of the performance gap for Hispanic students.

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A STUDY OF THE IMPACT OF REFLECTIVE CONVERSATIONS ON TEACHER PRAXIS AND CLASSROOM INSTRUCTION

DeAnna Jenkins, Ed.D.

Introduction

It has long been perceived by some that the American public education system is failing today's students. Ravitch (2014) asserted, "the leading members of our political class and our media elite seemed to agree: Public education is broken. Our students are not learning enough. Public schools are bad and getting worse" (p. 3). Reports and reform movements, such as *A Nation at Risk* (1983), the National Assessment of Educational Progress (NAEP), No Child Left Behind (NCLB), and Race to the Top (RTT), are categorized as some of the levers for the decline of opinion regarding public education and the effectiveness of teacher praxis (Marzano, Frontier, & Livingston, 2011; Popham, 2013; Ravitch, 2014; Toch & Rothman, 2008; Zhao, 2009).

The implementation of teacher evaluation systems has been one of the recommended answers to fix the perceived crisis in education. In the 1983 report *A Nation at Risk,* the National Commission on Excellence (NCEE) at that time recommended that teacher's salary, promotion, and retention be tied to "an effective evaluation system" (p. 38). The major purpose of supervision and evaluation is to improve teacher praxis and classroom instruction (Darling-Hammond, 2013; Glickman, 1980; Marzano, et al., 2011; NCEE, 1983; Popham, 2013; Sullivan and Glanz, 2000).

However, history and research has shown that states across the nation have been and continue to struggle with teacher evaluation systems and their lack of improvement on teacher performance. Blumberg (1985) reviewed annual reports of superintendents in the common schools of the 59 counties in the state of New York in 1845. Superintendents discussed concerns about limited and outdated methods of teaching, inadequate staff development, and opportunities to elevate the quality of teaching in the classroom over a century ago. Darling-Hammond (2013) discussed teacher evaluation systems as failing and in need of drastic improvements, as the process rarely "distinguished those who were succeeding from those who are struggling" (p. 1). Popham (2013) argued that "If we evaluate American teachers inappropriately…we will not only see many American teachers being unfairly judged, but we'll also witness a definite dip in the quality of our public schools" (pp. ix-x). With the increase in high-stakes evaluations, teachers are often evaluated without the opportunity to receive recurrent critical, constructive feedback that allows self-reflection on instructional practices.

Successful teacher evaluation systems can be designed if they are individualized and allow for self-direction. Many researchers have identified effective teacher evaluation systems encompass the formative practice of providing facilitated, timely, relevant, and reflective feedback during recurrent instructional conversations that encourage self-reflection on praxis and instructional growth (Brookhart and Moss, 2015; Danielson and McGreal, 2000; Darling-Hammond, 2013; Downey and Frase, 2001; Fullan, 2009; Lezotte and Snyder, 2011; Marzano, et al., 2011; Popham, 2013; Sullivan and Glanz, 2000). According to Killion (2015) feedback is a powerful process that provides "criteria-referenced" evidence to assist in the identification of strengths and weaknesses, process of setting goals, and creation of an authentic plan for achieving those goals (p. 8). Hall and Simeral (2015) stated, "to be good at anything, you need to be thoughtful, intentional, and reflective about your practice…Self-reflection can bridge the doing-thinking gap, knowing-doing gap, and another gap that might otherwise impede your progress" (p. 21).

Purpose of the Study

The purpose of this study was multifaceted and examined the perceptions of campus administrators and classroom teachers for the following areas of concentration: 1) The benefits of participating in the formative practice of reflective conversations to improve classroom instruction and student learning; 2) The most effective leader on the campus to conduct reflective conversations; 3) How often reflective conversations should take place; and 4) If reflective conversations provide opportunities to discuss areas of strength and need, establish attainable professional goals, develop action steps to meet those goals, and identify professional development options that lead to improved classroom instruction and student achievement.

Setting, Target Population and Sample

The study focused on the perceptions of administrators and teachers in a north central region of Texas encompassing ten counties including 77 school districts, 52 charter campuses, approximately 66,000 educators and more than 551,000 students. School districts in this area included urban, suburban, and rural districts and campuses ranging in size from a large urban school district with 142 campuses and over 80,000 students to small rural districts with one campus serving a total of 80 students in Pre-Kindergarten through grade eight. The campuses represented early childhood, elementary, intermediate, middle school, and high school campuses that provide and support programs characteristic of educational systems across the state of Texas.

The researcher's sample database contained a total population of unique district and charter e-mail addresses for 24,404 teachers and 4,413 administrators. As the target population of teachers was very large, the researcher used the procedure of systematic sampling to select every 5th teacher to create a sampling frame of 4,880 participants. The researcher received 458 usable responses: 246 classroom teachers and 212 campus administrators.

Instrumentation and Measures

The researcher created and used a web-based survey questionnaire which included demographic, attitudinal, and "semi-closed-ended" questions (Creswell, 2015, p. 390). The survey instrument contained two sets of attitudinal questions designed for: 1) respondents participating in reflective conversations as a campus practice; and 2) respondents not participating in reflective conversations. As the survey was designed by the researcher, the instrument was pilot tested for both content validity and reliability.

The researcher used a combination of descriptive and comparative statistics to analyze and report the data. Descriptive statistics were used to communicate the occurrence in percentages and averages. Independent-samples *t*-tests were used to explore the difference in perception on reflective conversations of the teachers and administrators for Research Questions 1-8. A series of two-way between-groups analysis of variances (ANOVA) were conducted to explore the impact of the demographic influence of years of experience, gender, campus type, campus size, district size, campus location, and role on campus on the perception of whether reflective conversations are beneficial to improving classroom praxis.

Research Questions Findings and Mean Differences

Table 1 shows a summary of the research questions and the associated statistical findings.

(See Table 1 on page 16)

Summary of Findings

There were 458 completed surveys returned for the study. Of the 458 participants sampled, there were two comparison groups: campus administrators and classroom teachers. The survey participants were divided into two response groups, those practicing reflective conversations and those who were not. Of the total participants sampled, 74% responded they were participating in reflective conversations, while 26% responded they were not. Of the 74% of participants who responded they were currently participating in reflective conversations, 164 were campus administrators and 173 were classroom teachers. The 26% of participants who responded they were not currently participating in reflective conversations were made up of 48 campus administrators and 73 classroom teachers.

The study showed that 88% of all participants believed participating in reflective conversations can lead to improved classroom instructional practice. There was a difference in agreement within the 88%; 97% of campus administrators responded they agree to strongly agree, while only 80% of teachers responded similarly. However, of the 26% of the respondents not currently participating in reflective conversations, 93% agreed this practice should be taking place on the campus, with 98% of administrators

Table 1. *Research Questions and Degree of Difference between Administrator and Teachers*

Research Question	Mean Difference	Magnitude of the Difference
RQ1 - To what extent do administrators and teachers agree that reflective conversations are important catalysts that lead to improved classroom instruction and new teaching strategies?	(-.628, 95% CI: -.767 to -.488)	Significantly large (eta squared = .147)
RQ2 - To what extent do the administrators and teachers agree that reflective conversations must take place with the campus principal or supervisor?	(000, 95% CI: -.109 to .109)	Very small (eta squared = .000)
RQ 3 - To what extent do the administrators and teachers agree that reflective conversations must take place on a continuous basis?	(-.243, 95% CI: -.333 to -.153)	Moderate (eta squared = .058)
RQ4 - To what extent do administrators and teachers agree that reflective conversations lead to the identification of areas of instructional strength?	(-.431, 95% CI: -.555 to -.307)	Moderate (eta squared = .095)
RQ5 - To what extent do administrators and teachers agree that reflective conversations lead to identification of areas for instructional improvement?	(-.431, 95% CI: -.549 to -.313)	Significantly large (eta squared = .103)
RQ6 - To what extent do administrators and teachers agree that reflective conversations lead to opportunities for setting professional goals that lead to opportunities for setting professional goals that lead to improved classroom instruction?	(-.481, 95% CI: -.613 to -.350)	Significantly large (eta squared = .109)
RQ7 - To what extent do administrators and teachers agree that reflective conversations lead to generating action steps to achieve identified instructional goals that lead to improved classroom instruction?	(-.451, 95% CI: -.582 to -.321)	Significantly large (eta squared = .102)
RQ8 - To what extent do administrators and teachers agree that reflective conversations lead to the identification of professional development possibilities that lead to improved classroom instruction?	(-.480, 95% CI: -.629 to -.330)	Moderate (eta squared = .097)
RQ9 - To what extent do demographic variables, such as years of experience, gender, school size, school location, and type of school, influence the beliefs of administrators and teachers on reflective conversations and their impact on improved classroom instruction?	$p > .05$ in all areas	No Significant mair effect size was identified

and 89% of teachers responded similarly in agreement. Although there was significant agreement that reflective conversations can lead to improved instructional practice and who should lead the conversation, there were differences in agreement between the campus administrator and classroom teacher in the areas of the frequency of reflective conversations; opportunities to recognize areas of strength; opportunities to ascertain areas of weakness; opportunities to set professional goals; opportunities to create action steps; opportunities to identify professional development; and inclusion in the teacher evaluation system. Table 2 reflects the degree of difference in agreement in regards to the correlated questions asked of the total population.

(See Table 2 on page 17)

The 74% of respondents who indicated they were participating in reflective conversations were asked a set of supporting questions to study the actual practice taking place during the reflective conversations. Although within this subset of respondents, there was agreement that reflective conversations can lead to improved instructional practice, there were significant differences in the actual practice in regards to the opportunities to set professional goals; creation of action steps; identifying professional development; and the inclusion in the teacher evaluation system. Table 3 reflects the degree of difference for the set of supporting questions asked of only the participants participating in reflective conversations.

(See Table 3 on page 18)

Implications

The findings of this study support previous research that discusses reflection as a process that enhances instructional practice (Goldhammer, 1969; Knight, 2011; Downey & Frase, 2001; Danielson, 2012; and Hall and Simeral, 2015). Although the level of agreement between campus administrators and classroom teachers was often significantly different, there was an overwhelming agreement that reflective conversations are beneficial to improving instructional practice. This finding is consistent with comments from Marzano, et al. (2011) who stated, "Although opportunities to observe and discuss expertise are not currently very common in K-12 schools, they are desired by teachers" (p. 7).

The study found that campus administrators and classroom teachers perceive the reflective conversation process as a way to provide individualized specific feedback that provides opportunities to recognize individual improvement areas, set personal professional goals, prioritize action steps, and identify professional development. Researchers identified communication between the evaluator and the classroom teacher as a barrier to improving instruction (Danielson and McGreal, 2000; Darling-Hammond, 2013; Toch and Rothman, 2008; Varlas, 2012). Danielson and McGreal (2000) identified practices that provide top-down interaction and feedback as an issue with current evaluation systems.

The study confirmed that campus administrators and classroom teachers believe reflective conversations should provide opportunities to identify areas for improvement. Many researchers have identified that evaluation systems often have poor measurements that are frequently too broad for the teacher and administrator to identify improvement areas (Danielson and McGreal, 2000; Gabriel and Allington, 2012; Glickman, Glickman,

Table 2. *Total Population: Affirmative Response Rates*

	Administrator		Teacher	
Question	N	Sample	n	Sample
13. and 30. Reflective conversations should be guided by the _____. (Choose all that apply.)				
Principal	177	51%	170	49%
Assistant Principal	144	53%	129	47%
Other	145	51%	140	49%
14. and 31. Reflective conversations should take place:				
Frequently	178	84%	143	58%
Occasionally	31	15%	101	41%
Rarely	1	0%	2	1%
Never	2	1%	0	0%
11. and 28. Reflective conversations are beneficial to improving instructional practice.	206	97%	196	80%
17. and 32. During reflective conversations, the opportunity to discuss areas of strength is/would be beneficial to improving my instructional practice.	205	98%	199	87%
19. and 33. During reflective conversations, the opportunity to discuss areas for growth is/would be beneficial to improving my instructional practice.	208	98%	207	87%
21. and 34. During reflective conversations, the opportunity to set personal goals for professional growth is/would be beneficial to improving my instructional practice.	199	96%	183	84%
23. and 35. During reflective conversations, the opportunity to identify action steps to achieve professional goals is/would be beneficial to improving my instructional practice.	196	98%	171	83%
25. and 36. During reflective conversations, the opportunity to identify professional development is/would be beneficial to improving my instructional practice.	185	96%	152	81%
27. and 38. Reflective Conversations should be an integral part of the teacher evaluation system, such as PDAS, T-TESS, etc.?	187	90%	170	72%

Gordon, & Ross-Gordon, 2014; Marshall, 2012b; Popham, 2013; Wise, Darling-Hammond, McLaughlin, & Bernstein, 1984). By participating in reflective conversations, the campus administrator and classroom teacher have the opportunity to strategically sift through the often broad and inadequate criterion to identify areas of improvement that would be the most beneficial to improving classroom instruction.

The study also demonstrated that campus administrators and classroom teachers believe that anyone and everyone should participate in reflective conversations. Cheliotes and Reilly (2010) maintained that it is not one person who creates success, but the group as a whole that creates a "culture of continuous improvement" (p. 12). City, Elmore, Fiarman, & Teitel. (2010) discussed "networks" as supporting "instructional improvement at scale" and that everyone is obligated to understand school improvement (p. 5). This also supports the research by Kachur, Stout, and Edwards (2013), who concluded teachers observing other teachers and providing reflective feedback leads to greater instructional improvement and ownership of the larger school improvement process than the administrator only, "top-down" traditional approach (p. 3).

The study substantiated that being able to identify one's own professional development through the reflective conversation is beneficial to instructional improvement. This study supports Ponticell and Zepeda's (2004) theories that adults are performance driven and desire feedback that allows immediate application and relevance. Campus administrators and classroom teachers agree that the reflective conversation process has the potential to enhance teacher praxis, by allowing reflection and discussion around individualized feedback to identify a plan of action that includes improvement areas, goals, action steps, and professional development that will support instructional improvement.

Table 3

Population Subset Participating in Reflective Conversations: Affirmative Response Rates

	Administrator		Teacher	
Question	N	Sample	n	Sample
10. Based on the definition provided, are reflective conversations taking place on your campus?	164	77%	173	70%
11. Reflective conversations are beneficial to improving instructional practice.	164	97%	173	81%
12. Reflective conversations are guided by the _____. (Choose all that apply)				
Principal	143	53%	127	47%
Assistant Principal	105	54%	91	46%
Other	94	53%	82	47%
15. Reflective conversations currently take place:				
Frequently	58	35%	56	32%
Occasionally	99	61%	89	51%
Rarely	7	4%	27	16%
Never	0	0%	1	1%
16. During reflective conversations, is an opportunity provided to discuss areas of strength?	162	99%	159	92%
18. During reflective conversations, is an opportunity provided to discuss areas for growth?	164	100%	167	98%
20. During reflective conversations, is an opportunity provided to discuss and set personal goals for professional growth?	161	98%	146	86%
22. During reflective conversations, is an opportunity provided to discuss action steps to achieve personal goals for professional growth?	154	95%	132	79%
24. During reflective conversations, is an opportunity provided to identify professional development that will assist in reaching professional goals?	147	91%	118	71%
26. Reflective conversations are an integral part of the teacher evaluation system, such as PDAS, T-TESS, etc.	131	82%	105	65%

Conclusions

The opinion of public education and the effectiveness of teacher praxis has declined over the past several decades due to such events as societal movements, varied reports, political agendas, and federal programs. This study demonstrates that an effective way to improve instructional practice is through participation in reflective conversations. Researchers guide us to understand that the formative practice of providing facilitated, timely, relevant, and reflective feedback during recurrent instructional conversations allows teachers to explore, discuss, and reflect on their own professional praxis which often leads to instructional growth (Brookhart & Moss, 2015; Danielson & McGreal, 2000; Darling-Hammond, 2013; Deci & Ryan, 2006; Downey & Frase, 2001; Killion, 2015; Knight, 2011; Knowles, 1990; Marzano, et al., 2011; Popham, 2013).

The potential impact of the study is multi-layered. Districts, campuses, administrators, and teachers participating in reflective conversations can use the study to assist in examining the fidelity of the process being implemented for components, outcomes, and expectations of the conversations. The findings of the study could be used by district and campus administrators to better understand the critical parts of the reflective conversation that lead to more effective processes for formative conferences that could result in improved teacher evaluations, identification of individual professional development needs, and improved classroom instruction. When implemented with efficacy, reflective conversations can be beneficial learning cycles that provide job-embedded, relevant opportunities for adult learners to examine their own instructional practice, identify areas of strength and improvement, discuss and explore possible methods to improve instruction, implement and practice those methods, and then reflect on the results for future application.

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A STUDY OF THE EFFECTS OF PRE-K EDUCATION ON A LOCAL SCHOOL DISTRICT

James Alton Howard, Ed.D.

Introduction

By the time children from low-income families enter kindergarten, many are already far behind children from higher-income families. Some will never catch up (Blank & Schulman, 2014). Blank and Schulman (2014) report that by the age of three, children from the lowest-income families have heard 30 million fewer words and many times display only half the vocabulary of their middle-income peers. However, with a high quality early education program, these seemingly insurmountable odds can be overcome.

In today's world of high stakes testing, many times the students who are in tested grade levels receive the best teachers in the building. In an elementary setting, building administrators realize that their evaluation is based on the success of state mandated tests. However, a great deal of research has been done which states that the most critical learning stage for most students actually takes place between the ages of three and five years of age (Raikes, 2004). The Harvard Family Research Project (2015), a group designed to advocate for the advancement of early childhood literacy programs throughout the country, has discovered that by focusing on the development of children during their early cognitive stages there is a direct correlation between accelerated academic enhancement and future academic success. This leads many researchers in the field to suggest that there is a high return on investment in early education programs (Raikes, 2004).

With countless studies citing the benefits of early childhood education (Barnett, 2008; Gormley, 2014; Pinata, & Wolcott, 2014; Sanborn et al., 2014), a question begs to be asked: Why is universal pre-kindergarten not mandatory in all 50 states? Currently, Texas serves just 51.4% of students who are four years of age (Barnett, Carolan, Fitzgerald, & Squires, 2012).

Literature Review

Former U.S. Secretary of Education Arne Duncan (2015b) claimed, "I believe that every single child deserves the opportunity for a strong start in life through high quality preschool, and expanding those opportunities must be part of ESEA" (Elementary and Secondary Education Act, p.1). According to the U.S Department of Education (2015a), each year approximately 4 million children enter kindergarten in the United States. The hope for all parents is that their child is prepared for the academic rigor he or she will face for the next 12 years. Many parents have sought to improve the learning opportunities of their children through private high quality early childhood education, yet many children of poverty have a difficult time accessing these services (U.S Department of Education, 2015a).

In the United States during the 2012-2013 school year, there were 4,112,347 students who were 4-years old. Twenty-eight percent were enrolled in a state run preschool, 10% were in a federally funded Head Start Program, 3% were enrolled in a special education preschool program, and 59% of 4-year-olds did not receive any type of early childhood education. In the states of Florida, Oklahoma, Vermont, and the District of Columbia, more than 70% of their 4-year-olds are served by a publicly funded preschool program. In contrast, 11 states–Alabama, Alaska, Arizona, Delaware, Minnesota, Missouri, Nevada, Ohio, Oregon, Rhode Island, and Washington–serve fewer than 10% of 4-year-olds in a publicly funded preschool program (U.S Department of Education, 2015a). In in 2012-2013, Texas had 397,272 4-year-olds. Fifty-two percent of them were enrolled in a state funded preschool program, 9% were enrolled in a federal Head Start program, 1% were enrolled in a special education program, and

38% were not enrolled in any type of publicly funded preschool program (U.S Department of Education, 2015a).

Hispanic children are the largest and fastest growing ethnic group in the entire United States making up one quarter of the total population of 3- and 4-year-olds. While Latinos make up the largest ethnic group in the country, they have the lowest participation rate in early childhood programs. Only 40% of Hispanic 4-year-olds currently participate in publicly funded preschool programs while 50% of African Americans and 53% of White students participate in programs designed to prepare a student for kindergarten (US Department of Education, 2015a). Low-income students were less likely to be enrolled in an early childhood program than their more affluent peers, and African American children from low-income homes are more likely to attend low quality early childhood education programs (U.S Department of Education, 2015a).

State and local Pre-K programs are typically run through the local school districts. The teachers working in these programs are fully certified, receiving a degree in education or related field from a four-year university, and most have received advanced training to work with early childhood students. The professional development activities provided to these educators allow them to meet the individual and varied needs of their students (Barnett, 2008).

Programs that are the most successful at producing academic and social gains for young students do appear to share some of the same qualities. The number of students in a classroom has been determined to be a major factor in determining the effectiveness of a Pre-K program. Pre-K students have been found to experience the greatest academic growth when there is a student teacher ratio of 1 to 10, yet it is almost impossible for many districts to staff a Pre-K classroom with one certified teacher and ten students (Sandborn et al., 2014). Full-day Pre-K programs result in the greatest benefits for student growth, but the majority of state and local programs, especially in Texas, are currently only funded to be half-day programs. The number of days per week, the weeks per year, and the age when the child starts the program are all factors in future academic success (Barnett, 2011). Students who participate in a high-quality Pre-K program that is designed to last at least two years will experience greater academic growth than students who attend a one-year program (Barnett, 2011).

The curriculum in state and locally run Pre-K centers should be developmentally appropriate and globally designed, focusing on language acquisition, emerging math skills, social emotional skills, and knowledge about science, arts, and social studies (Yoshikawa et al., 2013). High quality Pre-K programs should also incorporate hands-on fun and excitement into the curriculum. Students at this age learn best through exploration (Melheim, 2014). Children age three to five learn best when they are actively engaged with their learning environment.

According to the National Institute for Early Education Research (NIEER) (2006), students who participate in early childhood programs perform better academically than those who do not. The goal of the current study was to add to the body of research in the area of early childhood education by comparing student performance on the Kindergarten ISIP ER and ISIP Español. This was accomplished by comparing students who attended Pre-K at either one of the District's Pre-K centers or satellite campuses with those who were eligible to receive early childhood services, but for some reason chose not to attend.

Research Design

In education today, there is a growing number of at-risk students. Based on state and federal guidelines, economically disadvantaged and second language learners are the primary benefactors of early childhood education. Providing early childhood services, like state run Pre-K programs, is a key factor in students experiencing future academic success (Barnett et al., 2012). In the school district of the current study, there were two Pre-K centers with their entire program dedicated to early childhood education. The District also had 14 Pre-K satellite classes located on traditional elementary campuses. This study was designed to look at possible benefits students who attend a state-run Pre-K center in a local school district received upon the completion of the Pre-K program. This study also looked at data from students who attended a high quality early childhood Pre-K program and strove to make comparisons with those who did not.

This study examined data based on Kindergarten Istation Indicator of Progress Early Reader (ISIP ER) and Istation Indicator of Progress Español (ISIP Español) scores. The researcher compared the results of the Kindergarten ISIP ER and ISIP Español scores between students in Kindergarten who attended a Pre-K program with those who were eligible to attend Pre-K but did not. This study examined whether or not students who attended a Pre-K center outperformed students who were eligible

to attend but did not. The researcher again studied ISIP data from the District.

All students in the District take either the ISIP ER or ISIP Español assessment at the beginning of each month. Three times a year: at the beginning, middle, and end of the year in Kindergarten through 2nd grade. Scores are reported to the Texas Education Agency (TEA). In the same way that ISIP ER and ISIP Español scores are reported to TEA for Kindergarten through 2nd, m-Class CIRCLE assessment scores are reported to TEA three times a year for the 1,446 students who were enrolled in The District run Pre-K program in 2015-2016. Using these data for the study allowed the researcher to assess whether or not students who attended a high-quality district run Pre-K program at either one of the Pre-K centers or a satellite campus performed at a higher level in reading than those who did not but were eligible to attend.

Procedures and Data Analysis

The information used in this study was taken from the District's Public Education Information Management System (PEIMS) and placed in an EXCEL spreadsheet. Students were categorized as those who previously participated in the Districts Pre-K center based program and those who were eligible to attend but did not. The three data points used to judge whether or not there was a significant difference in academic performance between students who attended the District run Pre-K program and those who were eligible to attend but did not were BOY, MOY, and EOY.

The independent variable tested was participation in the District's Pre-K program located at the Pre-K center or satellite campus. The dependent variable for the study was the students' performance on the Beginning of the Year (BOY), Middle of the Year (MOY), and End of the Year (EOY) ISIP ER/ISIP Español assessments.

A One-Between-One-Within Subjects Analysis of Variance (ANOVA) was conducted. The study first established three groups of students: those who attended Pre-K at the Pre-K center; those who attended Pre-K at a traditional campus; and those who were eligible to attend but for some reason did not. Using IBM SPSS, these groups were compared using the 2015-2016 ISIP ER/ISIP Español BOY, MOY, and EOY data.

Research Question 1 (RQ1): What are the differences in student performance on the Kindergarten ISIP ER assessment between those who attended a district run Pre-K program and those who were eligible to attend but did not? In order to answer this question, the following hypotheses were examined:

A one-way between-subjects analysis of variance (ANOVA) was used to test the hypotheses for the English ISIP scores. This test showed there was a statistically significant difference in English ISIP scores at each testing cycle BOY $\chi^2(2)=37.68$, $p=.000$, with a mean rank ISIP score of 663.69 for No Pre-K, 786.66 for Pre-K Satellite, and 809.32 for Pre-K Center.

Similarly, the MOY results were $\chi^2(2) = 15.471$, $p=.000$, with a mean rank English ISIP score of 686.08 for No PK, 762.63 for Pre-K Satellite, and 781.64 for Pre-K Center. The EOY results were $\chi^2(2) = 13.07$, $p< .001$, with a mean rank English ISIP score of 688.87 for No Pre-K, 770.56 for Pre-K Satellite, and 766.58 for Pre-K Center.

Post hoc analysis revealed statistically significant differences in mean rank scores between students who had attended Pre-K and those who had not. These differences were present at each testing period. BOY No Pre-K and Pre-K center (122.97 $p=.000$), and no Pre-K and Satellite Pre-K (145.62 $p=.000$). MOY No Pre-K and Pre-K center (95.55 $p=.001$), and no Pre-K and Satellite Pre-K (76.54 $p=.005$). EOY No Pre-K and Pre-K center (77.70 $p=.005$), and no Pre-K and Satellite Pre-K (81.68 $p=.003$).

There were no statistically significant differences in the pairwise comparisons between students who attended a Pre-K center and students who attended a Pre-K Satellite campus. Figure 7 shows ISIP ER BOY, MOY, and EOY assessment comparisons between students who participated in the District's Pre-K program at either one of the Pre-K centers or satellite campus with those who were eligible to attend Pre-K but did not.

Research Question 2 (RQ2): What are the differences in student performance on the Kindergarten ISIP Español assessment between those who attended a district run Pre-K program and those who were eligible to attend but did not? In order to answer this question, the following hypotheses were examined:

The MOY results were $\chi^2(2)=9.204$, $p=.010$, with a mean rank ISIP Español score of 443.42 for No Pre-K, 515.27 for Pre-K Satellite, and 506.95 for Pre-K Center. The EOY results were $\chi^2(2) = 15.405$, $p< .001$, with a mean rank ISIP Español score of 428.85 for No Pre-K, 524.43 for Pre-K Satellite, and 507.50 for Pre-K Center.

Post hoc analysis revealed statistically significant differences in mean rank scores between students who had attended Pre-K

and those who had not. These differences were present at each testing period. BOY No Pre-K and Pre-K center (105.94 $p <$ .001), and no Pre-K and Satellite Pre-K (126.47 p<.001). MOY No Pre-K and Pre-K center (63.52 p=.022), and no Pre-K and Satellite Pre-K (71.85 p=.015). EOY No Pre-K and Pre-K center (76.64 p=.001), and no Pre-K and Satellite Pre-K (95.57 p< .001).

There were no statistically significant differences in the pair-wise comparisons between students who attended a Pre-K center and students who attended a Pre-K Satellite campus. The ANOVA demonstrated statistically significant differences in ISIP scores for students who had and had not attended Pre-K at each testing period. BOY $F(2, 988)=12.473$, p=.000; MOY $F(2, 988)=3.645$, p=.026; and EOY $F(2, 988)=8.367$, p=.000.

Students who attended a Pre-K center or a Pre-K satellite scored higher than students who did not attend Pre-K at each testing period. The results for Research Question 2 demonstrate there are differences in student performance on the Kindergarten ISIP Español assessment between those who attended a district run Pre-K program and those who were eligible to attend but did not. Students who attended a district run Pre-K program scored significantly higher than those students who did not.

Implications

According to National Institute for Early Education Research high quality early childhood education is a major contributing factor to ensure at-risk students receive the best possible education (Barnett, Carolan, Fitzgerald, & Squires, 2011). The article goes on to state that students who have had the opportunity to attend a high quality early childhood program have displayed higher scores on federally mandated state assessments, experienced a higher graduation rate, received a lower referral rate to special education, and a greater earning potential compared to similar peers who did not have the benefit of receiving early childhood services (Barnett, 2011; Barnett et al., 2011 Gormley, Phillips, Adelstein, & Shaw, 2009).

The results of the current study were aligned with results conducted in previous studies which state that students who attend a high quality early childhood program will experience future academic success (Gormley, 2014; Puma et al., 2012; National Head Start Association, 2015; Stanfield-McGarrah, 2016).

Conclusion

As stated by Barnett (2011), the benefits a child receives from a high quality early childhood education include: higher academic performance, a higher graduation rate, higher earning potential post high school, a lower referral rate to special education, and a reduced chance of incarceration later in life. A great deal of research has been conducted on the benefits a child receives from participating in a high-quality early childhood education program (U.S. Department of Education, 2011; Yoshikawa et al., 2013; Ziegler & Muenchow, 1992). The majority of these studies have shown a positive correlation between attendance in a high-quality early childhood program and future academic success. The same studies have also found that students who participate in a high-quality Pre-K program are more likely to perform at a higher academic level on federal and state mandated assessments. It has also been discovered that a child who participates in an early childhood program is more likely to graduate high school, which has been shown to potentially have an overall positive impact on the student's life. Students who attend high-quality Pre-K are also less likely to be referred to Special Education and less likely to be incarcerated in state or federal prison. In the State of Texas, a child must meet one of four criteria to be eligible to receive Pre-K services. These eligibility criteria require the child to: fall under the state code for being considered economically disadvantaged, be a second language learner, be a participant in the foster care system, or be a dependent of a person actively serving in the military or a dependent of a man or woman killed in active military service. The at-risk students who meet one or more of the criteria to receive early childhood services are society's most precious commodity. They deserve the chance to receive every opportunity possible to be successful in life. This study added to the body of literature finding that students who attend a high quality early childhood education perform significantly higher than their peers who were eligible to receive these services but did not.

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About the Author

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THE EFFECTS OF PRE-KINDERGARTEN PARTICIPATION ON LATER ACADEMIC ACHIEVEMENT IN A NORTH TEXAS SCHOOL DISTRICT

Shea Stanfield-McGarrah, Ed.D.

Introduction

Pre-Kindergarten is highly debated among parents, educators, researchers, and politicians. There are many advocates of pre-Kindergarten as well as many opponents. Support of publicly funded pre-kindergarten has increased in recent years, capturing the attention of policy makers at the highest levels, including former President Obama, who held the White House Summit on Early Education in 2014 (Hudson, 2014). Pre-kindergarten was the focus of state-level leaders as well. In 2015, the Texas legislature passed HB4, which made improvements to the state-based and funded pre-kindergarten program (Martinez, 2015).

Despite growing support, less than 30% of our nation's four-year-olds are served in pre-kindergarten (U.S. Department of Education, 2015), even as the number of children younger than age five in the United States has risen (U.S. Census Bureau, 2014b). The increasing number of young children impacts Texas as well, with the percentage of children under age five living in Texas at 7.3% while the national percentage is 6.2% (U.S. Census Bureau, 2014b). The Kids Count Data Center (2014) reported that 24% of children under the age of five in the United States live in poverty, but a state-by-state report showed that 26% of children under the age of five in Texas live in poverty. The current study examined the impact of pre-Kindergarten within the framework of national, state, and local demographic shifts; English Language Learners (ELLs); high-quality preschool programs; impact of attendance; and the fade out effect on long-term achievement gains.

Review of the Literature

National, State and Local Demographic Shifts

Census data show 15.9% of the U.S. population lived in poverty in 2012, and that figure was 17.9% for Texas (U.S. Census Bureau, 2014a). Moorehead (2015) said the poverty rate in Texas has been higher than the rest of the country since 1959. The Dallas-Fort Worth area has experienced tremendous demographic shifts. Census data show 15.2% of the Tarrant County population lived in poverty (U.S. Census Bureau, 2014a). At least 156 languages are spoken at home in the Dallas metro area.

The increase in linguistic diversity among students enrolling in public schools means more pressure on educators to provide high-quality instruction to ELLs (NAEYC, 2009). Many of the children enrolled in preschool programs in 2016 are from low-income households, which poses another challenge for education systems (NAEYC, 2009). A report from the Southern Education Foundation (2015) shows Texas was one of 21 states where low-income students were the majority of enrollment, with 60% of students from low-income households.

This effort to increase pre-kindergarten enrollment is taking place as non-Hispanic white populations in Texas are aging, but other demographic groups are younger and increasing in numbers (Ennis, 2014). Taking these shifts into account and projecting into the future of Texas, demographers forecast growth of non-Hispanic whites of only 2% over the next generation while Hispanic growth will be 70% (Center for Public Education, 2012).

English Language Learners

Schools in the United States are enrolling more students whose first language is not English. The percentage of public school students in the United States who were ELLs was 9.2%, or an estimated 4.4 million students, in the school year 2012-13 school year. That figure had increased over the previous decade when

8.7%, or an estimated 4.1 million students, were enrolled in the 2002-03 school year (National Center for Educational Statistics, 2015). ELLs are the fastest growing segment of the public school population (National Education Association, 2008) and one of every nine public school students faces the challenge of learning English (Flores, Batalova, & Fix, 2012).

The challenges ELLs encounter become apparent in academic performance that is substantially below their non-ELL peers in almost every degree of achievement (National Education Association, 2008). This is why early childhood education is an integral part of preparing young ELLs for later achievement in school.

High-Quality Early Childhood Education

Research shows learning begins at birth (Sparks, 2015). Children begin learning immediately and they learn from every experience they have (Hart & Risley, 2003) and their experiences will change their knowledge or behavior and lead to learning (Parkay, Hass, & Anctil, 2010). Family environments are reliable predictors of cognitive abilities in young children (Permenter, 2013) and the experiences children have will vary greatly depending on the families they are born into and the educational, financial, and social circumstances of their families (Jensen, 2009). Mead (2012) states that research also shows gaps in learning begin early as well, especially between low-income and high-income groups. Many children enter school lacking important language, numeracy, and social-emotional skills, but researchers have found these gaps present themselves when children are as young as nine months old (Mead, 2012). Hart and Risley (2003) found that by age three there was a gap of 30 million words between children whose parents had an education and professional careers and children whose parents had less education and low incomes. Even if children do participate in some kind of early childhood education program, because no standards exist for factors such as program design, teacher education requirements, curriculum, and funding, some children will benefit from a preschool program while some will not because every program will be different and every experience will be different (Pianta, Barnett, Burchinal, & Thornburg, 2009).

What is key to any successful program is the teacher in the classroom. Teacher credentials, professional development, and teacher observations by supervisors play a part in making sure a quality teacher is in every classroom with young children (NAEYC, 2009). How teachers interact with their young students is essential to student success because "…the active ingredient in quality is what a teacher does, and how he or she does it, when interacting with a child" (Pianta et al., 2009, p. 71).

Another important factor that impacts the early childhood education experience is attendance. A growing body of research shows that many children in American schools are chronically absent, meaning they miss 10% or more of the school year. The research also shows how these missed days, occurring as early as preschool, translate into weaker reading skills and low reading proficiency (Attendance Works, 2014).

Program Fade Out

Most long-term pre-kindergarten research centers explore the possibility of the effects of the program fading out over time or producing lasting benefits for the children enrolled. Quality early childhood programs can produce long-term gains for children's learning and development (Barnett & Carolan, 2014). The HighScope Perry Preschool Project and the Abecedarian Project both showed the positive impact of quality pre-kindergarten on the future lives of the young children who participated (Center for Public Education, 2008). Research on pre-kindergarten shows that programs that produce lasting benefits are the result of hiring teachers who have expertise in early childhood education, having aligned learning goals tied to K–12 standards, providing low child/staff ratios, and providing small class sizes.

Results

Data analysis from the current study examined whether there was a statistically significant difference in student performance on reading state assessments between two groups of students: (1) Students in grades 3, 4, 5 in the Spring of 2015 who participated in state-funded pre-kindergarten; and, (2) Students in grades 3, 4, 5 in the Spring of 2015 who did not participate in the state-funded pre-kindergarten program, but were eligible to participate, and for one reason or another, did not. Additional data analysis was performed to determine if students who were either economically disadvantaged (ED) or English Language Learners (ELL) who did participate in pre-kindergarten achieved a mean scale score, as a group, that is statistically different, or at least closer to, the top performing students than those students who did not participate in pre-kindergarten.

An independent samples *t*-test was used to compare the means of the two groups identified for RQ1, to determine if there

Grade Levels	Variances	Sig. (2-Tailed) *p*-Value	Significant Difference
3	Unequal	0.001	Yes
4	Equal	0.055	No
5	Equal	0.010	Yes

Figure 1. Independent t-test Results

Reading Scale	Sum of Square	Df	Mean Square	F	Sig.
Between Groups	2323760.865	2	1161880.433	68.931	.000
Within Groups	27508431.451	1632	16855.657		
Total	29832192.316	1634			

Reading Scale	Sum of Square	Df	Mean Square	F	Sig.
Between Groups	2201324.400	2	1100662.200	69.404	.000
Within Groups	24184796.097	1525	15858.883		
Total	26386120.497	1527			

Reading Scale	Sum of Square	Df	Mean Square	F	Sig.
Between Groups	2804546.064	2	1402273.032	92.497	.000
Within Groups	24407815.423	1610	15160.134		
Total	27212361.487	1612			

Figure 2. ANOVA Test results for Grade 3, Grade 4, and Grade 5

was a significant difference between the two groups. Figure 1 shows the *t*-test results for all grade levels.

The first research question sought to determine if there is a difference in achievement in grades 3, 4, and 5 on the reading portion of the STAAR between groups of students. The first group of students were those who were ED or ELLs who participated in pre-kindergarten. The second group of students fit the same criteria, but did not participate in pre-kindergarten or attended less than 150 days. To compare the two groups, an independent *t*-test was performed for each grade level. The respective 2-tail significance value was used for each grade level, resulting in identification of significant differences between the two groups in Grades 3 and 5. While the difference was not significant for Grade 4, the result was borderline, being just above a *p*-value = .05 with a result of *p*-value=.055, or .06.

The second research question sought to determine if ED and ELL students who participated in pre-kindergarten have reading achievement levels closer to the achievement levels of the top performing group on STAAR reading than ED and ELL students who did not participate in pre-kindergarten. An ANOVA test was used to compare the three groups.

For Grade 4, the top performing group performed significantly different than either the pre-kindergarten and non-pre-kindergarten student populations. However, the true value of the mean of the students who attended pre-kindergarten is closer to the top performing group than the true mean of the students who did not attend pre-kindergarten.

Additionally, for Grades 3 and 5, students who participated in pre-kindergarten performed significantly different than students who did not participate in pre-kindergarten and significantly different than the top performing student group. The mean performance of the pre-kindergarten students was closer to the mean performance of the top performing group than were the students who did not attend pre-kindergarten.

Implications

The body of research on the benefits of pre-kindergarten supports the results of the current study. A quality program is particularly beneficial for low-income students. Children from low-income families who enroll in an early childhood program are less likely to be retained in later grades than their peers who do not enroll in early childhood programs (Gilliam & Zigler, 2001; Hanover

Research, 2015; U.S. Department of Education, 2015). Children whose first language is not English also benefit from a high-quality preschool program. Early childhood education is key to preparing young ELLs for later achievement in school (Ford, 2015). ELLs who enroll in a high-quality preschool program will learn to speak, listen, read, and write (¡Colorin Colorado!, 2010).

The results of the current study also demonstrate the effectiveness of a high- quality pre-kindergarten program and the positive academic impact in later years. The second research question determined that ED and ELL students who participated in pre-kindergarten have reading achievement levels closer to the achievement levels of the top performing group on STAAR Reading than ED and ELL students who did not participate in pre-kindergarten.

Few studies track pre-kindergarten participants long enough to know whether the benefits to school readiness will remain beyond kindergarten (Permenter, 2013). The findings of the current study show that children who participated in a high-quality pre-kindergarten program continued to build upon a solid foundation of early learning and could attain positive academic results through grade five.

Does high-quality pre-kindergarten assist in closing the achievement gap among low-income students and ELLs? In this study, in this district, the answer is a resounding Yes.

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FIDELITY OF IMPLEMENTATION OF AN INSTRUCTIONAL COACHING PROGRAM: AN INTERVIEW STUDY

Pamela Bell Reece, Ed.D.

Introduction

For years, principals and teachers have been asked to implement new research-based programs without being provided effective implementation structures or strategies. Research is consistent in finding that fidelity of implementation is vital to successful school improvement (Fixsen, Naoom, Blasé, Friedman, & Wallace, 2005; Reeves, 2010). Due to differing degrees and processes of implementation in districts and on campuses, if research-based intervention programs or practices are not executed with fidelity, the research basis of the design is nullified (Anagostopoulos & Rutledge, 2007). Only when there is a fidelity of implementation can positive outcomes be expected and shown to impact teaching and learning (Casserly et al, 2011). When an intervention is proven effective in one setting, the same intervention may be ineffective in another setting if the implementation does not follow the original intent and design (Protheroe, 2008; Dean & Parsley, 2010).

According to Eisenhart (2001), implementation of a program from the district level to the campus level involves multiple interpretations as the program is made to fit into the dynamics of each campus and its beliefs and values. Without clear expectations and structures for implementing any type of program or practice from the district level, opposing translations of program expectations make consistent implementation difficult (Anagostopoulos & Rutledge, 2007; Dean & Parsley, 2010).

With the high stakes of accountability and the need to improve teaching and learning, many districts are hiring instructional coaches on campuses to provide job-embedded professional development in the classroom (Neufeld & Roper, 2003). While the research-based practice to improve teaching and learning includes instructional coaching, the fidelity of implementation is often overlooked (Protheroe, 2008).

Summary of Study

The problem addressed in the study was the fidelity of implementation of an instructional coaching program. The study examined the perceptions of six principals and seven instructional coaches after the first year of implementation of an instructional coaching program in a suburban North Texas school district. Qualitative research was chosen for the study as it relates to the lived experiences of principals and instructional coaches during the implementation of a coaching program (Creswell, 2015). Qualitative methods are used when a phenomenon utilizing participant perspectives is being explored. The chosen method supported the assumption that variables would emerge as the different data sources were collected and analyzed (Creswell, 2015).

Qualitative research allowed the researcher to capture and understand perceptions from the lived experiences of study participants, case by case. Therefore, the study used a phenomenological approach to capture the perceptions of the principals' and instructional coaches' experiences (Creswell, 2015; McMillan, 2012). The phenomenological design highlighted specific phenomena through the lens of individual perceptions of a situation. The utilization of this approach allowed the principals and instructional coaches to relate their understanding of their roles on their respective campuses during the implementation of the coaching program in the district.

Triangulation, in the form of interviews, job description, member checks, and an expert reviewer, was used in this qualitative research study to support the guiding questions which added

to the credibility and trustworthiness of the study (Merriam & Tisdell, 2015). The study utilized interview questions designed by the researcher with fidelity of implementation in mind. Creswell (2015) noted, in qualitative research, researchers develop their own open-ended interview questions and do not rely on someone else's instrument. QSR NVivo 11 software was used to code and analyze the data.

Findings and Interpretation of Results

Three themes emerged from the analysis of the QSR NVivo 11 software: support, trust, and confusion. The guiding questions that defined the study were:

1. What are the perceptions of instructional coaches after the first year of implementation of the instructional coaching program?
2. What are the perceptions of principals after the first year of implementation of the instructional coaching program?

Instructional coaches shared their perceptions about the implementation of the instructional coaching program with the following findings:

- The decision on whether to hire an instructional coach from within the campus should be left to the principal.
- Instructional coaches shared the need to be trained in instructional coaching by an expert before the beginning of the school year.
- Instructional coaches feel that principals should attend coaching training with them.
- Instructional coaches need time to build relationships with teachers and it begins with clear communication from the principal as to their role and responsibilities.
- Instructional coaches need and want to spend the majority of their time working with teachers to improve teaching and increase student learning instead of being pulled away from their campus by the district for meetings and trainings not related to their instructional coaching work
- Instructional coaches need additional training in research-based interventions and how to model them for teachers.
- Instructional coaches want principals to ensure teachers know instructional coaches are not evaluators.
- Principals and instructional coaches need to have a relationship of mutual respect and trust.
- Principals and instructional coaches need to have planned weekly meeting times.
- Instructional coaches need to know how they will be evaluated.
- Instructional coaches should be supported by their principal, the other instructional coaches, and the district.
- Instructional coaches need to begin building trust with teachers from day one.

Principals shared their perceptions about the implementation of the instructional coaching program with the following findings:

- Principals look for the following characteristics when hiring an instructional coach: knowledge of curriculum and instruction, effective communication skills, empathy, people skills, and the ability to build relationships.
- Instructional coaches need to be on their campuses instead of being pulled off by the district for meetings and other trainings not related to their instructional coaching work.
- Principals and instructional coaches need to have planned weekly meeting times.
- Instructional coaches need to be trained in instructional coaching by an expert before the beginning of the school year.
- The decision on whether to hire an instructional coach from within the campus should be left to the principal.
- Instructional coaches need additional training in research-based interventions and how to model them for teachers.
- The position of instructional coach is not evaluative.
- Principals and instructional coaches need to have a relationship of mutual respect and trust.

- The instructional coaching program needs more support from the district.
- Clear communication needs to come from the district about the role and expectations they have for the instructional coaches.

Implications

The results of the study can provide districts, principals, and instructional coaches with ways to enhance the implementation of an instructional coaching program. The effectiveness of an instructional coaching program relies on the thoroughness of the initial planning for implementation. The more research that is done prior to implementation, the better the chances of fidelity of implementation and the growth in teaching and learning on campuses utilizing instructional coaches. The current study provides insight into how districts can support instructional coaches to improve teaching and learning as well as how districts can more effectively implement an instructional coaching program with fidelity.

Fidelity of Implementation

Initial preparation of new program implementation cannot be overlooked. Many effective programs have failed because of underestimation of how important preparation was to eventual success of the program (Leonard-Barton & Kraus, 1985). The time spent in prior planning for the implementation of a program was in direct correlation to higher success rates. Findings of the current study agreed there was no prior implementation planning, which would have included training of the instructional coaches, determining the coaching model they would follow, or explaining to the coach, the principal, or the teachers the role and responsibilities of the instructional coach. The author suggests researching other districts which have implemented an instructional coaching program with success to find out what has worked for them and what has not.

The fidelity of implementation of the instructional coaching program for the district, however, was at odds with Wallace, Blasé, Fixsen, and Naoom (2008) in that the core components of the program were not clearly defined to all stakeholders. This led to confusion at the district and campus levels which impacted the fidelity of the instructional coaching program from the district level to each of the individual campuses.

Fidelity of implementation is affected when there is no clear evaluation in place for the instructional coaches. Evaluating the success of the implementation of the instructional coaching program relies on evaluating the effectiveness of the campus instructional coaches. Without a clear evaluation tool, there is no way to assess the effectiveness of the instructional coach and the instructional coaching program.

Theme of Support

The most common theme to emerge from the data analysis was support, which was stated 74 times by principals and instructional coaches throughout the interview study. This included both ends of the spectrum: instructional coaches felt supported by their principals and the other instructional coaches but did not feel supported by the district. In agreement to this, most principals also saw the lack of support from the district for the instructional coaching position.

Joyce and Showers (2002) found that support by administration is vital to successful implementation of an instructional coaching program. Baker (2010) believed that district leaders need to work collaboratively with principals to provide guidance in designing and implementing the instructional coaching program as well as providing resources and support to instructional coaches and principals.

Wren and Vallejo (2009) argued that if given adequate support from the principal and district administration, the instructional coach can make a substantial impact on teaching and learning on the campus. Instructional coaching should be supported from the district level down to the principal. Support starts at the top levels of the district who then encourage support from principals.

Theme of Trust

The current study found 22 references to trust in the interview data. The instructional coaches shared that building a trusting relationship with teachers is important. Instructional coaches noted that teachers will not ask for help if they do not trust the person or the position. Principals also shared that the instructional coach had to build a relationship of trust with the teachers. This finding was in agreement with Knight (2009), who asserted that for the relationship between teacher and instructional coach to be effective, open, and honest, there has to be trust. Biancarosa, Bryk, & Dexter (2010) also believed that coaching is about relationships and teachers must feel comfortable with instructional coaches

to be able to openly and honestly share their needs. Trust is a top priority in making sure the relationship between teacher and instructional coach is one of mutual respect.

Research revealed one of the barriers to success of the instructional coach and the coaching program was the quality of the instructional coach/teacher relationship (Biancarosa et al, 2010). Therefore, successful instructional coaching cannot happen without trust. In addition, principals discussed the need to have a trusting relationship with their instructional coach as being of utmost importance. One principal shared that in order for the principal-instructional coach relationship to work, it "has to be one of the most trusting positions."

Theme of Confusion

The instructional coaches shared there was a lack of clear communication to teachers about the role and responsibilities of the instructional coach from the beginning of implementation. Additionally, the coaches stated that in many instances, the roles and responsibilities continue to be confusing to the teachers. Furthermore, the majority of principals noted that there was not clear communication from the district about the instructional coaching role in the beginning, so they were unclear as to how to present the position to their teachers. The lack of clear communication led to confusion for principals, instructional coaches, and teachers as to the role and job description of the position. One suggestion from the interviews was that any communication needs to be in written form with a framework or infographic as a reference for all stakeholders: district administration, principals, instructional coaches, and teachers. The provision of a written reference page would aid in the clarification of the role and responsibilities of the position.

Recommendations for Districts

Throughout the interviews, principals and instructional coaches noted the need for prior planning to have occurred before implementation. The current study recommends that before beginning the instructional coach hiring process, the following should already be in place:

- All resources needed for successful implementation should be allocated and readily available throughout the process.
- The district should define "instructional coach."
- A concise job description of the roles and responsibilities of an instructional coach should be developed.
- The decision on what coaching model the district will follow needs to be determined and a coaching manual or handbook should detail the model.
- A written framework or infographic of the roles and responsibilities of the instructional coach should be developed to be shared with principals, coaches, and teachers.
- Interview protocol and interview questions about coaching and characteristics of an effective coach should be developed.
- Determination of the instructional coaches' supervisor/evaluator (campus or district) should be made.
- Instructional coaching trainings by an expert should be scheduled for the new coaches and their principals to happen before school begins.
- An evaluation instrument for the implementation of the program should be developed.
- A plan of support from administration should be developed to be shared with all stakeholders.
- And finally, district leaders and instructional coaches need to be able to talk openly and honestly about what is working and what is not. Utilizing the experiences and perceptions of the principals and instructional coaches in the trenches of the implementation, districts will have a better understanding of where a program needs to improve.

Recommendations for Principals

Throughout the study, instructional coaches shared that they felt support from their principals, which enabled them to endure through the confusion of the other aspects of their position. In addition to ensuring the instructional coach feels supported on campus, recommendations for principals are:

- Be advocates for their instructional coaches in receiving professional learning to build their capacity as coaches.

- Provide sufficient time for instructional coaches to work with teachers to improve teaching and learning on the campus.
- Be clear in communicating the roles and responsibilities of the instructional coach.
- Protect the coach/teacher relationship by introducing the instructional coach as not in an evaluative role, but rather as a support and reflective assistant for the teachers to utilize at their discretion.
- Attend coaching training along with your instructional coach.
- Utilize the instructional coach as source for your own professional learning as well as the teachers.
- Have a weekly planned meeting time with your instructional coach.

Recommendations for Instructional Coaches

The instructional coaches in the study have found support in each other and their principals. The researcher recommends the following for instructional coaches:

- Instructional coaches should be a support for each other by doing book studies together to build their coaching capacity.
- Instructional coaches should meet monthly to learn and grow from the expertise of each other.
- Instructional coaches should seek out training to enhance their coaching abilities.
- Instructional coaches need to advocate for themselves, the teachers, and the students on their campuses.

Conclusion

Instructional coaching is an effective form of job-embedded professional development which improves teaching and learning when implemented with fidelity. As the study found, prior planning and communication of the roles and responsibilities of the instructional coach should occur at the district level to increase the possibility of successfully implementing an instructional coaching program. Professional development for newly hired instructional coaches from coaching experts has to occur before effective coaching can begin in schools. Additionally, instructional coaches must have support and trust from the administration in order to impact teaching and learning in the classroom. District support of program implementation is critical to impact teaching and learning on campuses.

With the high stakes of accountability and the need to improve teaching and learning, there has to be prior planning when implementing any district program or initiative. If not, the results will be financial losses and the missed opportunity to improve teaching practices. The most important loss, however, will be for the students and their learning. This is the loss we cannot afford.

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FIRST YEAR TEACHER PERCEPTIONS OF INSTRUCTIONAL COACHING AS A PROFESSIONAL DEVELOPMENT MODEL

June Ritchlin, Ed.D.

Introduction

While professional development for educators is valued, it has become more challenging to provide due to increased state and federal expectations and limited resources (Foster, Reed, & McGinnis, 2009). Job-embedded professional development is becoming a popular form of professional development because it is more cost effective and flexible than a workshop model, and is easily differentiated to meet the needs of teachers (Knight, 2007; Yendol-Hoppey & Dana, 2010). One such form of job-embedded professional development is instructional coaching, which pairs a teacher and an instructional coach together for an extended duration to provide individualized professional development (Knight, 2007).

Background of the Study

In 1987, Showers and Joyce described coaching as a partnership between teachers and coaches that supports the transfer of knowledge gained from professional development to the classroom. According to Cochran-Smith and Lytle (1999), teachers often receive professional development on research-based practices but without time for reflection and follow through, never adequately apply their learning to the classroom. Showers, Joyce, and Bennett (1987), found that when teachers are provided time to practice, reflect, receive feedback, and observe research based practices, they develop a greater level of understanding and are more equipped to apply their new learning to their instruction.

Statement of the Problem

In 2009, the National Staff Development Council published a report on professional development and recognized instructional coaching as a promising tool to enhance professional development and build teacher capacity, but reiterated that additional research was needed to confirm its effectiveness (Wei, Darling-Hammond, Andree, Richardson, & Orphanos, 2009). When considering the potential of instructional coaching to positively impact instructional practices, the lack of understanding of teachers' perceptions of their experiences with instructional coaching as a professional development model should be addressed.

Purpose of the Study

The purpose of the current qualitative study was to explore new teachers' perceptions of instructional coaching as a professional development model, their perceptions regarding the impact of instructional coaching on their instructional practices, and their perceptions of instructional coaching on their implementation of district expectations.

Review of Literature

In response to increased expectations on high-stakes assessments and decreased funding for education, school districts have begun to explore job-embedded professional development models to build capacity in teachers and increase student achievement (Knight, 2007; Odden, 2011).

Job-embedded Professional Development

Job-embedded professional development occurs daily, within the school day and is focused on the specific needs of educators at their work site (Croft, Coggshall, Dolon, & Powers, 2010; Tienken & Stonaker, 2007). A significant difference between traditional professional development and job-embedded profes-

sional development is the commitment to creating time within the school day for professional development to occur (Sackey, 2012). To create time for job-embedded professional development, there is often a need for restructuring the schedule to include periodic early release days, late start days, longer days, more professional development days, or extra planning periods (Sackey, 2012). When using a job-embedded professional development model, the learning often includes professional learning communities, classroom modeling, observation by or of a peer or mentor, peer coaching, instructional coaching, reflective discussions and planning, data analysis and co-teaching (Hill & Rapp, 2012; Renfro & Grieshaber, 2012; Yendol-Hoppey & Dana, 2010).

Instructional Coaching

According to Knight (2009), instructional coaching is a job embedded professional development model by which teachers and coaches partner together to implement research based instruction in the classroom for the increased learning and achievement of students. Instructional coaches provide a variety of supports to teachers including but not limited to observation, feedback, modeling, facilitating reflective conversations, collaborating on instructional techniques, planning, identifying resources and materials, analyzing data, setting goals, and problem solving (Denton & Hasbrouck, 2009; Knight, 2009).

Unlike traditional one-size fits all professional development, instructional coaching is job embedded and specific to the unique needs of the teacher (Knight, 2009; McAdmis, 2010). The instructional coach and teacher, meet frequently over a long duration of time to discuss the teacher's specific goals, problems, solutions, reflections, ideas, and plans for implementation (Knight, 2011; Renfro & Grieshaber, 2012).

Effectiveness of Instructional Coaching

Anderson, Feldman, and Minstrell (2014), sought to investigate why some instructional coaching experiences are more effective than other instructional coaching experiences. Ultimately, they identified relationship and trust as critical factors in an effective instructional coaching experience.

Like Anderson et al. (2014), Jim Knight (2009) indicated that the ability to speak honestly about personal areas of weakness and strength relies heavily upon the existence of a relationship that is founded on trust. By preserving the confidentiality of the conversations that occur between a coach and a teacher, the instructional coach demonstrates integrity and gains the trust of the teacher (Knight, 2009). A significant element of instructional coaching is reflective dialogue. By establishing an environment in which a teacher is comfortable reflecting and admitting weakness, the instructional coach can facilitate increased levels of development (Knight, 2011).

The Study

The participants in the current qualitative study included nine elementary and three middle school teachers from one purposive sampling who completed their first year of teaching with a full year instructional coaching partnership in 2015-2016. Data was collected from the participants through a semi-structured interview protocol designed to investigate the following research questions:

Research Question 1 (RQ1) According to the new teachers, how has instructional coaching impacted their professional development?
Research Question 2 (RQ2) In what ways has instructional coaching impacted the instructional practices of new teachers?
Research Question 3 (RQ3) From the perspective of the new teachers, how has instructional coaching impacted their implementation of district expectations?

The participant interviews were transcribed and analyzed for emerging patterns and themes. All interview data was entered into NVivo 11 Pro and coded into nodes or themes to reveal patterns or connections in the research data. To triangulate the data, the researcher utilized member checking, where participants reviewed the account of their interview to ensure it was accurate. In addition, the researcher conducted an examination of the school district's written coaching model to gain a thorough understanding of the expectations of the instructional coaching model for a first year teacher as well as utilized an expert panel to review the identified themes in the data.

Identified Themes

Initially, the researcher coded data into five major categories: Professional Development, Classroom Instruction, District Expectations, Overall Experience, and Future Implications. After further analysis of the data, additional themes emerged including: Personalized, Experience, Conversations, Relationship, and

Support. Even further analysis revealed sub-themes for Personalized—Relationship and Experience which are discussed in the following sections.

Overall Experience with Instructional Coaching

All participants reported an overall positive experience with instructional coaching and indicated they valued the relationship between themselves and their instructional coach and felt instructional coaching contributed to their professional development. All twelve participants indicated their instructional coaches provided assistance with instructional strategies, offered advice, and provided feedback.

Classroom Instruction

All twelve of the participants reported an impact to their classroom instruction as a result of instructional coaching. The specific impact varied from participant to participant and included areas such as: classroom management, lesson planning, instructional strategies, small group instruction, technology integration, formative assessment, instructional strategies, reading and math workshop, inquiry and exploration, and balanced instruction.

While no two participants reported all of the exact same areas of impact for classroom instruction, there were some trends. Nine of the twelve participants reported an impact on lesson planning, eight out of twelve participants reported an impact on classroom management, and six of the twelve participants reported an impact on instructional strategies.

District Expectations

Eleven of the twelve participants reported instructional coaching impacted their ability to implement district expectations. While the majority indicated that instructional coaching impacted their ability to implement district expectations, the specific impact varied among the participants to include: student collaboration, lesson design, technology integration, inquiry and exploration, workshops, student centered learning, and common instructional expectations. In addition to the specific areas reported above, several participants reported that instructional coaching impacted their ability to implement district expectations as a result of accountability that developed during interactions with their instructional coach. The participants shared that the instructional coaches maintained district expectations as a focus in their weekly meetings.

Professional Development

All twelve participants indicated they viewed instructional coaching as professional development and that it was aligned to their specific needs. While all twelve participants indicated they believed instructional coaching to be a form of professional development, two participants stated that they had not previously thought of instructional coaching as professional development until asked by the researcher.

Emerging Themes

As previously stated, the researcher created nodes in NVivo 11 Pro for five major categories, Professional Development, Classroom Instruction, District Expectations, Overall Experience, and Future Implications. Throughout the process of coding the participants' data into the major categories, themes related to instructional coaching began to emerge including: Personalized, Conversations, Experience, Relationship, and Support.

Personalized

When analyzing the participants' responses to the question about their perceptions of instructional coaching as a form of professional development, the theme, *Personalized*, emerged. All twelve participants indicated that instructional coaching is individualized or personalized. Upon additional analysis of the data, sub themes emerged under Personalized to include: Observation and Feedback, Teacher Voice, and Reflective.

The participants consistently referenced observations and feedback when describing the professional development, they experienced with their instructional coach. When describing their professional development experiences with instructional coaching, the participants often used words indicating the instructional coach listened to them and their teacher voice directed the focus of the learning. When describing their professional development experiences with their instructional coach, the participants often used the words "reflect" or "reflection" to describe their interactions with their instructional coach after an experience in their classroom. They indicated that their instructional coach facilitated reflective conversations in which the participants reflected on their instructional practices and then set goals for future instruction.

Conversation

When analyzing the participants' responses to the interview ques-

tions, the theme *Conversation* emerged. All twelve participants indicated that conversations consistently took place as part of the instructional coaching experience. Eight out of twelve participants referenced very specific conversations with their coach in which topics and strategies aligned to the teachers' specific needs were discussed. In addition, the participants indicated they engaged in conversations with their coach regarding instructional strategies and methods applicable to their instruction.

Experience

The theme *Experience* was another theme that emerged. All twelve participants either directly or indirectly stated that the experiences of their instructional coach had an impact on their instructional coaching experience. Specifically, the experiences that were noted by the participants as helpful included common experiences in grade levels, common content areas and instructional practices, as well as familiarity with logistical expectations, district expectations, parent conferencing, and completing report cards.

Noteworthy is one example that indicated an opposite impact on the coaching experience. One participant indicated that the coach did not have experience in the teacher's content area which made it more challenging for the instructional coach to offer assistance in some cases.

The sub-theme Resourceful emerged from the theme *Experience*. All twelve participants provided descriptions or statements that suggests their instructional coach was resourceful. Specifically, the participants indicated the instructional coaches were resourceful because they knew the answers to questions, knew where to find answers to questions, provided ideas, created resources, or shared resources.

Relationship

When asking what the participants enjoyed most about instructional coaching, the theme *Relationship* emerged. All twelve participants indicated they enjoyed the relationship built between themselves and their instructional coach. The participants described their relationship with their coach as personal, friendly, encouraging, supportive, and trusting. In addition, the participants indicated they could count on their coach, could ask their coach anything, and could rely on their coach to listen.

Four sub-themes were created within the theme including: Availability, Encouragement, Personal, and Trust.

Eight out of the twelve participants indicated that the *Availability* of the instructional coach was a valued part of their relationship. The eight participants shared their instructional coach was readily available to answer questions. Eight out of the twelve participants indicated that a valued component of their relationship with their instructional coach was the *Encouragement* they received from their instructional coach.

When describing their relationship with their instructional coach, six out of twelve participants indicated that the relationship was *Personal.* The participants shared that they knew they could talk with their coach about anything including personal matters, complaints, or failures.

Trust emerged as a fourth sub-theme for Relationship. Ten out of twelve participants indicated that trust existed between themselves and their instructional coach. The participants shared they felt safe and that they could be open and honest with their instructional coach without fear of judgement. In addition, the participants indicated they felt their instructional coach understood them and wanted to help them.

Support

When analyzing the interview data from the participants, the theme *Support* emerged. Ten out of twelve participants indicated that support was readily available from their coach. Specifically, they shared the support they received was consistent and aligned to their professional needs and was often provided through feedback and modeling.

Noteworthy is one participant's response which indicated the support received was not consistent through the end of the school year; more support was given at the beginning of the year and less at the end of the year. Also noteworthy is a participant's response which indicated that support from the instructional coach could have been better if the instructional coach had been familiar with the focus area of the teacher.

Future Implications

The final interview question asked participants to describe how their next school year will be different as a result of their participation with instructional coaching. Overall, the participants reported positive expectations for the following school year. The participants' responses varied from a general increase in confidence to very specific expectations for increased confidence in the areas of: classroom management, reader's workshop, writer's

workshop, lesson planning, instructional strategies, data analysis, parent conferences, district expectations, small group instruction, student-centered learning, and technology integration.

Recommendations

When asked "What recommendations do you have for improving the district's coaching model?" The participants responded with a variety of recommendations including the wish that their coach had more knowledge about their individual campus or program, that meetings be more structured with a district timeline, and that coaches and teachers have the opportunity to meet sooner, possibly in the summer.

Summary of Findings

The purpose of the current qualitative research study was to explore new teachers' perceptions of instructional coaching as professional development, their perceptions of the impact of instructional coaching on their instructional practices, and their perceptions of the impact of instructional coaching on their ability to implement district expectations.

Research Question 1

According to the new teachers, how has instructional coaching impacted their professional development? All twelve participants indicated they were engaged in personalized professional development through instructional coaching because it was aligned to their specific needs. The participants worked on various focus areas, supporting the idea that instructional coaching is personalized to individual needs unlike more traditional professional development in which all participants are engaged in the same training.

Research Question 2

In what ways has instructional coaching impacted the instructional practices of the new teacher? All twelve of the participants indicated that instructional coaching impacted their instructional practices. In particular, the participants identified areas such as classroom management, lesson planning, instructional strategies, small group instruction, workshops, inquiry and exploration, assessment, balanced instruction, and technology integration. Classroom management and instructional strategies were the most reported instructional practices that were impacted.

Research Question 3

From the perspective of the new teachers, how has instructional coaching impacted their implementation of district expectations? Eleven of the twelve participants reported that instructional coaching impacted their ability to implement district expectations. In particular, participants shared that instructional coaching impacted their ability to support student collaboration, improve lesson designs, integrate technology, implement inquiry and exploration, implement workshops, utilize student-centered learning, and implement common instructional expectations. Several participants indicated that it was easy to forget about district expectations once immersed in the classroom but the weekly visits with their instructional coach helped to keep the district expectations at the forefront of their mind.

Implications

Overall, the research findings support instructional coaching as an effective form of professional development. All of the participants indicated they believed instructional coaching to be professional development that was personalized to their specific needs. In addition, all participants indicated that instructional coaching had a positive impact on their classroom instruction.

Lastly, eleven of twelve participants indicated instructional coaching impacted their ability to implement school district expectations.

The participants indicated that their instructional coach did not push district expectations on them, but rather effectively kept district expectations at the forefront of their mind during ongoing collaborative and reflective conversations.

While all of the participants indicated that there was a positive impact on their classroom, a couple of the participants reported they might have benefited more if their instructional coach had experience with their particular instructional program. In addition, there were recommendations that instructional coaches become familiar with the particular expectations at individual campuses in order to better support teachers.

A significant finding is the extent to which relationships contribute to the success of instructional coaching. All of the participants offered positive remarks about the relationship they had with their instructional coach, sharing they enjoyed the relationship between themselves and their instructional coach and benefited from the learning that took place as a result of instructional coaching. They indicated that they trusted their instructional coach and valued the relationship.

Conclusions

The purpose of the current study was to explore new teachers' perceptions of instructional coaching as a form of professional development and their perceptions of the impact of instructional coaching on their classroom instruction and ability to implement district expectations. While the participants indicated instructional coaching impacted their classroom instruction and their ability to implement district expectations, an unforeseen benefit to instructional coaching is the level of accountability for implementing district expectations felt by the teachers engaged in instructional coaching.

In addition, the model is highly effective at providing personalized professional development aligned specifically to the individual needs of the teachers. The participants described the professional development they received as personalized and more valuable than traditional workshop style professional development because of the personal relevancy built into instructional coaching.

The relationships developed between the instructional coaches and teachers emerged as a crucial component of instructional coaching. All of the participants referenced the relationship with their instructional coach as what was enjoyed most about instructional coaching.

While there are some recommendations to increase the effectiveness of the instructional coaching model at the research site, the current study revealed the instructional coaching model as effective professional development that has a positive impact on first year teachers' instructional practices and on their ability to implement district expectations.

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DOROTHY M. BUSH COLLEGE OF
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THE EFFECTS OF ACADEMIC GROUPING ON STUDENT PERFORMANCE IN SCIENCE

Sally Smykla Scoggins, Ed.D.

Introduction and Background

Since the establishment of schools in the United States, grouping students by intelligence, gender, socioeconomic status, or race has been common practice (Reese, 1995). In the 1700s and 1800s, the wealthy built and financed schools so that young men from affluent families could be educated to compete in the world economy. There has been a political struggle between the upper and middle classes and the less affluent ever since (Reese, 1995). In the twenty-first century, when all Americans have access to free public education, grouping students by academic ability is a common practice assumed by some to provide the right curricula for students and maximize student learning and development (Agne, 1999; Ansalone, 2010; Schullery & Schullery, 2006; Vanderhart, 2006). Opponents to grouping argue that ability grouping contributes to sustained social inequality, is divisive along racial and socioeconomic lines, and causes greater disparity in achievement between the high and low tracked students (Ansalone, 2010; Loveless, 1999; Manning & Kovach, 2003; Mickelson, 2015; Oakes, 2005).

Districts and schools continue to offer advanced classes, on-level, and lower level classes with the understanding that students will be better served when learning with students of similar perceived academic ability (Wheeler & Harmon, 2012; Wheelock, 1994). Opponents contend that by placing students in lower tracks, the students receive a less challenging curriculum and the least experienced or lowest performing teachers (Ansalone, 2010; Darling-Hammond, 2006; Kalogrides & Loeb, 2013; Manning & Kovach, 2003; Mills, 1998; Oakes, 2005; Worthy, 2010). The perception of tracking is that grouping students by race and socioeconomic status gives the students who are White an advantage over students who are Non-White and the students from affluent families an advantage over students from low socioeconomic families when driven by race and socioeconomic status (Manning & Kovach, 2003; Mickelson, 2015; Oakes, 2005).

Research Design

The purpose of the current study was to examine how ability grouping affected the scores of students on the eighth-grade Science State of Texas Assessment of Academic Readiness (STAAR) in general, by socioeconomic status (SES), and by race. The comparison groups were enrolled in pre-advanced placement (Pre-AP) science classes or regular homogeneous eighth-grade science classes. Each Pre-AP eighth-grade group completed either a heterogeneous seventh-grade science class, a regular seventh-grade science class, or a Pre-AP seventh-grade science class. The seventh-grade heterogeneous science classes contained students of all ability levels. The regular classes contained all students except those students in Pre-AP classes—creating regular homogeneous classes and homogeneous Pre-AP classes. Figure 1 is a visual representation of the course sequence options.

The current study was a quantitative, non-experimental, causal-comparative study. The independent variables were the groups of eighth-grade science students based on the grouping configuration of their seventh-grade science classes, SES, and race. The dependent variable was the students' scale scores on the eighth-grade science STAAR.

The researcher collected ex post facto eighth-grade science STAAR data from academic school years 2011-2012, 2012-2013, 2013-2014, and 2014-2015 and compared the mean scale scores of the groups of students to determine if the difference in student

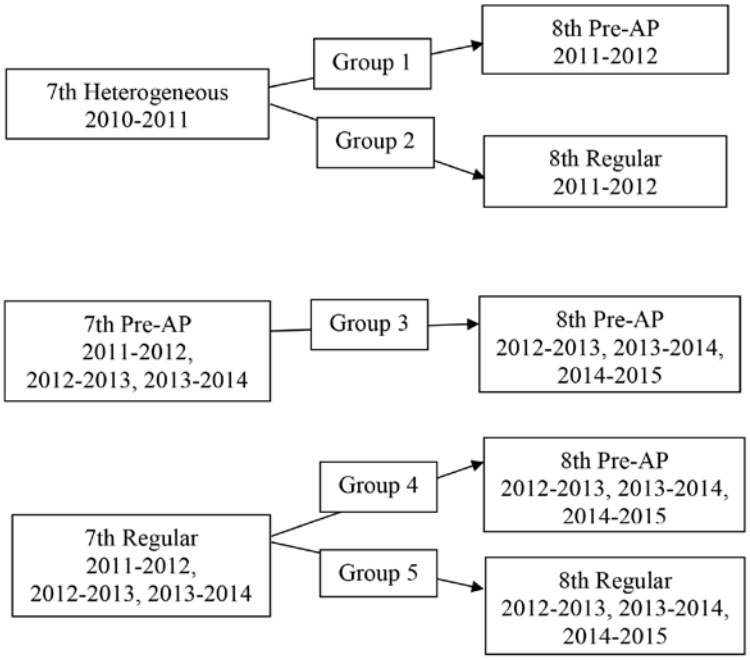

Figure 1. Visual representation of five course-sequence options in the research district.

performance was statistically significant based on the grouping of students in the seventh-grade science classes. The following four research questions and six hypotheses guided the current study.

Research Question 1 (RQ1) How do the science State of Texas Assessment of Academic Readiness mean scale scores for students in eighth-grade Pre-Advanced Placement science differ on three types of grouping in seventh-grade science and are scores different based on socioeconomic status?

Research Question 2 (RQ2) Are there significant mean differences on the eighth-grade science State of Texas Assessment of Academic Readiness between regular tracked science students who in seventh grade were in heterogeneous science classes or were in regular science classes?

Research Question 3 (RQ3) Are there significant mean differences on the eighth-grade science State of Texas Assessment of Academic Readiness between students enrolled in eighth-grade Pre-AP science who are Black, Hispanic, or White?

Research Question 4 (RQ4) How do eighth-grade Pre-Advanced Placement students who were in seventh grade Pre-Advanced Placement science and eighth-grade Pre-Advanced Placement students who were in heterogeneous seventh-grade science compare on Level II and Level III scale scores as measured on the eighth-grade science State of Texas Assessment of Academic Readiness?

Reults and Findings

The total number of students represented was 5,130 with 1,374 students in the heterogeneous seventh-grade classes and 3,756 students in homogeneous seventh-grade classes—either regular or Pre-AP. The frequencies and percentages indicate that students with high SES (69.7%) are more likely to be in Pre-AP classes than low SES (30.3%) and students who are White, though not even half of the total population at 46.2%, comprise more than half of the total percent of students in Pre-AP at 55.5%. Students who are Black make up 9.2% of the Pre-AP population and 15.2% of the total population. The students who are Hispanic make up 20% of the Pre-AP population and 27.4% of the total population.

The following summary includes the results through the examination of the six hypotheses. Table 1 shows the means and standard deviations of standardized scale scores used in each statistical analysis.

(See Table 1 on page 47)

Research Question 1 (RQ1)

Hypothesis 1. The results of the two-way between ANOVA and the main effects for grouping was statistically significant $F(2, 1988) = 22.751$, $p = .001$, partial $\eta^2 = .022$ so the researcher rejected the null hypothesis. Post-hoc comparisons using the Tukey HSD test indicated the mean score for the eighth-grade Pre-AP students who were in regular grouped seventh-grade classes ($M = .2786$, $SD = .77264$) was statistically lower ($p = .001$) than the eighth-grade Pre-AP students who were in heterogeneous seventh-grade classes ($M = .7871$, $SD = .88613$) and the eighth-grade Pre-AP students who were in seventh-grade Pre-AP classes ($M = .7452$, $SD = .90105$).

Hypothesis 2. Results from the two-way between ANOVA and the main effects test failed to reject the null and found there was no significant difference in STAAR scores for Pre-AP students of low and high SES $F(1, 1988) = 2.257$, $p = .133$, partial $\eta^2 = .001$.

Hypothesis 3. Results from the two-way between subjects ANOVA failed to reject the null as they revealed that there was no statistically significant interaction between SES and the seventh-grade science classes for STAAR scores $F(2, 1988) = 1.197$, $p = .302$, partial $\eta^2 = .001$.

Research Question 2 (RQ 2)

Hypothesis 4. The researcher rejected the null hypothesis as the results from the independent-samples *t*-test $t(1641.418) = 3.122$, $p = .002$, $d = 0.12$ showed that mean STAAR scores between regular eighth-grade students who were in heterogeneous seventh-grade class ($M = -.3795$, $SD = .81318$) were statistically significantly higher than the mean STAAR scores of regular eighth-grade students who were in regular seventh-grade classes ($M = -.4771$, $SD = .76236$).

Research Question 3 (RQ 3)

Hypothesis 5. The results from the one-way ANOVA revealed that there was a statistically significant difference between the STAAR scores of Pre-AP students from different races, Welch's $F(2, 477.548) = 13.800$, $p = .001$ so the researcher rejected the null hypothesis. Post-hoc comparisons using Dunnett's T3 analysis indicated that the mean score for White ($M = .7439$, $SD = .88746$) was significantly higher than Black ($M = .4998$, $SD = .73257$) and Hispanic ($M = .5299$, $SD = .86396$). Black and Hispanic mean scores did not differ significantly ($p = .962$).

Research Question 4 (RQ4)

Hypothesis 6. The independent-samples *t*-test indicated there was a statistically significant difference between the mean STAAR Level II and Level III scores between Pre-AP eighth-grade students who were in heterogeneous seventh-grade classes ($M = .9912$, $SD = .78444$) and the mean STAAR scores of Pre-AP eighth-grade students who were in Pre-AP seventh-grade classes ($M = .8749$, $SD = .83345$). The null hypothesis was rejected, but the alternative hypothesis was that the mean scores of the students who were in Pre-AP seventh grade would be greater than the mean scores of the students who had been in the heterogeneous seventh-grade classes. The results show that the students who had been in the heterogeneous classes ($M = .9912$, $SD = .7844$) was .116($SE = .04816$) higher than the mean *z*-score of eighth-grade Pre-AP students from seventh-grade Pre-AP science classes ($M = .8749$, $SD = .83345$).

Implications

Consistent with the research, the current study of the demographics indicated that low SES and minority students are underrepresented in the higher tracked courses and overrepresented in the regular tracked courses (Aud, Fox, & KewalRanani, 2010; Ballón, 2008; Burris & Garrity, 2008; Chapman, 2013; College Board, 2014; Ford, Moore, & Milner, 2005; Mickelson, 2015). Three-fourths of the students of low SES were in the regular classes whereas the students of high SES in regular classes were just under half. The composition of the Pre-AP classes was less than one-third students of low SES and over two-thirds students of high SES. Similar numbers portray the representation of minorities in the regular classes. Just over three-fourths of students who are Black and just under three-fourths of students who are Hispanic were in the regular classes. A little over half of the students who are White were in the regular classes. Students who are Black represented only 9.2% of the Pre-AP population, students who are Hispanic 20% of the Pre-AP population, and students who are White 55.5% of the Pre-AP population. The current research did not delve into the method of student placement in courses, so the researcher could not support or refute the claim that the placement of students of low SES and minorities in lower tracks was either intentional or unintentional (Brown, Hunter, & Donahoo, 2012).

Some researchers claimed that ability grouping increased learning for everyone (Vanderhart, 2006) and overall achieve-

Table 1

Eighth-Grade Mean and Standard Deviation of Standardized Scale Scores

Variable	N	Mean	Standard Deviation
Eighth-grade PreAP			
Low SES in Het to PreAP	129	.6680	.93669
Low SES in PreAP to PreAP	388	.6499	.89954
Low SES in Reg to PreAP	87	.3122	.68830
Total Low SES	604	.6051	.88750
High SES in Het to PreAP	318	.8354	.86161
High SES in PreAP to PreAP	947	.7843	.89922
High SES in Reg to PreAP	125	.2552	.82818
Total High SES	1390	.7484	.89770
All Het to PreAP	447	.7871	.88613
All PreAP to PreAP	1335	.7452	.90105
All Reg to PreAP	212	.2786	.77264
Total	1994	.7050	.89682
Eighth-grade Reg			
Het to Reg	927	-.3795	.81318
Reg to Reg	2209	-.4771	.76236
Total	3136	-.4483	.77888
Eighth-grade PreAP by Race			
Black	183	.4998	.73257
Hispanic	398	.5299	.86396
White	1106	.7439	.88746
Total	1687	.6669	.87248
PreAP ≥ Level II			
Het to PreAP	383	.9912	.78444
PreAP to PreAP	1217	.8749	.83345
Total	1600	.0927	.82324

ment would be higher using class groupings (Kulik & Kulik, 1992). The meta-analytic study of Kulik and Kulik (1992) concluded that students in higher ability groups would benefit from grouping and the students in lower groups would not be hurt. The current research did not support either statement. To support these statements, the students grouped in seventh-grade Pre-AP as well as the students grouped in seventh-grade regular needed to be statistically higher than the students heterogeneously grouped in seventh-grade. The three hypotheses that compared the eighth-grade mean scores of students based on the seventh-grade groupings found that the mean scores of students who had been in seventh-grade heterogeneous classes were higher in two cases and not statistically significantly different in the other. The regular eighth-grade students' mean score from heterogeneous seventh-grade classes were statistically higher than the mean score of grouped students in seventh-grade. There was no statistically significant difference in mean scores between the Pre-AP students who were in heterogeneous seventh-grade classes and Pre-AP students who were in homogeneous Pre-AP seventh-grade classes. Though the heterogeneous classes were never

detracked, they in essence are detracked because students are in mixed-ability classes. The current research supports the research and authors who claim mixed-ability classes lead to equality and higher achievement for all students (Burris & Garrity, 2008; Burris & Welner, 2005; Oakes, 1985, 2005).

The researcher expected the Level II and Level III mean score of the students who had been in the seventh-grade Pre-AP classes to be statistically significantly higher than the mean score of the students who had been in the heterogeneous seventh-grade classes. The data, however, revealed that not only was the score of the heterogeneous group higher, it was statistically significantly higher. Based on the data, the implication is that ability grouping does not increase achievement, but mixed-ability classes do increase student achievement (Burris & Garrity, 2008; Burris & Welner, 2005; Oakes, 1985, 2005).

Conclusions

It appears from the current findings that grouping students in seventh-grade science is not making the difference anticipated by the District. Students did not score at higher levels on the eighth-grade Science STAAR since the implementation of the Pre-AP seventh-grade science class. The achievement gap between the Pre-AP students from low and high SES was not statistically significant. However, the gap between Pre-AP students who are White and students who are Non-White was statistically significant.

There is concern over the condition of education of all students in the United States. The reauthorization of the Elementary and Secondary Act (ESEA) of 1969 as the Every Student Succeeds Act (ESSA) of 2015, indicates that the government is making an effort to ensure the success of all of our children (ESSA, 2015). Ability grouping has been used as a method to provide students the curriculum and instruction to maximize their learning and development (Agne, 1999; Ansalone, 2010; Schullery & Schullery, 2006; Vanderhart, 2006). Often this grouping causes greater differences in learning between the lower and higher students and divides students along racial and socio-economic lines (Ansalone, 2010; Loveless, 1999; Manning & Kovach, 2003; Mickelson, 2015; Oakes, 2005). The daunting task to provide an equitable education to all students looms before educators. With such conflicting research for and against ability grouping, educators need to find a way to resolve the differences so that every child of every color and every socioeconomic status can be successful and pursue his dreams.

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THE IMPACT OF PARTICIPATION IN STEM PROGRAMS ON COLLEGE ADMISSION REQUIREMENTS OF HISPANIC STUDENTS

Ladye Welpman, Ed.D.

Introduction

Hispanic students entering K-12 public education face many challenges that restrict their ability to gain admission into postsecondary educational institutions (Barnes, 2002). Low socioeconomic status, language barriers, and poverty, coupled with an achievement gap between Hispanic students and other ethnic groups, impede the ability to meet college admission requirements. Additionally, many Hispanic students lack adequate critical-thinking and problem-solving skills, due to deficiencies in math and reading. Research indicates these 21st century skills are needed in order for students to score well enough on college entrance exams, such as the SAT and ACT.

High school grade point average (HSGPA) also impacts the ability for Hispanic students to enter college. In Texas, the top 10% of graduates based on HSGPA, are granted automatic admission into state universities. Students who drop below the top 10% normally must score higher on the SAT or ACT in order to be admitted into many colleges and universities. Research has shown a disparity in SAT and ACT scores between Hispanic and White students in the State of Texas (College Board, 2015). In addition, many Hispanic students who do not fall in the top 10% of the graduating class struggle to meet the minimum college entrance exam requirements for admission. Secondary programs are now being designed to address such issues.

Schools of choice, many with an emphasis on science, technology, engineering, and math (STEM), are on the rise across the nation. STEM programs or schools are attempting to close the achievement gap and improve the likelihood that Hispanic students will pursue and realize admission into postsecondary education. Furthermore, STEM education promotes the acquisition of 21st century skills in addition to the content areas of science, technology, engineering, and math. Stie-Buckles (2013) indicated the core content areas of reading and writing are also promoted within STEM programs as they are skills needed for solid reasoning and problem-solving.

The purpose of the current study was to examine the relationship between Hispanic students in STEM programs and SAT scores, ACT scores, and HSGPA. A high school in a North Texas district was the focus of the current study. The campus was selected as it was the sole STEM program and offered an engineering program with the STEM endorsement.

Literature Review

Many factors must be examined when considering college admission for Hispanic students. These factors include an achievement gap, barriers to admission, impact of school choice, STEM programs, and college admission requirements.

The Hispanic and White student achievement gap has been continual since the early 1990's (Lee, 2002). Rojas-LeBouef (2010) found White students scored higher on standardized tests than Hispanic students in the state of Texas. Additionally, National Assessment of Educational Progress (NAEP) scores showed similar results with White students showing greater proficiency than Hispanic students in math and reading. Further studies showed SAT and ACT scores are lower for Hispanic students than White students (Harvey, 2013). The achievement gap decreases college-readiness rates and contributes to lower SAT and ACT scores.

A gap also exists in college admissions between Hispanic and White students. A variety of reasons may be the cause

including lack of financial resources, a cumbersome application process, and the inability to reach minimum score requirements on college entrance exams. One study showed White students scored higher on the SAT and ACT and showed Hispanic students were less likely to be admitted into college as a result (Walpole, 2005). Programs, such as STEM, where efforts are focused on the acquisition of 21st century skills assist in closing the achievement gap and changing the trajectory of college admissions for Hispanic students.

Four disciplines make up STEM content: science, technology, engineering and math. Some experts consider the elements interdisciplinary and supportive of each other rather than existing independently (Havice, 2015; Vilorio, 2014). Vilorio (2014) views STEM as a group of tasks rather than four separate content areas. For example, the discipline of science is approached in terms of the scientist instead of simply a class. Furthermore, the environment STEM promotes is as important as the work students do while they are acting as scientists, technologists, engineers, and mathematicians.

Collaboration, inquiry, 21st century learning, and project-based learning all contribute to an effective STEM program and student success (Asunda & Mativo, 2017; Carter, 2013; Havice, 2015). Together, these components offer a culture where students experience a positive learning environment. An effective STEM program where rigorous instruction is standard may result in greater achievement for Hispanic students and increase college admissions by improving SAT and ACT scores.

University admission requirements vary with some using college entrance exam scores as a gauge for college readiness, in combination with HSGPA and/or class rank. The current ACT and new SAT require higher levels of critical-thinking and the ability to solve real-world problems though analyzing and synthesizing information. The current climate of university entrance requirements leaves some Hispanic students short because of a combination of low SAT scores, ACT scores, and HSGPA (Hiss & Franks, 2014).

STEM programs may offer the opportunity for Hispanic students to narrow the achievement gap and better prepare them for college. Through a rigorous education where students are taught 21st century skills, college may become a reality. Connecting increased SAT and ACT scores with a focused STEM program may be the bridge that is needed for more Hispanics to be admitted into college.

Summary of Findings

The purpose of the current study was to determine if a difference exists in SAT scores, ACT scores, and HSGPA of Hispanic students in STEM programs and Hispanic students in traditional programs. Data for SAT and ACT scores was collected for examination between the district, state, and nation. The study used data from 2014, 2015, and 2016 to determine if a trend existed. The following research questions were investigated in the current study.

Research Question 1 (RQ1) What is the difference in SAT, ACT scores and HSGPA between secondary Hispanic students seeking STEM endorsement and Hispanic students in traditional programs in the district being studied in 2014, 2015, and 2016?
Research Question 2 (RQ2) What is the difference in SAT and ACT scores between secondary Hispanic students seeking STEM endorsement at the campus being studied and all Hispanic students in Texas and the nation in 2014, 2015, and 2016?
Research Question 3 (RQ3) What is the difference in SAT, ACT scores and HSGPA between secondary Hispanic students in choice programs and Hispanic students in traditional programs in the district being studied in 2014, 2015, and 2016?

The researcher conducted the current study to determine if the Hispanic students seeking STEM endorsement in a north Texas school district performed better than Hispanic students in the district who were enrolled in traditional programs. The study used ex post facto data from 2014, 2015, and 2016. Three groups were included in the one-way between-subjects ANOVA; STEM, choice, and traditional.

Statistical analysis indicated a significant difference in the mean SAT scores and HSGPA between all three groups in 2014 and 2016 but no significant difference in the mean between all three groups in 2015. Through the course of statistical analysis, the researcher recognized the impact of unequal sample sizes on effect size for the one-way between subjects ANOVA. A large difference in sample size existed between the STEM group and the traditional and choice groups. The connection between and potential impact of effect size and sample size is noted here in the current study along with analysis of findings from duplication of data points.

Since the STEM sample sizes were extremely small - 12, 14, and 16 respectively - the researcher attempted to determine if statistical significance in mean SAT scores and mean HSGPA

would be found by increasing the sample size of the STEM group. To accomplish this the duplication method was used where the data points are duplicated in order to increase the sample size and thereby test the mathematical model of effect size and sample size. A trend in the increase of effect size and statistical significance was found in all cases.

As a result of the aforementioned analysis, the researcher noted that a significant difference in mean SAT scores would have been found between all three groups in 2015 and 2016 including Hispanic students in traditional programs, STEM programs, and choice programs if the data sets were larger. Additionally, a significant difference in mean HSGPA in 2014, 2015, and 2016 would have been found between Hispanic students in traditional programs and Hispanic students in STEM programs with larger samples. ACT data was not analyzed due to the small sample size.

Additionally, the researcher conducted statistical analysis to determine if a difference existed between the mean SAT and ACT scores of Hispanic students seeking STEM endorsement at the campus in the current study and Hispanic students in Texas and the nation. The study used ex post facto data from 2014, 2015, and 2016. A significant difference was found in mean SAT scores across all three years in the study. ACT data was not analyzed due to the extremely small sample size. Table 1 displays mean SAT scores for the campus being studied, the state, and nation. Additionally, statistical significance is indicated and the mean difference in scores between the campus and the state and nation. The researcher conducted additional analysis of scores ranging over a period of three years to determine if a difference existed in SAT and ACT scores and HSGPA between Hispanic students in choice programs, including STEM, and Hispanic students in traditional programs in the district being studied. Results were mixed over 2014, 2015, and 2016.

Implications

An achievement gap exists between Hispanic students and White students and research has shown Hispanic students score lower on standardized tests and college entrance exams (Karantinos, 2009, Rojas-Lebouf, 2010). The achievement gap has been highly researched and noted over the past decade and does not show significant signs of improvement (Harvey, 2013). The impact of the gap has been seen in the performance of Hispanic students on the SAT, ACT, and in cumulative HSGPA (Harvey, 2013). As a result, Hispanic students are less likely to be admitted into college (Walpole, 2005).

The current study indicates Hispanic students benefitted from enrollment in STEM programs. The findings from Research Question 2 indicate SAT scores for Hispanic students in the study were well above the state and national average. While further research would need to be conducted, it may be implied that the students in the current study may show sufficient growth to support some closure in the achievement gap. Additionally, Hispanic students in the STEM program were found to have mean SAT scores well above college admission requirements for most 4-year universities in the state of Texas.

Likewise, enrollment in choice programs and success in academics indicates some Hispanic students scored higher on college entrance exams than their Hispanic counterparts in traditional

Table 1.

Summary of SAT Score Findings for Hispanic Students in the District and all Hispanic students in the state and Nation for 2014, 2015, and 2016.

Year	Campus		state		Nation	
2014	Mean	1460.83	Mean	912.67	Mean	908.99
			Significance	0.000	Significance	0.000
			Mean Diff	-548.76	Mean Diff	-551.84
2015	Mean	1228.57	Mean	903	Mean	905.33
			Significance	0.000	Significance	0.000
			Mean Diff	-325.57	Mean Diff	-323.24
2016	Mean	1267.50	Mean	871	Mean	901
			Significance	0.000	Significance	0.000
			Mean Diff	-396.50	Mean Diff	-323.24

programs. The current findings support prior studies that indicate students who are enrolled in choice programs perform better academically than those who are enrolled in traditional, boundary-driven schools (Deming, Hastings, Kane & Staiger, 2014; Glenn, 2010; Jeynes, 2012).

The setting for the STEM program in the current study included instruction using the 5E model and project-based learning. The program is student-centered where students are encouraged to collaborate in order to solve real-world problems. The curriculum is advanced and inquiry is promoted. Findings from the current study support project-based learning where students are encouraged to work together in collaborative efforts. Again, consistently high SAT scores support the STEM learning environment and may impact districts across the state in the creation of new meaning in STEM programs.

College admission criteria includes SAT scores, ACT scores, and HSGPA. Where a student is unable to score high enough on the college entrance tests, a high HSGPA is beneficial. Likewise, when a student does not have a high HSGPA, it is necessary to score high on the college entrance exams. Findings from the current study indicate students in STEM programs scored well enough on the SAT to gain admission into college. Additionally, the mean HSGPA for most Hispanic students in STEM and choice programs was above 3.0. With the admissions requirements for college, the complete package of adequate SAT scores and HSGPA will benefit Hispanic students.

Overall, statistical analysis of the data provided by the current research showed no significant benefit for enrollment in a program where Hispanic students seek STEM endorsement within the district. Further inspection found data analysis might be flawed due to results found when the sample size of the population was increased. In that case, statistical significance was found in most cases and enrollment in programs seeking STEM endorsement benefits Hispanic students.

Research Question 1 was lacking accurate analysis due to the small sample size. However, findings from Research Question 1, where data points were duplicated in order to increase the sample size, may impact district STEM program structure in districts across Texas. Districts wishing to replicate the current study in order to evaluate the difference in their STEM and traditional programs will need more data points.

A trend was noticed across Research Question 2 where Hispanic students seeking STEM endorsement scored higher on the SAT and had a higher HSGPA than Hispanic students in traditional programs at the state and national levels. Research Question 3 findings were similar to Research Question 2 as Hispanic students in choice programs overall showed higher scores than those in traditional programs. Data analysis for Research Questions 1 and 2 may impact the direction of the district choice programs.

The results of the current study support the district efforts to increase college-readiness rates. While the findings from Research Question 1 did not show a significant difference between STEM programs and traditional programs, district comparison with the state of Texas and the nation show otherwise. It is these state and national findings that have the greatest potential to support new STEM programs.

The researcher concluded Hispanic students will fare better academically in STEM or choice programs, rather than traditional programs based on the analysis of the larger STEM sample size. In addition, Hispanic students seeking STEM endorsement or enrolled in choice programs score high enough on college entrance exams to gain admission into a variety of colleges and universities. In light of the challenges faced by Hispanic students, removing the college entrance exam score barrier to college may increase the number of students who pursue postsecondary education.

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About the Author

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THE EFFECT OF STANDARDS-BASED GRADING ON STUDENT ACHIEVEMENT: A CORRELATIONAL INVESTIGATION

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Introduction

Educators are constantly searching for the best way to educate students given the demands and restraints set forth by national and state policymakers. The Texas Essential Knowledge and Skills (TEKS) are continuously updated to ensure college and career readiness for every student in the state of Texas (Texas Education Agency, 2007-2016). Practitioners are faced with making curricular decisions to determine which standards are most important for students to master before entering the next grade level. In addition, the state of Texas assesses students on three types of standards (readiness, supporting, and process) in Grades 3-12. It is often an overwhelming task for educators, especially novice educators, to ensure mastery of all TEKS necessary for student promotion to the next grade level and to ensure students gain a *met standard* rating on the State of Texas Assessments of Academic Readiness (STAAR). STAAR not only measures a child's performance, it also measures the child's academic growth. The test format accentuates readiness and process standards through bundling. Bundling is the strategic grouping of standards to assess a student's problem-solving skills and the use of the content efficiently and effectively (Texas Education Agency, 2015c). The readiness standards are directly correlated to the college and career standards (Texas Education Agency, 2014b). Often, a discrepancy exists between the grades a student receives and the student's performance on STAAR.

Traditional forms of grading did not provide stakeholders with adequate predictors of student success on standardized assessments due to the subjectivity of evaluations, the vastly different approach to grading, and the use of non-academic achievement factors on which to base grades (Deddeh, Main, & Fuklerson, 2010; Wormeli, 2006). How students perform on a STAAR assessment could determine if the student is promoted, retained, or placed in remedial classes. STAAR performance eventually determines a student's ability to enroll in an institution of higher education. The serious implications of STAAR result in a high-stakes assessment system. By determining the correlation between standards-based grading and student levels of growth and performance on the STAAR, school district leaders can implement policies and procedures regarding classroom grading.

Background of the Problem

With the increased rigor of STAAR, campuses and districts face insurmountable odds for reaching federal thresholds for student performance. This is especially prevalent when examining subgroups. The U.S. Department of Education, through the determination of the adequate yearly progress (AYP) measure, sets the federal thresholds for student performance. Based on the *Texas Consolidated State Application Accountability Workbook*, 100% of students in each subgroup were to meet or exceed the AYP target in 2013-2014 (U.S. Department of Education, 2010). The subgroups identified by No Child Left Behind (NCLB) are limited English proficient, low income, special education, and ethnic groups of white, Hispanic/Latino, African American/Black, and Asian/Pacific Islander (Texas Education Agency, 2015a).

For the state of Texas accountability system, these subgroups are calculated into the system safeguard measures. Performance for all subgroups is calculated separately and each subgroup student counts towards the overall score the campus and district earn. The results of not meeting federal thresholds for performance can be troublesome for a campus and/or school district. As

a result of not meeting federal thresholds, corrective actions may be taken. The actions can include allowing students an opportunity to transfer to another campus or district, providing supplemental services to eligible students in the school, and providing technical assistance to the school (Texas Education Agency, 2015a).

In 2015, 4.5% of the districts in the state of Texas did not meet standard resulting in a rating of *Improvement Required*. Also in 2015, 7% of campuses in the state of Texas received a rating of Improvement Required (Texas Education Agency, 2015b). In 2014, the state of Texas had 9% of the districts in the state received an Improvement Required rating and 8.5% of campuses received an Improvement Required rating (Texas Education Agency, 2014a). When campuses and districts receive a rating of Improvement Required, they are subject to intervention by the Texas Education Agency (TEA) in addition to corrective actions imposed by the federal government if they do not meet the federal thresholds.

The traditional model of schooling was developed during the Industrial Revolution as an answer to economic concerns. According to Robinson (2011), the systems of education were not designed to meet the challenges current educators face. Robinson (2011) believes educators must encourage transformation rather than reformation; current approaches to education often disregard the individual talents of students. Many educators view the report *A Nation at Risk: The Imperative for Educational Reform* (National Commission on Excellence in Education, 1983) as the inspiration for the modern standards movement, due to the authors' statement that America's schools lowered their standards and as a result could not compete with other countries (Schlechty, 2011; Shepard, 1993). Whereas the standards movement looks much different today compared to the 1980s, the components of standards-based grading are evident in numerous variations of current grading practices (Marzano & Kendall, 1996). Districts across the U.S. have been expanding and changing the traditional A-F letter grading system with more detailed standards-based reporting (Paeplow, 2011).

Dressel (1983) stated a grade is "an inadequate report of an imprecise judgment of a biased and variable judge of the extent to which a student has attained an undefined mastery on an unknown proportion of an indefinite amount of material" (p. 12). Grading has historically been utilized for ranking students, motivating students to learn or punishing them, sorting students into classes and courses, and often, teacher evaluation (Brookhart, 2004; Tomlinson & Moon, 2013). Since grading is a subjective task and used to achieve many purposes, parents and students are often left without any understanding of what students actually know (Tomlinson & Moon, 2013).

Standards-based grading originated from the ideology that teachers should have clearly defined learning targets for their students. Moss and Brookhart (2012) declared, "The most effective teaching and the most meaningful student learning happens when teachers design the right learning target for today's lesson and use it along with their students to aim for and assess understanding" (p. 2). Grading students utilizing rubrics and allowing for student growth measures allow students the opportunity to demonstrate true mastery of standards. Teasing out specific learning targets provides students and parents precise information on areas of difficulty that could prevent student progress towards mastery of the Texas Essential Knowledge and Skills (TEKS). Many educators believe standards-based grading has increased student engagement and time on task (Spencer, 2012). The goal of instruction is to have students authentically engaged in the learning process so they are able to retain information and produce authentic products that are based on individual student choice (Schlechty, 2002).

Standards-based grading is the process of clearly defining performance standards or criteria and reporting student mastery of the defined performance standards or criteria on a continuum (Guskey, 2014; Guskey et al., 2011; Muñoz & Guskey, 2015; O'Connor & Wormeli, 2011; Tomlinson & McTighe, 2006). The process of grading is singularly focused on determining student mastery of the standards (Schimmer, 2014). While there is limited evidence comparing the reliability of standards-based grading and traditional grading practices, Haptonstall (2010) discovered a greater correlation between standards-based grades and the Colorado Student Assessment Program (CSAP), a standardized assessment, than the correlation between traditional grades and the CSAP. Furthermore, a study conducted by Paeplow (2011) revealed a strong relationship between fourth-quarter classroom grades and End-of-Grade (EOG) assessments in the Wake County Public School System (WCPSS).

In a standards-based grading system, grading and reporting is criterion-referenced (Guskey, 2001). Criterion-referenced grading is a key component of the standards-based grading. "In a standards-based system, grading and reporting must be criterion-referenced" (Guskey, 2001, p. 20). With criterion-referenced

grading, the academic performance of a student is measured against established criteria with tiered levels of quality and not the performance of other students (Guskey, 2001). Students are introduced to the performance standards or criteria at the beginning of the lesson along with the standards for achievement (Stiggins, 2005). Stiggins (2005) refered to this as assessment for learning. The primary objective of standards-based grading is for students to become proficient on all standards within the curriculum. Therefore, every student must be assessed using similar criteria, consistently applied at all levels (O'Connor, 2009, p. 3).

The increased focus on standards has caused many to analyze grading and reporting practices carefully that best reflect students' mastery of standards (Hooper & Cowell, 2014). Changes at the state and federal level have emphasized the importance of standards; however, there are no federal policies regarding standards-based grading. In order to implement standards-based grading effectively, teachers must know the standards on which their students will be assessed. Common factors of standards-based grading include measuring student learning against an established standard, improving grading consistency, and improving communication with parents (Paeplow, 2011).

Many leaders of educational institutions are adopting standards-based grading systems in place of traditional grading systems. Standards-based grading helps ensure grading is directly correlated to the mastery of defined learning targets. The correlation of grades to the mastery of learning targets gives grades meaning for all stakeholders and projects a student's progress towards mastery. Quality information provided through student progress measures allows teachers to adjust instruction and differentiate based on specific student need (Scriffiny, 2008).

The Study

The District in the current study implemented a standards-based grading system in 2009 in first grade. The District has always used a criterion-referenced method of grading for Kindergarten to best communicate a student's mastery of the Kindergarten content. The standards-based report cards were introduced as an answer to noticeable discrepancies in grading within the District. For example, the majority of a student's grade in English Language Arts was solely comprised of grades on spelling tests. District leaders did not think the grades students received reflected the students' mastery of the TEKS. In 2011-2012, the District re-worked the standards-based report cards for Kindergarten and first grade. Standards-based report cards were implemented in second grade in 2012-2013 and have rolled up with that particular cohort of students to each subsequent grade level. All 24 elementary campuses in the District, including the two early childhood centers, utilize the standards-based grading system dictated by the District.

The District believes when teachers clearly define the learning targets for their students, teachers are able to assess students to obtain a clear picture of their growth toward the mastery of the standards. Learning targets are derived from unpacking the standards. Standards-based report cards were developed based on the learning targets to provide insight into the student's performance along the continuum of mastery. Standards-based report cards are revised on a yearly basis taking into consideration any change in the TEKS and feedback from teachers in the District. Yearly professional development occurs to focus on utilizing standards-based grading to drive student learning and growth.

The outcomes of this study suggest standards-based grading may have value beyond traditional grading practices. This supports previous research by English (1992) who noted the benefits of standards-based grading include providing a tool that assists teachers in achieving the goal of aligning the written curriculum, taught curriculum, and assessed curriculum (English, 1992). Many studies show that standards-based grading aids teachers in developing and delivering instruction and provides evidence that a student is mastering grade-level content along a continuum of mastery (Guskey, 2014; Guskey et al., 2011; Muñoz & Guskey, 2015; O'Connor & Wormeli, 2011; Tomlinson & McTighe, 2006).

The relationship between the standards-based report cards and reading achievement scores on STAAR for students with limited English proficient status was strong, $r(39) = .631$, $p < .001$, based on Cohen's (1988) guidelines, and the relationship between the standards-based report cards and reading achievement scores on STAAR for students with non-limited English proficient status was strong, $r(179) = .588$, $p < .001$, based on Cohen's (1988) guidelines. Based on the analyses presented, a benefit of standards-based grading may include the equity potential for students with limited English proficient status. The current study shows results that agree with Paeplow (2011), that standards-based grading could be deemed as a more equitable grading system due to the amplified focus on student mastery of standards and the decrease of teacher subjectivity which may bias a student's grade (Paeplow, 2011).

The relationship between the standards-based report cards and reading achievement scores on STAAR for students with economically disadvantaged status was strong, $r(77) = .657$, $p < .001$, based on Cohen's (1988) guidelines, and the relationship between the standards-based report cards and reading achievement scores on STAAR for students without economically disadvantaged status was strong, $r(141) = .576$, $p < .001$, based on Cohen's (1988) guidelines. Based on the analyses presented, standards-based grading may assist district leaders in meeting the economically disadvantaged system safeguard set forth by the Texas Education Agency (2015a). Teachers can use standards-based grades to help determine areas in need of specific interventions for students with economically disadvantaged status well before the STAAR is administered.

Interventions prescribed on the basis of standards-based scores could also help districts close the achievement gap between subgroups as defined by No Child Left Behind (NCLB) (Losen, 2011). Since the relationship between the standards-based report cards and reading achievement scores on STAAR for students with limited English proficient status was strong and the relationship between the standards-based report cards and reading achievement scores on STAAR for students with economically disadvantaged status was strong, educators can examine standards-based report card scores beginning at Kindergarten to develop a data portfolio for students in subgroups to help each subsequent teacher develop differentiated instruction based on student need. The analysis of a student's data portfolio would assist teachers in providing students with adequate opportunities to learn and ample time on task for mastery (Lezotte, 2001).

The current study's findings supplement grading research by providing support of the application of standards-based grading within a large school district. Taking into consideration the lack of grading research on the implementation of standards-based grading, this study's findings advise both research and practice. Although this research study was conducted within a large diverse school district, the findings have the potential to inform state and national grading practices.

Implication and Conclusions

In Guskey's (2004) opinion, teachers rarely agree on the most important purpose for grading and in turn, attempt to achieve all purposes in a single grading procedure. Many researchers feel very few teachers have extensive training on the effectiveness of various grading policies, so most resort to grading the way in which they were graded while in school (Allen, 2005; Guskey, 2004, 2006). Even though many educators assume the method of grading utilized in most schools is based on strenuous study of effective ways to report achievement and progress, grading practices were developed through a process of trial-and-error. In turn, there is extreme variation in current grading practices (Marzano & Kendall, 1996).

O'Connor (2010) believes "it is at minimum essential that all teachers in every school teaching the same grade or same subject/course should determine grades in similar ways and apply similar or the same performance standards" (p. 5). In many cases, teachers are given certain categories and objectives, which the school district determines (Cizek, Fitzgerald, & Rachor, 1996), to rate students on their level of mastery and knowledge (McClam & Sevier, 2010). Since every district can adjust grading scales to meet the district's needs and no set measures exist to determine student mastery, teachers may interpret grades to represent different meanings (Brookhart, 1993). Often, grading policies and criteria are developed by a collection of teachers and administrators. Other districts may require consistency determining grades throughout content departments (McClam & Sevier, 2010).

When determining grades, O'Connor (2010) stated grades should be meaningful, consistent, and they should support learning. Students should be involved in the assessment and grading process so they can readily tell the difference between practice and performance. Cross and Frary (1996) believe students are forced to adapt to the varying district requirements in order to successfully demonstrate mastery of content. By involving students in the process of determining their grades, students have a tendency to become more self-reflective, therefore improving their learning habits and understanding of how grades are determined (O'Connor, 2010). The specific grading scale and method for determining grades necessitates discussion between students and teachers. There are multiple ways a grade can be determined, so the teacher must clearly articulate how students will demonstrate the mastery of the content material (Carlson, 2003; Deddeh et al., 2010; McClam & Sevier, 2010).

According to Wormeli (2006), traditional grading practices may not meet the accountability measures most educators desire. In traditional grading systems, Deddeh et al. (2010) believe the student's level of mastery of the learning targets is distorted by the inclusion of non-achievement standards. For example,

a student could receive a perfect score demonstrating mastery of content, but if the teacher deducts points for the assignment being late, the score the student receives on the assignment will go down. Therefore, the score is a reflection of the student's knowledge and behavior rather than solely the student's level of mastery. Cross and Frary (1996) suggested, "Grades often do, in fact, represent a hodgepodge of attitude, effort, conduct, growth, and achievement, and this is what they expect and endorse" (p. 7).

If a grade is meant to represent student mastery of content, traditional grading practices, including the practice of assigning zeros, defeat the purpose. Assigning a zero on a 100-point scale disproportionately skews a grade average and falsifies the report of what the student knows (Guskey, 2004; O'Connor, 2010; O'Connor & Wormeli, 2011; Reeves, 2004). Zeros are often recorded in the grade book in order to communicate lack of effort rather than an indicator of a student's mastery of the content (Guskey, 2004; Schimmer, 2012). Marzano (2006), through his research of current grading systems, said teachers should never record a zero as a grade for not submitting an assignment, turning in work late, or missing an assessment. Instead, teachers could use an "I," indicating Incomplete. The "I" has the same impact as a zero in secondary schools because the student does not earn credit for the course and it accurately communicates that the student did not complete the course rather than did not master the content (O'Connor, 2010).

Grading may often be utilized as a way to punish and reward behavior or encourage responsibility (Wormeli, 2006). Data sources demonstrate increased discrepancies in grading practices among secondary teachers more than elementary due to the inclusion of behavior (McDaniel, 2010). Reeves (2004) stated the importance of determining an appropriate consequence rather than punishment through grading. A student who is performing at the highest instructional levels is not served by labeling the student with low grades due to a lack of responsibility (Wormeli, 2006).

Research shows that many students learn how to obtain good grades without mastering the content. Schlechty (2011) stated, "Not all intellectuals are academics, and not all academics are intellectuals" (p. 47). With traditional grading systems, learners who are labeled good students may be those who produce work in the way academics produce work. Chappuis (2015) described this as a task completion orientation. Students just complete the work to get a grade. Students should be encouraged to demonstrate knowledge in a variety of methods that have personal meaning (Schlechty, 2011). Chappuis (2015) states students whose goal is to learn more and get better have a learning orientation. In Robinson's (2011) opinion, traditional grading systems overlook and marginalize students' intellectual abilities and as a result, students often have numerous abilities that are never discovered.

By determining the correlation between standards-based grading and student levels of growth and performance on the STAAR, school district leaders can implement policies and procedures regarding classroom grading. The analysis of the data collected in the current study revealed a strong relationship between standards-based report card grades and STAAR scale scores indicating this grading system accomplishes its intended purpose of assessing students' mastery of Texas Essential Knowledge and Skills (TEKS). Since there is a relationship between standards-based report card grades and STAAR scale scores, standards-based scores could provide educators with valuable continuous data to identify students who need additional support to meet standard on the Grade 3 reading STAAR. The relationship indicates standards-based grades can provide educators, parents, and students with frequent communication regarding student progress towards mastery of the standards and in turn, allows for more insightful educational decisions.

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DOROTHY M. BUSH COLLEGE OF
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EDUCATOR PREPARATION PROGRAM EFFECTIVENESS: ADMINISTRATORS' PERCEPTIONS OF TRADITIONAL AND NONTRADITIONAL PROGRAMS

Joey Grizzle, Ed.D.

Introduction

There is a present need for well-prepared teachers equipped with the knowledge and ability to instruct the 21st century student population. School leaders are consistently seeking instructors with the ability to set up and manage a well-designed learning environment, construct and deliver quality lessons, connect with students, and meet students' diverse needs. Additionally, school administrators are searching for teachers who are prepared and trained to work in and remain in the 21st century field of education. Every year administrators lose new teachers to attrition often due to lack of teacher preparation. The current qualitative study was designed to explore new teacher preparation and Educator Preparation Program (EPP) effectiveness according to administrator perception.

Review of Literature

Teacher recruitment, development, support, and preparation have a significant impact on the success and learning of America's student population (Brenchley, 2014). Better prepared teachers and greatly improved teacher preparation programs are essential ingredients for stronger academic outcomes for this nation's K-12 students (Crowe, Allen, & Coble, 2013). With this in mind, public school educators express a need for teacher preparation programs to adequately prepare new teachers to enter the field of education (Smeaton and Waters, 2013).

During the development and revision of teacher preparation programs, choices are made regarding the framework for the program, the selection and organization of content and processes of a program, and the make-up of different components of the curriculum (Morey, Bezuk, & Chiero, 1997). Historically, EPPs have consisted of four main components: pedagogy/methodology preparation, subject knowledge preparation, experiential learning, and professionalism and dispositions (Borman, Cotner, Frederick, & Mueninghoff, 2009; Creasy, 2015; Danielson, 2007; Wilson, Floden, & Ferrini-Mundy, 2001).

The quality of educator preparation programs plays a role in teacher attrition. Darling-Hammond (2011) shared the importance of teacher preparation regarding teacher retention, "many [teachers] want to stay in the profession, but feel their lack of strong preparation makes it difficult to do so" (p. 3). According to Darling-Hammond (2003) teachers who did not receive adequate preparation are more likely to leave the profession of teaching compared to teachers with adequate preparation. Within the first five years, 30% of new teachers leave the profession because they lack appropriate preparation (Darling-Hammond, 2010; "Power of Preparation," 2001).

New teachers are faced with numerous 21st century challenges. Beginning teachers struggle with challenges such as classroom management, behavior management, and parent communication (Gourneau, 2014). Additional challenges faced by 21st century educators are time management and planning for multiple subject areas (Haggar, Mutton, and Burn, 2011). According to Darling-Hammond (2010), for 21st century teachers to be successful, they must acquire the appropriate skills, knowledge, and dispositions to manage pedagogy, various styles of learning, diverse learners, classroom management, and administrative tasks of a teacher. With this in mind, the role and quality of today's educator preparation programs play an important part in the success of 21st century teachers and their students.

Results

The research questions of the current study focused on three main areas, including the level of preparedness of new teachers, administrator perception of both traditional and non-traditional programs, and the focus for traditional and non-traditional programs to better prepare new teachers for the 21st century.

The investigation was designed to answer the following research questions:

Research Question 1: According to campus principals, how prepared are beginning teachers to take on various roles and responsibilities as teachers?

Research Question 2: What is the perception of campus level administrators about programs that prepare professional educators?

Research Question 3: From the perspective of campus level administrators, what should be the focus of educator preparation programs to prepare, train, and equip teachers for the 21st century?

The current study was conducted through a qualitative research approach utilizing a cross-sectional study design with one-on-one interviews. The study was conducted in one suburban independent school district located in north central Texas, which serves approximately 15,000 students. The district includes two traditional high schools, two ninth grade campuses, one career and technology high school, three middle schools, four intermediate schools, ten elementary schools, and one alternative school. The student population is culturally diverse, composed of approximately 29% Hispanic, 22% White, 41% African American, 4% Asian, and 0.7% American Indian, with 64% of students considered to be economically disadvantaged.

Research Question 1

Research Question 1 addressed participants' perceptions about how prepared beginning teachers are to take on the various roles and responsibilities as a teacher. This question was intended to be a general question and was not specific to a type of preparation program. A majority of the participants did not perceive new teachers to be adequately prepared. Overall, 15.7% of participants felt positive about the new teachers' ability to take on the roles and responsibilities of teaching, 26.3% of participants expressed a neutral feeling, 36.8% expressed mixed feelings, and 21% of participants felt negatively about new teachers' ability to handle the roles and responsibilities of being a teacher. Participants identified three main reasons that new teachers are not prepared for the task of teaching:

- realization of job difficulty
- EPPs prepare teachers for an unrealistic environment
- lack of classroom management knowledge.

Research Question 2

Research Question 2 addressed participants' perceptions about programs that prepare professional educators. Participants shared their perceptions, opinions, and recommendations regarding both traditional and non-traditional EPPs. Overall, participants reported that both traditional and non-traditional preparation programs had strong components within their programs. Participants also identified recommendations to be made to both traditional and non-traditional certification programs to better prepare new teachers for the teaching field.

Participants reported traditional programs' strengths to be: providing theory, pedagogy, and content knowledge as well as providing field experience to their teacher candidates. Participants reported non-traditional programs' strengths:

- exposure to various educational settings,
- supervision and support to teacher candidates,
- matching and placement of teacher candidates to good fit schools,
- valuing previous life experience,
- screening of teacher candidates.

Recommendations made by participants to traditional programs to better prepare new teachers included:

- adding additional time in classrooms during the field experience portion of their program,
- offering more knowledge and training for technology in the classroom,
- providing knowledge and training for special population groups of students.

Participants' recommendations to non-traditional programs included:

- providing more time for the field experience portion of their program,

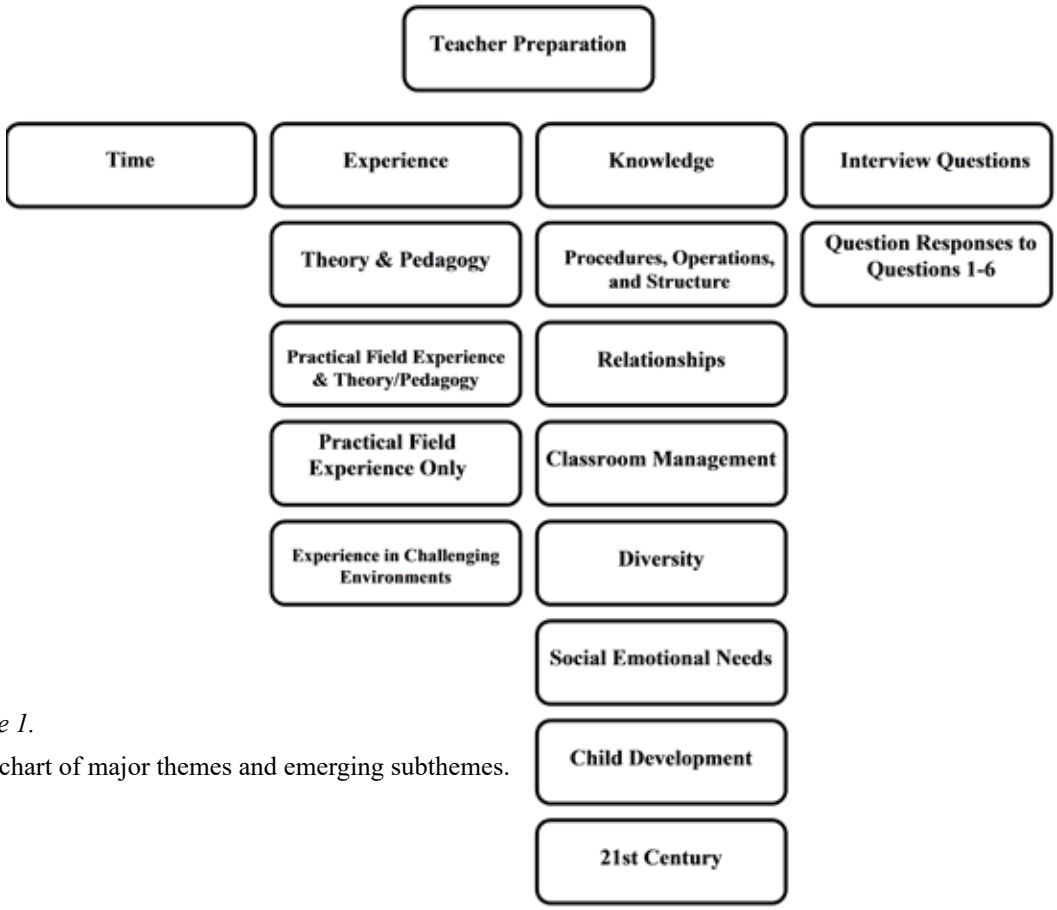

Figure 1.
Flow chart of major themes and emerging subthemes.

- providing more knowledge on classroom and school procedures, operations, and structure, and
- adding knowledge and preparation for pedagogy and lesson planning

Research Question 3

Research Question 3 addressed participants' perspective about what the focus of educator preparation programs should be to prepare, train, and equip teachers for the 21st century. Although participants offered various perspectives, three key focuses for EPPs emerged: knowledge and training in instructional technology; knowledge and training in differentiation of instruction; and knowledge and training in special population student groups, such as diverse, disadvantaged, and students with social-emotional needs. According to participants, the aforementioned focuses will help best prepare new teachers for the 21st century classroom.

Identified Themes

Three major themes emerged from the analysis process of the current study's data. The major themes and emerging subthemes included: time; experience, including theory & pedagogy, practical field experience & theory/pedagogy, practical field experience only, and experience in challenging environments; and knowledge, including procedures, operations, & structure, relationships, classroom management, diversity, social-emotional needs, child development, and 21st century. These are displayed in Figure 1.

Summary of Findings

Findings of the study established that there is a need for teacher candidates to spend more time in practical, applicable classroom environments as well as extending the length of time spent in preparation programs. Based on participant recommendations, EPPs should provide teacher candidates more real and challenging experiences within classroom settings as well as offer both practical, applicable experiences and theory and pedagogy knowledge to program attendees. A third finding from the study was the need for EPPs to provide knowledge that aligns to the needs of 21st century students and schools.

Findings of the study also indicated that instructors in educational programs are unaware of what today's schools are like. Some participants reported that program instructors are far

removed from the realities of the classroom and the needs of students today. A recommendation was made that professors and program instructors should visit and spend more time in schools. An additional finding was the opinion of some participants that teaching is a calling or gift. Participants reported that some individuals are called to teach and are naturally skilled to be teachers no matter what type of pre-service preparation they receive beforehand. Roth and Swail (2000) share the idea that some individuals possess a gift for teaching when stating, "Surely some teachers have a gift to help students learn" (p. 1).

Another noteworthy finding in the study was the suggestion by participants that it would be beneficial to teacher candidates to have an early understanding of what type of school and student they want to work with as a teacher. Participants discussed the benefit to both the teacher and students for a teacher to know, prepare for, and understand how to teach and reach the student population with which they will be working.

Implications

These findings suggest that traditional and non-traditional programs possess strengths as well as needs for improvement in the preparation of new teachers. The finds of the current study could benefit EPPs in their efforts to improve their programs to better prepare beginning teachers to take on the roles and responsibilities of a 21st century classroom. Additionally, the participant response data can prove important to EPPs pursing alignment with current needs of schools and districts. For school administrators, the results of the study suggested what new teachers need to receive during pre-service training to enter the teaching profession successfully. School administrators could benefit by having a deeper pool of well- prepared teachers graduating from EPPs with the knowledge, training, and preparation to adequately teach the current and diverse student population. Individuals searching for an EPP in their quest of becoming a teacher could benefit by searching for and finding a preparation program that offers many of the components recommended by the study participants. Furthermore, 21st century learners, today's students, would reap the benefit of being instructed by highly-trained, strategically prepared classroom teachers who possess the content-knowledge, methodology, training, and practice required to meet the varied needs of 21st century students.

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THE EFFECTS OF CERTIFICATION PATHWAY ON BEGINNING TEACHER PREPAREDNESS

Pamela Kelly Linton, Ed.D.

Studies suggest that teacher quality and effectiveness impact student achievement more significantly than other educational variables such as school characteristics (Lauer, Dean, Martin-Glenn, & Ascensio, 2005; Nye, Konstantopoulos, & Hedges, 2004). According to the National Commission on Teaching and America's Future (1996), teachers' knowledge and ability significantly impact what students learn. Darling-Hammond (2000) echoed this sentiment when commenting on the importance of the scope and quality of teacher education in relation to teachers' effectiveness. Former U.S. Secretary of Education, Rod Paige, wrote:

> …new teachers must be equipped with the knowledge, skills, and dispositions to teach to high standards and to be effective with the increasingly diverse array of students in today's classrooms…. In short, the challenge to the profession is to prepare and retain greater numbers of high-quality teachers. (U.S. Department of Education, 2004, p. 1)

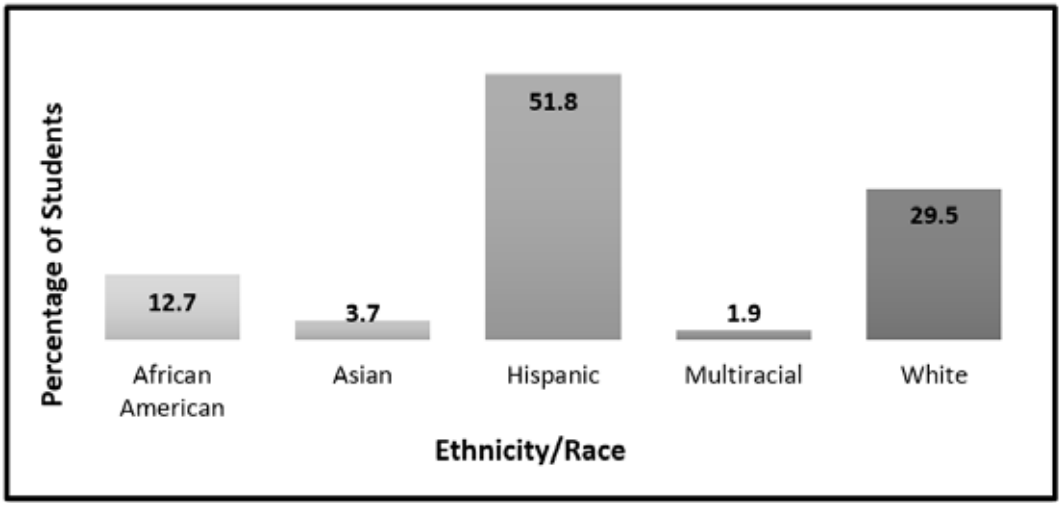
Hence, an imperative for students remains the employment of well-trained, fully equipped teachers. The National Center for Education Statistics (NCES) projects that public schools across the United States will need a total of 3,694,000 teachers for the fall of 2021. Of that number, 384,000 will be new hires with beginning educators comprising a significant portion of all newly-hired teachers (Hussar & Bailey, 2011). NCES (2013) anticipates that Texas will experience a 13.4% increase in public school enrollment from 2011 to 2023. As evidence of this trend, the number of Texas public school students grew to 5,215,282 during the 2014-15 academic year (TEA Performance Reporting Division, 2015). Such continued growth within a large state will demand a vast supply of teachers, and, if the trend continues, 8% of those teachers will have no teaching experience, with that percentage being closer to 10% in larger urban regions (TEA Division of Performance Reporting, 2014). These teachers will be expected to meet all standards of the Texas Administrative Code despite their limited experience (Commissioner's Rules Concerning Educator Standards, 2013).

Consequently, educator preparation represents a critical component in the development of a successful teacher and the teacher's path to accomplishing the standards as set by the state. The ultimate goal of student achievement, the breadth of the present accountability system, and the aforementioned teacher standards require school districts to engage in purposeful, educator selection endeavors to hire prepared educators to meet students' needs. With the advent and proliferation of alternative certification programs as state-approved routes to teaching, vigorous debate continues about the type of program—traditional or alternative—that produces the most prepared beginning teachers.

Nationally, traditional preparation programs continue to account for the vast majority, 70%, of the 26,589 teacher education programs. Texas offered 3,602 of the 8,075 unique alternative programs, and it produced 48% of the nation's program completers from alternative certification programs not based at institutions of higher education (IHE) and 16% of those based at an IHE (U.S. Department of Education [USDE], 2015). Texas has a considerable proliferation of and reliance upon alternative programs as a means of preparing and certifying teachers. Hence, the current study focused broadly on the state of Texas, with an emphasis on a single district.

From the 2012-13 school year to 2013-14, enrollment in Texas public schools increased by over 76,000 students to 5.15

Figure 1. Texas public school students by ethnicity/race.



million students. Over a 10-year period, total enrollment grew by 823,897 students. Figure 1 displays the ethnicity/race of Texas students in 2013-14.

The aforementioned statistics depict the nature of Texas public schools, and they provide insights into the type of teacher needed to address the individual characteristics of each child. Traditional requirements for teaching include certification, ability to plan engaging lessons, and strong behavior management skills. In addition to these requisites, school administrators seek classroom teachers who are able to address diversity in its various forms— cultural, racial, linguistic, socioeconomic, academic, and others—to differentiate instruction for students as needed, to be an effective communicator, to build positive relationships, and to work collaboratively or independently as situations dictate (Stronge, 2007; Taylor, 2010). Thus, school communities and teacher preparation entities find themselves confronted by the critical need for a greater supply of teachers who are wholly prepared to meet the demands of a growing, diverse student population in the midst of ever-increasing accountability standards (American Association of Colleges for Teacher Education, 2004). The current study examined the perceptions of beginning teacher preparation and effectiveness through the lens of educators who view the results most intimately—beginning teachers and campus leaders. For the purposes of the study, campus leaders included principals, assistant principals, and instructional coaches. The study addressed the following questions:

1. How do campus leaders perceive the preparedness of beginning teachers based on their pathway to certification?
2. How do perceptions about the preparedness of beginning teachers per certification route differ between elementary and secondary campus leaders?
3. What are the differences in the perceptions of preparedness by beginning teachers from different certification paths?
4. What are the differences in the perceived area of greatest need of beginning teachers based on their route to certification?

A review of relevant literature offered historical context for teacher certification since the 19th century and examined significant legislation pertaining to education (Angus, 2001; Boyd, Goldhaber, Lankford, & Wyckoff, 2007; Every Student Succeeds Act, 1965/2015; Feistritzer, 2005; Frazier, 1943; Higher Education Act of 1965, 1965; Labaree, 1997; Ludlow, 2013; Meadows & Theodore, 2012; New Jersey Department of Education, 2010; NCLB, 2002; Ramsay, 2014a; Ramsay, 2014b; TEA, 1991-1992; Tyack & Hansot, 1982; USDE, 2004; USDE, 2013; Walsh & Jacobs, 2007). Common components of teacher certification programs as well as components specific to traditional or alternative certification programs were delineated (Birkeland & Peske, 2004; Boyd et al., 2007; Feistritzer, 2005; Ludlow, 2013; Meadows & Theodore, 2012; Sass, 2011; Shepherd, 1999; USDE 2004; USDE, 2013; Walsh & Jacobs, 2007). Table 1 depicts common components specific to traditional and alternative certification programs, respectively.

Traditional Certification Programs	Alternative Certification Programs
Typically, minimum grade point average of 2.5	Varied admission standards
30-45 course credit hours	Bachelor's degree
Completion of four years of prescribed, undergraduate coursework	Preservice and/or inservice training
Curriculum including: • pedagogy, • content knowledge, • educational philosophies, and • learning and developmental theories	Education courses
Field experiences	Opportunity to earn a salary while completing certification requirements
Clinical experiences including student teaching	Up to three years to fulfill certification conditions
Successful completion of state-mandated examination	Intensive supervision by certification entity

Table 1

Common Components of Traditional and Alternative Certification Programs

Research related to the effects of teacher preparation on student achievement proved to be inconsistent. Studies vary on the impact of graduate coursework on student performance with data indicating positive effects, negative effects, and no effect (Boyd et al., 2007; Constantine et al., 2009). In an early study, Goldhaber and Brewer (1997) found sufficient data to conclude a positive relationship between a teacher's degree in mathematics and elevated student achievement in high school math. Similar results were noted in science. The authors concluded that subject-specific curricula, rather than educator ability, led to the findings (Goldhaber & Brewer, 1997). Still, the data could not determine whether teachers' enhanced knowledge of the subject or their elevated interest in math affected the students' achievement. Darling-Hammond, Holtzman, Gatlin, & Helig (2005) demonstrated the positive impact of full certification on student achievement, but the data could not definitively connect a particular type of certification path to that progress. Constantine et al. (2009) found no significant correlation between certification pathway and teacher effectiveness; however, the reported data reflected an *average* difference between groups rather than a one-to-one correspondence between individual teachers and their assigned students.

Results

The purpose of the current quantitative study was to obtain the perspectives of beginning teachers and campus leaders concerning the preparedness of beginning teachers in relation to their certification route. The beginning teachers and campus leaders completed a survey with multiple items that asked for their perceptions on preparedness via the certification program in the areas of classroom management, positive communication and relationships, content knowledge, instructional planning and delivery, working with special populations, addressing diversity, exhibiting professionalism, and overall preparedness for the first year of teaching. Additionally, participants responded to open-ended questions which provided an opportunity for respondents to offer commentary about the effectiveness of beginning teacher preparation.

Overall, campus leaders rated *classroom management* and *instructional planning and delivery*, respectively, as the areas requiring the most support for both traditionally and alternatively certified beginning teachers. Considering beginning teachers' overall level of preparedness, 46% of campus leaders identified alternatively certified beginning teachers as *Sufficiently Prepared* or *Well Prepared*. By comparison, 85% of campus leaders responded likewise for traditionally certified beginning teachers.

Differences surfaced between the perceptions of elementary campus leaders and secondary campus leaders in some individual areas of needed support for beginning teachers. However, at least 80% of campus leaders at both levels agreed that traditionally certified beginning teachers demonstrated at least a sufficient degree of overall preparedness for their first year of teaching. The

campus leaders were relatively divided in their responses pertaining to the sufficiency of alternatively certified teachers' overall preparedness. When asked to elaborate on perceived differences in beginning teacher preparation based on certification path, campus leader themes included: the value of field experiences/student teaching during educator preparation, the importance of content knowledge, the perception of traditionally certified beginning teachers as exhibiting a greater understanding of professional expectations and of classroom management, and the advantage and disadvantage of alternatively certified teachers' life experience.

A larger percentage of traditionally certified beginning teachers rated themselves as *Sufficiently Prepared* or *Well Prepared* than did alternatively certified beginning teachers in all areas except *positive communication and relationships* and *working with special* populations. At least one-third of both groups of beginning teachers expressed a lack of preparedness to work with special populations while greater than 90% of each group felt prepared to exhibit professionalism. Moreover, *classroom management*, *content knowledge*, and *instructional planning and delivery* reflect areas in which approximately one-third of alternatively certified beginning teachers did not report at least a sufficient level of preparedness. Cumulatively, 23% of alternatively certified beginning teachers perceived a sufficient degree of overall preparedness in comparison to 91% of traditionally certified beginning teachers.

Campus Leader Perceptions

When asked to rank the areas of greatest need for beginning teachers by certification route, campus leaders ranked *classroom management* and *instructional planning and delivery* as one and two, respectively, for each route. The third greatest area of needed support for alternatively certified beginning teachers was *content knowledge* while the third area for traditionally certified beginning teachers was *positive communication and relationships*.

Table 2 depicts the mode of campus leader responses when asked about the extent to which beginning teachers were prepared in the given area. Comprehensively, campus leaders perceived alternatively certified beginning teachers to be sufficiently prepared in four of seven areas: *positive communication and relationships*, *content knowledge*, *addressing diversity*, and *professionalism*.

	Alternatively Certified Teachers	Traditionally Certified Teachers
Classroom management	Not Sufficiently Prepared	Sufficiently Prepared
Positive communication and relationships	Sufficiently Prepared	Sufficiently Prepared
Content knowledge	Sufficiently Prepared	Sufficiently Prepared
Instructional planning and delivery	Not Sufficiently Prepared	Sufficiently Prepared
Working with special populations (students with disabilities, English language learners, and gifted/talented students)	Not Sufficiently Prepared	Sufficiently Prepared
Addressing diversity (including academic, socio-economic, behavioral, cultural, and socio-emotional needs)	Sufficiently Prepared	Sufficiently Prepared
Professionalism	Sufficiently Prepared	Sufficiently Prepared
Overall level of preparedness	Not Sufficiently Prepared	Sufficiently Prepared

Table 2**.** *Campus Leader Response Modes by Area*

	Alternatively Certified Teachers		Traditionally Certified Teachers	
	Elementary Campus Leaders	**Secondary Campus Leaders**	**Elementary Campus Leaders**	**Secondary Campus Leaders**
Classroom management	Not Sufficiently Prepared	Not Sufficiently Prepared	Sufficiently Prepared	Sufficiently Prepared
Positive communication and relationships	Sufficiently Prepared	Sufficiently Prepared	Sufficiently Prepared	Sufficiently Prepared
Content knowledge	Not Sufficiently Prepared	Sufficiently Prepared	Sufficiently Prepared	Sufficiently Prepared
Instructional planning and delivery	Not Sufficiently Prepared	Not Sufficiently Prepared	Sufficiently Prepared	Sufficiently Prepared
Working with special populations	Not Sufficiently Prepared	Not Sufficiently Prepared	Not Sufficiently Prepared	Sufficiently Prepared
Addressing diversity	Not Sufficiently Prepared	Sufficiently Prepared	Sufficiently Prepared	Sufficiently Prepared
Professionalism	Sufficiently Prepared	Sufficiently Prepared	Sufficiently Prepared	Sufficiently Prepared
Overall level of preparedness	Not Sufficiently Prepared	Not Sufficiently Prepared	Sufficiently Prepared	Sufficiently Prepared

Table 3. *Campus Leader Response Modes by School Level by Area*

Campus leaders found insufficient preparation of alternatively certified beginning teachers in the remaining three areas of *classroom management*, *instructional planning and delivery*, and *working with special populations* and in their *overall level of preparedness*. Based on the modes of their responses, campus leaders perceived traditionally certified beginning teachers to be sufficiently prepared in all seven areas and overall. *Working with special populations* and *addressing diversity* surfaced as common areas of deficiency for both alternatively and traditionally certified beginning teachers upon considering data per response.

Furthermore, campus leaders responded to two open-ended questions. They were asked to elaborate on any perceived differences between beginning teachers from different certification routes and to share ways that educator preparation programs can better prepare teachers. Overwhelmingly, leaders identified field experiences, including student teaching, as the major distinguishing factor in the preparedness of traditionally certified teachers from the preparedness of alternatively certified teachers. Leaders frequently commented that traditionally certified teachers were more knowledgeable about and more prepared to meet expectations of the profession. They perceived that alternatively certified beginning teachers struggled particularly with the nuances of teaching and issues of management. These struggles were predominantly attributed to lack of student teaching, limited access to teaching models, and limited field classroom experiences.

When asked to provide input on how certification programs can better prepare teachers, campus leaders consistently referenced the importance of student teaching and classroom experiences that increase future teachers' knowledge of professional expectations and their opportunities to encounter the varied facets of teaching prior to their first year of teaching.

Campus Leader Perceptions by Level

Disaggregating data by school level, elementary and secondary campus leaders identified *classroom management* and *instructional planning and delivery* as the top two areas of need, respectively, for both alternatively and traditionally certified beginning teachers. Elementary leaders ranked *content knowledge* as the third greatest area of needed support for traditionally certified beginning teachers and equally with *instructional planning and delivery* for alternatively certified beginning teachers. Secondary campus leaders selected *positive communication and relationships* as the third greatest need for teachers from both certification pathways.

Beginning Teacher Perceptions by Certification Route

A total of 115 beginning teacher respondents identified as traditionally certified and 75 identified as alternatively certified. Accordingly, the researcher's subsequent observations reflect proportionality of responses by percentage rather than actual number

of responses. More traditionally certified beginning teachers perceived themselves as being at least sufficiently prepared in *classroom management*, *content knowledge*, *instructional planning and delivery*, and *overall preparedness*, than did alternatively certified beginning teachers. Of note, 45% of alternatively certified beginning teachers felt they were not sufficiently prepared or not at all prepared in *content knowledge* as compared to 11% of traditionally certified beginning teachers. A similar distinction emerged in the area of *instructional planning and delivery* where 31% of alternatively certified beginning teachers felt they were not sufficiently prepared or not at all prepared in contrast to 13% of traditionally certified beginning teachers.

Proportionally, more alternatively certified beginning teachers perceived themselves as being at least sufficiently prepared in *positive communication and relationships* and *working with special populations* than did traditionally certified beginning teachers. Markedly, 33% of alternatively certified teachers and 39% of traditionally certified teachers did not feel sufficiently prepared to work with special populations. Beginning teachers from each certification route responded comparably that they felt at least a sufficient level of preparedness to address diversity (83% traditionally certified, 80% alternatively certified) and to exhibit professionalism (97% traditionally certified, 93% alternatively certified).

Table 4 reflects the mode for beginning teacher responses by certification pathway for each of the areas listed.

Differences in Perceived Area of Greatest Need

Alternatively certified beginning teachers established *classroom management* as the area in which they needed the most support. Traditionally certified beginning teachers ranked *instructional planning and delivery* as the area in which they needed the most support.

Campus Leader Perceptions Compared to Beginning Teacher Perceptions

Table 5 compares the percentage of campus leaders to the percentage of beginning teachers by certification route who selected *Sufficiently Prepared* or *Well Prepared* for each specified area. In general, the percentage of traditionally certified teachers who perceived their preparedness as at least minimally sufficient aligned with the percentage of campus leaders who perceived their preparation similarly except in *addressing diversity*. In each area, excluding *content knowledge*, a noticeably larger percentage of alternatively certified beginning teachers perceived the extent of their preparation as *Sufficiently Prepared* or *Well Prepared* in comparison to campus leaders' perceptions.

Findings from the current study highlight the importance of early, ongoing field experiences in a school environment that includes a student teaching component. These experiences provide hands-on opportunities for aspiring teachers to observe potent teaching models, to learn professional expectations, and to practice current, relevant pedagogy. The enduring impact of

	Alternatively Certified Teachers	Traditionally Certified Teachers
Classroom management	Sufficiently Prepared	Sufficiently Prepared
Positive communication and relationships	Sufficiently Prepared	Well Prepared
Content knowledge	Not Sufficiently Prepared	Sufficiently Prepared
Instructional planning and delivery	Sufficiently Prepared	Sufficiently Prepared
Working with special populations	Sufficiently Prepared	Sufficiently Prepared
Addressing diversity	Sufficiently Prepared	Sufficiently Prepared
Professionalism	Sufficiently Prepared	Well Prepared
Overall level of preparedness	Sufficiently Prepared	Sufficiently Prepared

Table 4. *Beginning Teacher Response Modes by Certification Pathway*

	Campus Leader Responses Concerning Traditionally Certified Teachers	Traditionally Certified Teacher Responses	Campus Leader Responses Concerning Alternatively Certified Teachers	Alternatively Certified Teacher Responses
Classroom management	74%	84%	29%	68%
Communication and positive relationships	86%	84%	69%	91%
Content knowledge	87%	90%	58%	55%
Instructional planning and delivery	84%	87%	34%	69%
Special populations	53%	62%	27%	67%
Addressing diversity	65%	83%	49%	80%
Professionalism	86%	97%	78%	93%
Overall preparedness	85%	91%	46%	77%

Table 5. *Beginning Teacher Survey: Percent Sufficiently Prepared or Well Prepared*

education requires effective preparation of teachers irrespective of their certification pathway. Furthermore, the current study offers valuable insights for districts in developing induction and professional learning activities for beginning teachers, for school leaders and staff in planning and implementing support structures for beginning teachers, for educator preparation programs in creating relevant curriculum and field experiences for aspiring teachers, for beginning teachers in preparing to lead student learning experiences, and for state education agencies in considering requisites for all aspiring teachers. Importantly, the primary objective of education—to ensure maximum achievement for every student—may be advanced by using the current study to improve teacher education and to positively impact beginning teacher support systems.

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