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IMPLEMENTATION OF A NEW ASSESSMENT SYSTEM: A LOOK AT YEAR TWO OF A THREE YEAR PROFESSIONAL DEVELOPMENT PLAN

By

Janet A. Zahm

A DISSERTATION

Presented to the Faculty of

The Graduate College at the University of Nebraska

In Partial Fulfillment of the Requirements

For the Degree of Doctor of Education

Major: Educational Leadership

Under the Supervision of Dr. Tamara Williams

Omaha, Nebraska

March, 2020

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IMPLEMENTATION OF A NEW ASSESSMENT SYSTEM: A LOOK AT YEAR TWO OF A THREE YEAR PROFESSIONAL DEVELOPMENT PLAN

Janet A. Zahm, Ed.D.

University of Nebraska, 2020

Advisor: Dr. Tamara Williams

Abstract

Increased accountability requirements have created a focus on assessments. As schools and districts work to meet federal and state requirements by demonstrating student progress as indicated by high stakes testing, assessment data literacy has become a necessary skill for educators to possess. Districts and schools need to ensure assessment literacy training has occurred that relates to the current tests being utilized. When assessments change, there is a need to understand the new assessment system, including the administration of the test. However, there is a greater need to use assessment data to modify instruction to meet all students' needs. Knowledge of assessment literacy is critical not only for educators, but all stakeholders, so that data can be used more effectively. Therefore, the purpose of this study was to evaluate the implementation of one district's professional development for assessment data literacy. The progress of educators' knowledge, skills, and application of assessment data literacy was examined as well as support that the educators received. Results indicated that overall progress had been made in educators' overall understanding of assessment data literacy especially pertaining to knowledge of the foundational assessment concepts.

Acknowledgements

I am truly blessed. I must admit my journey has not always been well planned out or easy, but with the support of many it has been (and is) so rewarding. My parents instilled a great love of learning and I thank them for that gift. They believed in me to go above and beyond what I thought I could achieve, and this accomplishment definitely fits that dream. Two generations of aspiring to have an Ed.D. in the family has been achieved!

First and foremost, I want to thank my husband, Brad, whose endless support and encouragement has kept me moving forward in this journey. I definitely could not have achieved this goal without your love and patience. Thank you for always believing in me. To my wonderful children, Alden and Linley, you are my inspiration to always achieve more and become a better person. I appreciate all of your words of encouragement and support in completing this endeavor.

To all of my family, friends, and colleagues I appreciate all of your support in assisting me across the finish line. Your assistance with listening to my ideas, answering questions, proofreading paragraphs, and being there for me helped me to be able to continue when I doubted myself. I can finally answer your question, "Are you done yet?" with a resounding YES!

Finally, I would like to thank my advisor, Dr. Tami Williams for her guidance and patience as well as my dissertation committee members: Dr. Kay Keiser, Dr. Elliott Ostler, and Dr. Kelly Gomez Johnson for sharing your expertise and time. In addition, I want to thank the Educational Leadership faculty members including Dr. Janice Garnett, Dr. Dick Christie, and Dr. Jeanne Surface for sharing your wisdom and encouragement.

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Chapter 1

Introduction

Assessment Informs Instruction

"Is this going to be on the test?" "What do we need to know for the test?" These types of questions have been asked by students before quizzes, chapter tests, and final exams for years. As a result of the accountability measures of No Child Left Behind (NCLB) and the Every Student Succeeds Act (ESSA), teachers are now asking, "What do students need to know for the test?"

Assessments and the use of assessment results have always been important in education. In fact, Gallagher (2003) relates that Horace Mann, a fundamental voice for public education, influenced assessments as he convinced the Boston Public School Committee to permit him to use a written assessment to show the knowledge of the students of the Boston Public Schools (Gallagher, 2003). "Using a common exam, he hoped to provide information about the quality of teaching and learning in urban schools, monitor the quality of instruction, and compare schools and teachers within each school" (Gallagher, 2003, pp. 84-85). Over 150 years later, providing information about students' learning and teachers' instruction remains the most important reason for the use of assessments.

Assessments provide valuable information to teachers, students, parents, and other stakeholders. The most important use of assessment results is to inform instruction. Assessment data provides information that can be used to determine what students know and what skills need to be developed. However, the assessment waters may have become muddied by the accountability landslide. Although well-intended, NCLB brought

unexpected consequences. Test results became a way to judge the success of students, schools, districts, and in some cases, teachers. This focus of testing changed the way tests were used and interpreted. This change created confusion as the purpose for testing changed into a high-stakes form of measurement.

Interpreting assessment results can seem complicated and somewhat futile to educators. However, numbers tell a story. With the change to using test scores as a means of accountability, the numbers being told contributed to a different story. And the story of test results can assist in providing valuable information that helps educators know where students are at in their learning and the gaps that may exist in order to inform the changes that need to occur in future instruction. Simply stated, teachers need to be able use data to teach students effectively as this is the most important use of data.

In order to assist with this action, school leaders must be able to turn assessment data into effective instructional tools for teachers. After the reauthorization of the Elementary and Secondary Education Act (ESEA), researchers have identified that administrative responsibilities have changed as in Anthes (2002) who affirmed this belief by declaring,

> Today, expectations for principals and superintendents run well beyond managing budgets and making sure the buses run on time. They are counted on to be the instructional leaders of their schools and districts: to understand effective instructional strategies, regularly observe and coach classroom teachers, and be able to analyze student achievement data to make more instructional decisions. (p.3)

The ability to use assessment data is critical for teachers as well. The two terms, assessment literacy and data literacy, are frequently utilized to describe the skills that educators need to possess to effectively use data. Although they are sometimes used interchangeably, there are differences in the terms. Mandinach and Gummer (2016) identify that assessment literacy is a part of data literacy. Regardless of the term used, the underlying concept of what a teacher knows about data and how to use it to change instruction to better meet students' needs is essential to student success. In fact, Popham (2009) contends that "educators' inadequate knowledge in either of these arenas (classroom assessments or accountability assessments) can cripple the quality of education" (p. 4). This study examines year two of a district wide professional development plan that is being implemented as a result in a change in assessments that requires a change in mind set about assessments, their purpose, and the use of results. Assessment literacy is an essential skill that school staff members need to possess to be able to better meet all students' needs.

Assessment Literacy

There are numerous definitions for assessment literacy. Assessment literacy can be defined as the "knowledge of the basic principles of sound assessment practice – including terminology, development, administration, analysis and standards of quality" (Northwest Evaluation Association, 2015). In addition, Stiggins (2018) indicates assessment literacy includes understanding the purposes of assessments. Yet another definition from Falsgraf (2006) states, "Assessment literacy refers to the ability to understand, analyze, and apply information on student performance to improve instruction" (p. 6). This definition indicates that there is ability involved in being

assessment literate; that one has to have a skill and be capable of utilizing information received from assessments in order to enhance teaching.

Data Literacy

The definitions of data literacy are slightly different. "Data literacy is interpreted as the collection, examination, analysis, and interpretation of data to inform some sort of decision in an educational setting (Gummer& Mandinach, 2015, p. 2). This definition specifies the collection of data which is an important consideration, especially as a part of organizing data so that it may be more readily used. However, collecting student data is not enough as it must be made meaningful and moved into action that can change instruction (Boyles, 2006).

Assessment Data Literacy

Educators have always used assessment to inform instruction. Assessment tools and methods may have changed; however, the importance of using assessment results to inform instruction has not changed. The purpose of this study is to evaluate the implementation of one Midwestern district's professional development for assessment data literacy. Specifically, in this study, the professional development trainings are guiding teachers and leaders in the use of a new assessment system and how to use the assessment results to inform instruction; thus, improving teaching and learning. Survey recipients' responses are being measured in order to inform the content of the trainings. The responses contribute to the larger concept of assessment data literacy.

For the purposes of this research, assessment literacy and data literacy are equally important for teachers to use; thus, a blended term of the two commonly used terms, Assessment Data Literacy (ADL), will be used to represent the skill that teachers need to

both be able to more thoroughly understand testing concepts and administering the assessment as well as how to interpret and use assessment results. Of course, as further clarification in this study, quotations that possess the terms of assessment literacy and/or data literacy will be cited using the terms as it appeared in the original literature.

Introduction of the Problem

When the new era of accountability was on the horizon, before No Child Left Behind (NCLB) Act of 2001 was legislated, a study by Kane, Khattri, Reeve, and Adamson (1997) found there to be a local level need for professional development support for the use of assessments to inform instruction. Over the years, schools have received increased attention and pressure surrounding their role in increasing student achievement (Young, McNamara, Brown, & O'Hara, 2018). With the focus on the use of assessment data for accountability purposes, other purposes of assessments may be overlooked (Stiggins, 2017). These purposes, like using data to inform instruction, may have been momentarily forgotten, but still remain as the reason to use data. For if we were focusing on data to improve instruction, test scores would rise. Data should be used to inform teachers' instruction so that it can assist in adaptations that meet all students' needs and increasing student achievement. As Fountas and Pinnell (1996) advise, "The primary purpose of assessment is to gather data to inform teaching. If assessment does not result in improved teaching, then its value in school diminishes greatly" (p. 73). Therefore, it is vital that educators understand assessment purposes and results to make instructional changes that will increase learning for students.

While there are many variables impacting student achievement that schools cannot control, there are several that can be controlled. Marzano (2003) indicates that

there are five factors that are within the control of the school: guaranteed and viable curriculum, challenging goals and effective feedback, parent and community involvement, safe and orderly environment, and collegiality and professional development (p. 15). The variables that can be controlled need to be examined to increase understanding of how to best assist students in achieving their personal best. As professional development continued to be a focus throughout NCLB and carries on with ESSA, it should be reviewed as a critical component in district change initiatives.

Professional Development

The manner in which teachers receive professional development matters. Professional development opportunities for teachers need to be well planned (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009; Guskey, 2014). Guskey (2014) contends that this planning must consider what the professional development is intended to accomplish and plan backward according to the student outcomes that are desired. Educators are not the only ones who believe that professional development is important. As previously stated, professional development is included in mandates such as NCLB. Specifically, schools identified as being in need of improvement, were to spend at least 10 percent of their Title I funds on professional development focused on the academic achievement area that was deficient (NCLB Desktop Reference, 2002). Professional development can be referred to using a variety of terms including staff development, trainings, professional learning and inservices and the foci can vary. However, the most frequently stated characteristic of effective professional development is to improve teachers' content and pedagogic knowledge (Guskey, 2003). Professional development is critical to assisting in keeping teachers current in teaching strategies and student learning.

Operational Definitions

Assessment Data Literacy – the knowledge and skills needed to effectively use data in schools which includes the knowledge of testing purposes and practices and use of assessments and data.

Growth – "Growth describes the academic performance of a student or group (a collection of students) over two or more time points." Castellano and Ho (as cited in Dyer, 2019)

MAP Growth Assessment – a computer adaptive interim assessment. The data produced can be used to help identify students' instructional needs and track growth (From NDE *Update: Standards, Assessment, and Accountability (SAA), Winter 2018*).

RIT – short for Rasch Unit. The RIT score represents where the student is ready to learn. It is an equal interval scale used to help measure and compare academic growth across grade levels (Converse, 2016).

Testing and assessments have taken on an emphasized role in education as a part of accountability. And, although this accountability has been intended to ensure that all students in each state are receiving education consistent with their peers, the intent is to close academic gaps. It brought attention to some areas that some school districts may have not been aware of as needing improvement. In order to determine if these goals were being achieved, data had to be monitored at the school and district levels which included a focus on student groups. Specifically, NCLB stated, "Data will be disaggregated for students by poverty levels, race, ethnicities, disabilities, and limited English proficiencies to ensure that no child – regardless of his or her background – is left behind." (U.S. Department of Education, 2002, p. 9). No Child Left Behind brought

about change for education. The legislation left behind a change in the way data was compiled and analyzed to determine if all student groups were achieving. All stakeholders needed to understand how to analyze the data in order to assess the progress being made in students' learning.

Furthermore, professional development received increased attention. Under NCLB, professional development was to be scientifically based and intended for teachers of core academic subject areas. This has changed under the Every Student Succeed Act (ESSA) to state that professional development should be evidence based and include all teachers as well as administrators and other school staff members.

There are three purposes of professional development that are frequently interrelated; specifically, the purposes of improving school performance, increasing the quality of classroom instruction, and supporting the implementation of new initiatives or reform (Darling-Hammond, et al., 2009; Hervey, 2013). These purposes are applicable to this study. In the adoption of a new district initiative of the implementation of a new assessment system, the data that is produced can be used to inform teachers of students' progress which can improve instruction and result in greater student achievement which, in turn, will increase the school's achievement. However, teachers must understand this assessment data and how it can be used to inform instruction.

Assessment Data Literacy and professional development might be viewed as separate for some. However, the power is in using a systems approach and seeing them as related and then discovering how these concepts can be used to inform and support the improvement of instruction and student learning. The inclusion of Assessment Data Literacy in the professional development opportunities of educators, can help teachers

use data more strategically to impact students' learning. In support of this concept, O'Connor & Steuerwalt (2008) maintain that, "Proper training of teachers to administer and interpret an assessment can lead to more effective instruction to meet students' needs" (p. 308).

Significance of the Study

Thoughtfully looking at methods to increase teachers' understanding of assessments and assessment results is critical to assist in student learning. Thus, a well thought out plan not only for providing, but also supporting, professional development for teachers should be developed and monitored to determine progress. This is especially critical when an assessment system is adopted that is intended to shift the thinking about assessments from the perspective of accountability to include student growth and achievement. This change in turn, asks teachers not only to change the manner in which they have thought about assessments for approximately the last 20 years, but more importantly, how they will use these assessment results to change their instruction to meet student needs.

Summary

The purpose of this study is to evaluate the implementation of one Midwestern district's professional development for assessment data literacy. The organization of this dissertation is Chapter One provides an overview of the problem. Chapter Two contains context regarding legislation and assessments and is included for readers who are unfamiliar with the legislation that has contributed to the use and views of assessment. Those who have experienced this era of education may find it validating of their own experiences or may choose to skip it entirely. Chapter Three offers one district's journey

through this transitioning time period of accountability to growth. Chapter Four describes the methodology and the research questions for the research. Chapter Five discusses the development of the survey tool. Chapter Six identifies the results of the study and Chapter Seven considers the limitations and implications.

Chapter 2

Literature Review

The Use of Assessment Data

This chapter will provide background for assessments and accountability, especially for those who did not have the opportunity to know teaching or education before the mandated testing of students. This chapter provides the background knowledge that may contribute information that will assist the reader in knowing where we have been in education and how assessments and the use of assessment results have changed over the last decades due to legislation. This historical information is important to understand where education is now and perhaps, where it will go in the future.

Data has always been used to inform instruction. Lesson plans from the 1940's have shown that assessments were being utilized to plan classroom instruction. In the past, the assessment results that were used were from standardized assessments which ranked student performance. In fact, I recently discovered that my father took classes in 1965 and wrote a proposal of a three year plan that included the use of standardized test results as a way to determine the success of the plan. There seems to be a move from looking solely at student achievement to also looking at growth as evidenced by our state's move to administer the MAP Growth assessment.

Accountability

Accountability requirements have changed education. After being identified as *A Nation at Risk* in 1983, when President Reagan warned America that the nation's future was being reduced by mediocrity and education was declining, we moved into the No Child Left Behind (NCLB) Act which was passed in 2001. The NCLB Act (2001) was a

significant reform measure that President George W. Bush signed into law on January 8, 2002, which facilitated the monumental change in education (Klein, 2015). The NCLB law updated the Elementary and Secondary Education Act (ESEA) of 1965 and was designed to increase the federal requirements regarding accountability (Klein, 2015).

Schools and districts had to meet Adequate Yearly Progress (AYP) as a part of NCLB. States determined what constituted proficiency and the goal was to have all students meet proficiency by the end of the 2013-2014 school year (Klein, 2015). There were four components used to determine AYP: performance, participation, other academic indicator, and assessment quality. In Nebraska, proficiency was defined as having a scale score of 85 on the Nebraska State Accountability (NeSA) state test in the areas of reading and mathematics (Nebraska Department of Education, 2010). However, early in the year of 2015, no states had achieved 100% of their students reaching the designated proficiency level (Klein, 2015).

No Child Left Behind

NCLB changed the way students, teachers, administrators, and the community viewed testing and test results. Testing was now used mainly in a summative manner to evaluate the progress of students, teachers, and schools (Popham, 2009). It was no longer a formative method used primarily to inform instruction. (Stiggins, 2005). Under NCLB, state tests were a way to determine if students were proficient in their learning of state standards. Sanctions were applied to schools if they did not reach the identified targets for all students or groups of students within the identified time frame (Klein, 2015).

Pressure on Schools

Teachers put away their favorite creative units and focused on state standards that would guide the assessments determined by their states (Gallagher, 2007). Teachers felt their workload increase and no longer had the time to plan activities they would like to do with students (Stone-Johnson, 2016). With this increased accountability to the state's standards, teachers reported that their teaching practices changed; for example, teachable moments were no longer used to address a potential learning opportunity that spontaneously arose (Berryhill, Linney, and Fromewick, 2009).

Districts in Nebraska created their own assessments for students in grades 3-8 and 11 in the designated subject areas of reading, mathematics, science, and writing. In Nebraska, teachers were involved in this development of assessments, the field testing, and the standard setting process (Gallagher, 2007). Reporting systems were developed and student results were input. Students were labeled to be proficient or not proficient. Student enrollment was closely monitored and absent students were tested to be certain that the required 95% participation rate was met.

The year 2013-14 was identified as the year that 100% of students would reach the proficient level, as determined by each state. Pressure to make Adequate Yearly Progress (AYP) grew as 2013 approached. Schools not meeting the state's annual achievement requirements for all students or groups of students were assigned sanctions.

Formative assessments, the type of test that was identified as having the ability to make the greatest difference in student learning (Black & Wiliam, 1998) took a back seat to the summative state assessments. Some teachers struggled to see how assessments should be used to inform instruction as the focus became student groups and ensuring that enough students in each subgroup met the proficiency level for that year's AYP goal.

Demand for Data

NCLB brought an increased focus on data. Schools and districts had to pay attention to the data that was identified by the state as a determination of whether the school and district were achieving or underperforming. Teachers were encouraged to review data to identify where their students had weaknesses and were charged with moving students to the proficient mark so their school wouldn't be identified as a school in need of improvement. Students were identified and progress was closely monitored as schools tried to help these designated groups of students achieve proficiency. As the results of these summative assessments were not available until after the school year had ended and thus, were not able to be utilized to inform teachers' instruction for the current school year, the resulting data became something that was viewed as separate from teaching. In addition, teachers felt stress in trying to cover the objectives and standards in the amount of time before the assessments were administered (Berryhill et al., 2009)

Under NCLB, schools tracked their data to determine if they would make the AYP goal identified for that school year. Assessment results of student groups were studied to see if adequate progress was being made. There were rules to determine how test results would be used to determine if schools made AYP. Some considerations included which students counted for each subgroup, which school received the results for mobile students, and which subgroup would students' results count toward for those who identified with more than one subgroup. In order to meet the compliance standards, these rules and details became critical to understand. This focus on accountability narrowed the use of data. Snodgrass Rangel, Bell, and Monroy (2017) found that teachers mostly used data to prepare students for the state test, even when it was a content area that was

not the main focus of the state's accountability testing. This focus on accountability created consequences, both positive and negative, for education.

Importance of Assessment Literacy Training

Increasing teachers' knowledge of assessment literacy could assist in broadening the view of assessments and the use of the results. Assessment literacy provides the understanding that is critical to assist students in achieving their highest potential, not just passing the state test. Assessment literacy is needed by all school staff members in order to make appropriate educational decisions (Djoub, 2017; Popham, 2009). According to Popham (2009), assessment literacy is an absolute necessity for educators to be competent and needs to be an included topic in professional development.

With the focus on the use of assessment data for accountability purposes, other purposes of assessments may be overlooked (Stiggins, 2017). One area that assessment literacy continues to be necessary is for school improvement. Data is utilized in school improvement planning as a metric to indicate school progress toward improvement. Administrators and teachers must possess assessment literacy skills to accurately utilize the data for these plans. In fact, Herman and Gribbons (2001) assert that every school should identify a staff member who can assist in providing support in understanding assessment and evaluation as this is needed to be able to make progress in using data for school improvement. Schmoker (2006) indicates that the best school improvement plan is simple instead of complex. He relates that,

> our best 'plan' is to arrange for teachers to analyze their achievement data, set goals, and then meet at least twice a month – for 45 minutes or so. That way, they can help

> one another ensure they are teaching essential standards and using assessment results to improve the quality of their lessons. (p. 34)

Professional development in the area of assessment literacy is necessary for teachers to understand student achievement data and consequentally, to use outcome data appropriately for school improvement, and differentiating instruction and adjusting lessons to meet student needs everyday. Knowledge about assessment literacy needs to be shared with multiple audiences. The use of assessment literacy to facilitate the fine-tuning of lessons is what can drive student achievement. Teachers are not the only group who can benefit from a deeper understanding of assessment literacy. Administrators and stakeholders need to comprehend assessment results as well. Herman and Gribbons (2001) acknowledge that teachers and administrators obtain little training in assessment and evaluation in their pre-service coursework and state that there is a need to mandate such requirements.

Popham (2006) stated that assessment literate educators have a professional responsibility to inform four audiences about assessment literacy: educators, parents, everyday citizens particularly key policy makers, and students. In addition, he related that assessment literate educators should encourage other educators to advocate for professional development trainings that provide information about assessments. It is important for all stakeholders to understand testing and assessment results so that they can be interpreted accurately. If a stakeholder misreads an assessment result, it could result in a misunderstanding that may lead to an inappropriate educational decision that would adversely impact students. Bracey (2000) indicates that stakeholders must understand assessment terms so that assessment results are not misinterpreted. Thus,

increased training opportunities about assessments are needed to provide the information that will assist in better decision making.

Consequences of Accountability Pressures

In 2001, Cizek related positive aspects of using test data to measure student performance including an increase in the data collected as well as that is more accurate and utilized to make educational decisions, an increased sensitivity to special education students' needs in regard to accountability and testing in general, and an increase of knowledge about testing. Grissom, Nicholson-Crotty, and Harrington (2014) found that there has been an increase in the hours teachers have worked since No Child Left Behind, but teachers also indicated that they have more control of their classroom and that they feel there is more support from fellow teachers, administrators, and parents. Additionally, from the years prior to NCLB and after its implementation, teacher job satisfaction and commitment to the profession have shown an increase (Grissom et al., 2014). Testing has been credited with an improved alignment of curriculum to what should be being taught as determined by the state (DeBard & Kubow, 2002; Jones & Egley, 2004). While these positive aspects should be noted, many of the unintended consequences have been negative.

One concern of high stakes testing is the narrowing of the curriculum. There is an increased focus on teaching the curricular areas being tested, usually the subjects of reading, writing, and mathematics. Other subject areas, such as science and social studies, are not taught as much, or in some cases, they may not be taught at all. Of course, this reduction in content being taught has implications for students as there will be deficits in their learning (Jones & Egley, 2004). Also, teachers who are new to the

profession, may not get to know the content in a comprehensive manner that they are supposed to teach (Jones et. al., 1999).

Another concerning consequence is the time that is taken away from instruction in order to prepare students for the test and the time to actually take the test (Smith, 1991). Teachers do not view the results of high stakes assessments as an accurate depiction of what students know; and yet, their effectiveness is being measured by the results either formally or informally (Jones & Egley, 2004).

In addition to high stakes testing consequences, there has been discussion about the intended and unintended consequences of high stakes teacher evaluation. In 2011, there were twenty states that required teachers be dismissed due to evaluation results (Lavigne, 2014). In the age of accountability, and an increased focus of student performance as indicated by testing results, there is concern about attracting teachers to the profession and retaining effective teachers. As Lavigne (2014) relates,

> Teachers do not, however, list high student achievement test scores as a reason to enter the profession. If a teacher's job is determined by this factor and it is determined to be too stressful or risky, it may deter individuals from considering teaching as a future profession. (p. 22)

Every Student Succeeds Act

On December 10, 2015, the Every Student Succeeds Act (ESSA), a bipartisan education bill was passed and became the law which replaced NCLB which was also bipartisan. ESSA took place fully in the 2017-18 school year. ESSA is focused on ensuring a quality education for all students regardless of race, zip code, language proficiency, or disability (AQuESTT Revision and Recommendation Team, 2018).

Beginning in 2017-18, under ESSA, each state was required to submit a plan to the United States Department of Education for approval.

ESSA has been designed to reduce the strict accountability requirements by allowing more flexibility in the federal guidelines regarding accountability. It is essential to assist students, teachers, administrators, parents, and the community in understanding this change. This is an opportunity to assist all stakeholders in viewing assessments and the results in a different way from what has been occurring, that will impact student learning in a more meaningful manner.

Campbell's Law (2011) explains how high-stakes testing may have become distorted under the NCLB accountability measures. As Campbell states, "the more any quantitative social indicator is used for social decision-making, the more subject it will be to corruption pressures and the more apt it will be to distort and corrupt the social processes it is intended to monitor" (p. 34). Districts, schools, students, and teachers have felt pressure to perform well on these high-stakes tests. The intent of NLCB was to increase achievement for all students with a focus on identified groups of students (U.S. Department of Education, 2004). These consequences that need to be considered as the move into ESSA proceeds as the focus on student groups may have hindered the learning of all students. This way, perhaps the focus on the high-stakes assessment can be reduced and assessment can be used to inform instruction.

What We Gather to Analyze (Types of Data)

School staff members have access to a variety of data points. Attendance information, climate surveys, state test scores, district assessment results, discipline incidents, and lunch participation are only a few examples of available data. These

different types of data have different uses for a variety of purposes in schools. Bernhardt (2013) identifies four major categories of data: demographics, perceptions, student learning, and school processes. Also, Bernhardt (2013) explains that these data groupings should not be viewed in isolation as greater insight and understanding can be derived from examining the intersections of these data points. Murray (2013) echoes the importance of the idea of examining multiple data points and their influence upon each other as well.

Data Informs

Teachers use many types of data to facilitate students' learning. In a review of data use from on-line research resources from the last 14 years, seven types of data were found to be utilized by teachers to increase student learning (Sun, Przybylski, & Johnson, 2016). As reported by Sun et al. (2015),

> they are as follows in descending order of their frequency of use:
>
> - Short, formative assessment (e.g., exit slips, students' assignments and work, end of unit tests)
> - State-wide standardized test scores (e.g., California State Test) or local benchmark assessments
> - Classroom observations
> - Attendance
> - Demographic data
> - Instructional strategies that help students perform at proficiency levels on essential standards
> - Growth reports (Brunner et al. 2005) (pp. 8, 15)

School Improvement Planning

Data informs a variety of educational practices. One of the most prominent is the use of data for school improvement planning. In a study completed by the U.S. Department of Education (2010), the use of data for school improvement planning was the most common use identified by staff at the participating schools.

It is important to view a variety of data to create a more complete picture of the school. In their case study of working with two schools regarding data use and school improvement, Herman and Gribbons (2001) posed three empirical questions that were suggested for schools to consider when looking at data to inform school improvement: "How are we doing? Are we well serving all students? What are our relative strengths and weaknesses?" (p.5). They relate that when administrators feel pressure to show improvement, improving test scores can become the focus instead of improving student learning (Herman & Gribbons, 2001).

Accompanying accountability was an assumption that if teachers monitored data, the data would be used to improve student learning (Ingram, Louis, & Schroeder, 2004). Of course, this did not happen without explicit intention. In fact, some research relates that research does not clearly indicate how standards and accountability policies have affected teaching and learning (Ingram, Louis, & Schroeder, 2004).

Student Learning and Student Placement

Teachers continually ask and reflect upon if their students are learning. (MAP Catalyst series). Teachers use a variety of metrics to measure student progress. Assessment use in the classroom should inform what comes next in student learning (Stiggins, 2008). Data is used to determine what classes and courses students are placed

in at the elementary and secondary levels. This data may include objective and subjective data (e.g., state test scores, report card grades, student characteristics, etc.).

Program Evaluation

Data has become increasingly important for special programs that have partnered with schools to demonstrate their success to their external funders. Summative state test data is not highly detailed and thus, does not reflect the changes that external programs seek. At times, in an attempt to show that a program is working, credit is taken from the educators who work with students every day, for the limited time students spend in an afterschool program. Care must be taken in presenting this data so that teachers, schools, and districts are not overlooked as main contributors to the student success being portrayed.

How Data is Analyzed

Not all educators or stakeholders knew how to interpret or use the assessment results that were obtained from these tests. Popham (2001) indicated that the majority of states did not require future teachers or administrators to complete a course in educational measurement as a part of their degree. Further, he related that if they had, the course may not have addressed the manner in which assessment results were currently being used. Popham (2001) emphasized the need for all educators to become assessment literate. With this increased focus on assessments, understanding results and their use has grown in importance.

Perceptions of Testing

Testing is viewed in a variety of ways, many of which are negative. Stress about testing is felt by both students and teachers. Elementary students report feeling more

anxious about taking a high stakes test than a classroom assessment (Segool, Carlson, Goforth, Der Embse, & Barterian, 2013). Smith (1999) indicates that teachers feel anxious about how students will perform in addition to worrying if they have provided instruction that has prepared them for the test. This worry and pressure to do well on high stakes tests, may result in some educators cheating or knowing a teacher who has participated in practices that could be considered cheating (Amrein-Beardsley, Berliner, & Rideau, 2010). This cheating can be categorized into cheating in the first, second, and third degrees based on the details of the incident and is usually done to protect themselves and their students (Amrein-Beardsley, Berliner, & Rideau, 2010).

Accountability, Professional Development, and Stress

The new age of accountability has brought stress to teachers; however, testing has been viewed as a source of stress for educators for over two decades. In 2012, Richards conducted a study involving teachers across the nation, and found that teaching students with many needs and stress from the pressure of feeling accountable were two of the top five sources of stress. As teachers have worked to focus on student learning in regard to the accountability test that students will have to take, teachers relate that the work of teaching has changed. As a result of these accountability processes, teachers report that they have more work to do, less time to do the work, and that the type of work has changed (Berryhill et al., 2009; Richards, 2012, Stone-Johnson, 2016). It is important to take into account the amount of stress that teachers may be experiencing when planning for change in a school district.

Specific Teacher Characteristics and Stress

A Nation at Risk (1983) indicated "that the professional working life of teachers is on the whole unacceptable" (p. 30). Stress continues to be prevalent in education and affects teachers in a variety of ways. Some teachers may seek early retirement or pursue a different career. Groups of teachers who have similar characteristics have been shown to experience stress differently as well. Stress factors differ among male and female educators. Klassen and Chiu (2010) found that female teachers reported more classroom and workload stress than male teachers. When looking at college employees, Fernet, Guay, Senécal, and Austin (2012) discovered that the level of depersonalization varied based in gender. Women scored higher on depersonalization than men. This was the case at the beginning of the school year, and increased as the school year continued (Fernet, et al, 2012).

Stress has been found to be different depending on the school level (i.e., elementary school, middle school, and high school) and teaching assignment. High school teachers reported a higher level of job related stress than elementary and middle school teachers (Gonzalez, Peters, Orange, & Grigsby, 2016). Furthermore, Gonzalez (2016) found that high school teachers who taught courses that were considered to be a high stakes content area experienced more stress than teachers who taught courses that were not considered to be not high stakes.

Burnout

Stress can lead to teacher burnout. Male teachers relate higher levels of burnout than females. In addition, educators with higher levels of education convey higher levels of burnout as well (Friedman, 1991). Individual stress levels of teachers can lead to stress in a building that can be seen in burnout of staff members.

In a study conducted by Friedman (1991), schools were classified as high-burnout schools and low-burnout schools and climate and culture were studied to determine the differences between the two types of schools. Schools with high-burnout, were found to have measurable goals that emphasized academic achievements, while the schools with low-burnout had more flexible objectives that did not hold achievement scores at a high level of importance. In regard to professional development, the need for ongoing professional development was not emphasized in high burnout schools (Friedman, 1991). In low-burnout schools, a central criterion for evaluating the functioning of the teacher was not the level of achievements in the subject that he or she taught (although this was an important factor), but the extent to which he or she was integrated into the staff, as well as the extent of the assistance given (or received) in relation to co-workers. (Friedman, 1991, p. 327)

Work Conditions and Stress

Teachers' perceptions of the work environment and motivational factors contribute to stress. Teaching is an isolating profession. As emphasis on data and accountability has increased, so has the work load of teachers increased. This increase has resulted in greater isolation. Fernet et al (2012) suggests that providing professional development opportunities may assist in increasing teachers' feelings of competence and help them find value in their work to a greater degree. Professional development should be further explored; and if testing is viewed as a stressor, perhaps providing professional development in the area of assessment results and the use of these results to improve instruction to better meet students' needs should be considered.

Perceived Barriers to the Use of Data

Some believe that data is difficult to analyze and that they do not possess the skills (or the software) to complete the complex analysis that is needed. Descriptive statistics can assist in answering many questions related to school improvement; however, the needed student level data was not always available (Herman & Gribbons, 2001).

One barrier to data use is time. In a study of teachers' use of data systems completed by the U.S. Department of Education (2008), it was found that teachers needed time to look at data and plan for the use of the data. There are many different uses for data. Guskey (2003) points out that at times, there may be barriers to implementing the skills that teachers learn from professional development trainings, such as, a shortage of time, technology, or materials that inhibit teachers' use of their newfound knowledge.

Assessment Systems

Assessment systems can assist in displaying the data that needs to be used to inform instruction. However, Stiggins (2017) contends that our current assessment systems, at all levels, are flawed and cannot provide the type of information that is needed to inform instruction at the classroom level which will result in school improvement. He explains that the culture around assessments, both inside and outside of schools, has become progressively negative. Stiggins (2018) recounts that a better assessment system is needed in order to make educational decisions that result in improvements in student learning. He indicates that better assessments and a more effective use of the results as well as an increased understanding of assessment literacy for all stakeholders is necessary to be successful (Stiggins, 2018). Using assessments to first support teaching and learning while fulfilling accountability requirements should be

the shift we make in the assessment system in order to see improvements in student achievement (Stiggins, 2017).

In order to make this shift, the current assessment system has to become an assessment system that informs instructional change. Stiggins (2017) indicates five improvements in current assessment and data use practices that need to be made in order for this to occur. First, the identified clear purpose for assessing students should be to maximize their learning and ensure they are expanding their knowledge, skills, and abilities instead of for the purpose of accountability. Next, there needs to be specific learning targets that indicate what students are supposed to learn and these need to be understood not only by teachers, but also administrators, policy makers, as well as students. The third improvement, according to Stiggins (2017), is that there are high quality assessments that accurately indicate students' learning in regard to the standards and assist in determining the next steps in learning. Formative and summative assessment results need to be communicated effectively to all stakeholders, including students. Finally, assessments should be used to motivate all students by focusing on their individual growth and inspiring life-long learning (Stiggins, 2017). In order to achieve assessment literacy one must understand the various forms of assessment, the appropriate times to use these forms of assessment, and the limitations within each type of assessment.

Balanced Assessment Systems

There are different types of assessments and reasons to use the results of these assessments. It is important to utilize a variety of assessments to assist in determining the progress and achievement of students and schools. When a school or districts identifies

different types of assessments, typically referred to as summative, interim, and formative assessments, it is said to be a balanced assessment system. Of course, just having the assessments or administering the assessments is not enough. The assessment results need to be used for the purposes for which they are intended.

Types of Assessment

Assessments are typically categorized into one of the following three groups: summative, interim, and formative. Summative assessments are large scale assessments that usually occur at the end of a semester or the school year. High-stakes tests are summative assessments. They depict point-in-time information about student achievement. Assessment of learning refers to summative assessments (Arter, 2009).

Interim assessments are administered at a specific time during the school year and provide information regarding strengths and gaps in the curriculum and teaching. These assessments can assist in predicting student progress made toward grade level standards and help inform school improvement.

Formative assessments are often referred to as assessments for learning. These assessments take place in daily lessons and provide teachers with information regarding student progress that is necessary to adjust instruction. Formative assessments have been identified as having the ability to make the greatest difference in student learning by informing teaching; however, they have taken a back seat to the summative state assessments that are a federal requirement. With the focus on student performance on summative assessments, some teachers struggle to see how assessments should be used to inform instruction. The importance of purpose and use of formative assessments continues even though summative assessments are receiving more attention.

Growth Assessments

Some assessments are designed to measure more than achievement. They are also intended to measure growth of students. MAP Growth is not a proficiency assessment, meaning that it does not provide information regarding skills that students have mastered. With the passage of the ESSA, there was a modification that permitted states to develop and administer computer adaptive assessments (ASCD, 2015). Districts in Nebraska began to use the MAP assessment. The previous ideas about assessments were shifting from the original assessments and accountability that came with No Child Left Behind. Accountability continued, but with changes.

Dweck (2006) conveys the importance of a growth mindset that looks at change, continual learning, and improvement. In comparison, a fixed mindset is looking for perfection and believes in a fixed ability. She relates that one assessment that looks at a student's performance at one point in time does not contribute information regarding the student's ability or insight for success in the future (Dweck, 2006).

With this change to adopting a district assessment that focused on growth rather than mastery of content included on the state assessment, the district was not only seeking to change teachers' beliefs about assessment, but also alter the use of assessment results.

Chapter 3

Our District and Professional Development

Introduction

Changes, perhaps more so in a large school district, have to be cautiously considered, for there are so many stakeholders involved. This is not to say that these stakeholders are more important. It is to say that a change in a large school district is multiplied by that many more students, teachers, administrators, and parents. Therefore, if change is not thoroughly thought through before it is made, it can take a long time to make an addition, correction, or an adjustment of any kind. This chapter provides the context of assessment actions in the research school district.

One District's Journey

As a result of No Child Left Behind (NCLB), assessment data has received much of the attention as a determinant of a school's success (Snodgrass Rangel, Bell, & Monroy, 2017). When a district decides to adopt a new assessment, there is increased training that is necessary in administering the assessment, applying accommodations, interpreting the results, and making instructional changes. Knowing that assessment results are used as a measure of student achievement, and this is a way that schools are judged, it is important to make the transition to the new assessment as efficient and effective as possible. Time for teachers to learn about these changes can be difficult to find, so the time that is available should be used wisely. Monitoring the effectiveness of the professional development offerings is important to efficiently utilize the resources of time and money. In fact, it has been suggested that school districts allot time and money

for professional development based on the impact that will be made on student achievement (Reeves, 2001).

Theoretical Framework

From the work of Yoon, Duncan, Lee, Scarloss, & Shapley (2007), this framework assumes that professional development occurs in the surroundings of high standards, rigorous curricula, system wide accountability, and high stakes assessments (see Figure 1). This study views professional development as affecting student achievement through three steps. First, professional development increases educators' knowledge and skills. For this study, the professional development is specific to the district's newly adopted assessment, MAP Growth. Since MAP Growth is unlike assessments administered previously in the district, teachers need to understand the purpose of the assessment and increase their assessment literacy to be able to use the results effectively to increase student learning. Second, this increase in knowledge and skills improves classroom teaching. In this study, the increased knowledge in using the assessment results can assist teachers in adapting their teaching to better meet all students' needs. Third, this improvement in classroom instruction raises student achievement. All of the links need to be in place and strong, or improved student learning cannot be anticipated.

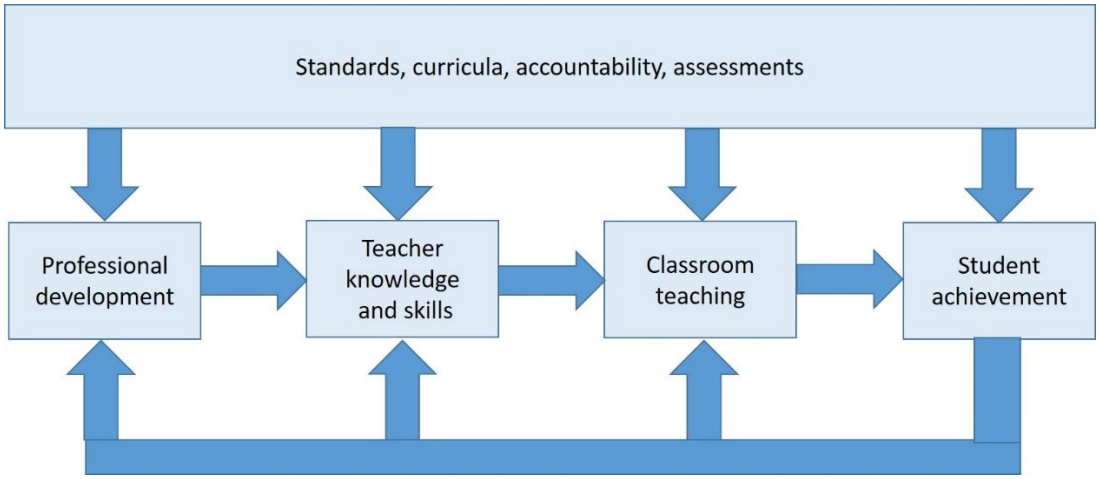


Figure 1. How professional development affects student achievement. Adapted from Yoon, K. S., Duncan, T., Lee, S.W., Scarloss, B., & Shapley, K. (2007). Reviewing the evidence on how teacher professional development affects student achievement. (Issues & Answers Report, REL 2007-No. 033). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southwest. Retrieved from http://ies.ed.gov/ncee/edlabs, p.4.

Student achievement is impacted by the teacher's instruction in the classroom. The lessons that are taught to students help them understand the concepts and skills that are included in the state standards. These lessons include the introduction, reteaching, and extension of skills in a variety of formats including individual, small group, and whole group teaching. Teachers use formative, interim, and summative assessment results to assist them in planning instruction to meet students' needs. The teacher's knowledge and skills include topics such as classroom management, instruction, subject matter, and differentiation. Teachers gain knowledge and skills from professional development which can occur both formally and informally. Education classes, coaching, mentors, professional development, and experience are some of the ways in which professional development may be delivered.

There is a mindset shift and deeper understanding that needs to occur in the manner in which this change in assessment should be viewed under the ESSA legislation, a change that may be difficult after the NCLB legislation; therefore, the district's professional development plan is developed for educators, including teachers, administrators, and supervisors at the school and district levels.

Professional Development Offerings

Professional development trainings can possess an assortment of goals and outcomes. There are four main classifications that have been identified: knowledge of educational practices, an improved attitude change, skill development, and transfer of the new skills and strategies into consistent classroom practice (Joyce and Showers, 2002; Yoon et al., 2007).

Coombe, Troudi, and Al-Hamly (2010) indicate that teachers need professional development regarding assessment literacy as well as time to put into practice what has been learned. In addition, they provide recommendations for achieving assessment literacy that should be addressed within professional development trainings (Coombe et al., 2010). First, they relate the importance of understanding what makes a good assessment as well as the varying views of the nature of education that may lead to divergent approaches to assessment. Additionally, it is suggested that professional development offerings be provided to teachers via different means (e.g., online trainings and assessment workshops, as well as differentiating trainings to meet the different skill levels of participants (Coombe et al., 2010; Schrum & Levin, 2013). The third recommendation is to be committed to the significant change that must occur in our educational practices as well as a time commitment by teachers. In addition, Coombe et

al. (2010) suggest considering the workload of language teachers in addition to providing assessment resources, especially online, for the success of assessment literacy professional development.

There are different ways that professional development trainings can be delivered. There are advantages and disadvantages to all, as well as personal preferences that play a role in the effectiveness of the training styles. Therefore, there is not one best way to provide professional development, (Guskey, 1994); it is important to consider a variety of aspects.

Lessons about Professional Development from Other Nations

The beliefs and implementation of professional development vary by country. In fact, countries that are seen as high achieving, have a different view of professional development than the United States and their practices are similar to the research on effective professional development (Darling-Hammond, et al., 2009). Their professional learning occurs during the school day, and/or by having other teachers cover classes.

Other countries have been experiencing school reforms as well. One example is Singapore, which is working to improve student learning outcomes. The need for improving teacher quality has been identified as the way to improve student learning outcomes. They are seeking to accomplish this goal through the implementation of professional learning communities; however, they are aware that it needs to be done in such a way that the teachers in Singapore will not see it as one more thing they have to do on top of everything else (Hairon & Dimmock, 2012).

Time for teachers to build relationships and share ideas with each other is critical. Thus, collaboration for planning and discussing instruction is built into the day as well.

This collaborative support begins when teachers are hired as these beginning teachers have mentors who assist them and/or participate in induction programs. Teachers in other countries are included in decisions about, and creation of, curriculum and assessments, as well as providing guidance for professional development. In addition, many high achieving nations support additional professional development that is beyond the time that is already built into the school day by requiring and/or funding additional professional development hours for teachers' participation in courses or trainings (Darling-Hammond, et al., 2009). Of course, the success of these nations cannot be attributed solely to these supports; however, it seems that they would be contributing factors to the success of teachers and thus, students for education systems of all countries.

Types of Professional Development

Professional development can be categorized into two types, traditional and reform (Garet, Porter, Desimone, Birman, & Yoon, 2001). Garet et al. (2001), indicated that the traditional arrangement of professional development is the type that has a presenter with specialized knowledge who leads the participants at sessions held at designated times with examples including workshops and conferences. They further relate that this is the most common as well as the most criticized type of professional development. The second type of training can be categorized as reform.

Reform professional development referred to mentoring or coaching that usually occurs during the school day (Garet et al., 2001). This type of professional development results in better outcomes than traditional trainings due to the longer time of the professional development. Similarly, Boyle, While, and Boyle (2004) found a

"significant correlation between the number of longer-term PD activities that are undertaken and the number of changes in teacher practice" (p. 57).

Delivery of Professional Development

There are different ways that professional development can be offered. Face to face professional development refers to training provided in person such as workshops or seminars. Online professional development can be provided in multiple formats including webinars and access to online resources such as videos.

Blended professional development provides both face to face and online opportunities for training. Online opportunities allow for trainings to be accessed as teachers have time available to participate and can fit into a variety of individuals' schedules more easily. Boyles (2006) reported that professional development needs to be continual in order to help teachers become assessment data literate and there is a need for assessment literacy resources to be available. Also, professional development at the district level should be blended (Boyles, 2006).

Professional Development Components

It is critical to identify the purpose of the professional development offering in order to assist in the design and delivery to maximize the effectiveness. Dunne (2002) suggests four purposes for professional development: to construct knowledge, to transfer knowledge into practice, to practice teaching, and to promote reflection.

There are characteristics that have been shown to increase the impact of professional development. Garet et al. (2001) indicates that collective participation in professional development can be effective. For example, groups of teachers who teach at the same school, have many elements in common including the same instructional goals,

curriculum, and students, which can assist in sustaining changes over time. Sustained and intensive professional development has been shown to be more impactful than shorter professional development (Garet et al.; O'Connor & Steuerwalt, 2008). Under the Every Student Succeeds Act (2015), the definition of professional development has been updated to indicate that it should be "sustained (not stand-alone, 1-day, or short term workshops), intensive, collaborative, job-embedded, data-driven, and classroom-focused" (p. 2096). This definition joins the components found to be important in professional development and the use of data.

In our district, there is a rich history of providing professional development to teachers about assessments and the interpretation of results. In the 1980's, the district administered the California Achievement Test as a standardized test, and in 1991, two administrators from the district's Research Division scheduled time at each building to discuss the test results with all staff members. A little over a decade later in 2005, additional district wide training occurred when members of the Research Division gathered staff members at various locations in different areas of the district to communicate the changes in testing requirements of No Child Left Behind as well as the importance of test security.

Legislation have further impacted professional development. Data has always been used in education; however, No Child Left Behind Act changed how data is viewed, used, and collected. The requirements of No Child Left Behind and accountability brought more of an evaluative process to determine the success of professional development. Determinants of successful professional development shifted from the number of participants to improvements in student achievement (Guskey, 2003).

Similarly, Reeves (2001) indicates that the first key to effective staff development is to have it focused on student achievement. Guskey (2000) related that there are three characteristics of professional development as being that it is an intentional, ongoing, and systemic process.

Heritage and Yeagley (2005) state that in order to help schools in using data more effectively, there needs to be an "investment in human capital required to develop the assessment literacy and data analysis skills that will, ideally, reach from district to classroom level (p. 335). In Nebraska, the Department of Education has supported the investment in human capital by developing and utilizing teachers and administrators as trainers (Gallagher, 2007).

Successful Professional Development

Although there may be requirements held by districts and states for the professional development of teachers, most teachers are engaged in professional development because they are interested in becoming better teachers.

In order for professional development to be successful, it has been shown that the training needs to be meaningful to teachers (Darling-Hammond, et al., 2009; Guskey, 1994) as well as sustained over time (Darling-Hammond, et al., 2009).
Professional development can be more successful when teachers have input on the training topics. Some schools use surveys to obtain information regarding teachers' needs for potential training opportunities (Guskey, 1986; Schrum and Levin, 2013). "Survey answers are also used to develop further questions, and schools regularly use data from surveys to plan more professional development activities as they strive for a continuous improvement model" (Schrum and Levin, 2013, p. 40).

Hairon and Dimmock (2012) state that time to collaborate is another valued component of effective professional development while Grady, Helbling, and Lubeck (2008) take this one step further and indicate that being able to collaborate with colleagues during the school day is an important aspect. Likewise, in a review of multiple studies about effective professional development, Hammond, Hyler, Gardner, and Espinoza (2017) identified collaboration as one of seven characteristics. The seven characteristics of effective professional development methods are as follows:

1. They are content focused.
2. They incorporate active learning strategies.
3. They engage teachers in collaboration.
4. They use models and/or modeling.
5. They provide coaching and expert support.
6. They include time for feedback and reflection.
7. They are of sustained duration. (p. 23).

Grady et al. (2008) indicate that teachers feel their professionalism has declined rapidly under NCLB and are not viewed as professionals by the public. Professionals are allowed to make decisions based on their expertise and take ownership for their own professional development and this is not always an option for teachers. The benefits of professional development need to be considered as well.

Benefits of Professional Development

Professional development can be viewed as a way to assist teachers in making changes that will improve instruction to increase student learning and achievement. Guskey (1986) identifies that professional development may influence change in three

areas: classroom practice, teachers' beliefs and attitudes, and the learning outcomes of students. It is important to note that these areas are not mutually exclusive and it may take time for the changes to become apparent. Kennedy (2010) found that significant changes in teachers' beliefs and attitudes became evident after having success with students. This "success enhanced teachers' self-confidence and self-efficacy and raised their expectations for students" (Kennedy, 2010, p. 386).

Professional Development Design and Implementation

There are many factors to consider when designing professional development trainings. In addition to the topics that have been identified to be covered, additional considerations include when the trainings will occur, location, and duration. Professional development needs to be more than an occasional offering (Guskey, 1994). It needs to be intensive, on-going, and connected to practice (Darling-Hammond, et al., 2009).

All aspects of professional development should be considered for optimal implementation including how often trainings occur and where they are held. In looking at differences between schools with low-burnout and schools with high-burnout, Friedman (1991) found that although there was not a significance difference between the classifications of schools regarding the frequency of teacher trainings, there was a difference in the location of the trainings. The low-burnout schools held a greater majority of their teacher trainings away from the school than the high-burnout schools (Friedman, 1991). It seems that there is a benefit for teachers to be able to get away from the school site to receive professional development.

Professional Development in a Large District

Although there is not much written in the literature regarding providing professional development to teachers in a large district, there are several circumstances that can be challenging. Simply the fact that there are a greater number of teachers in a large district than in a small district presents a challenge of ensuring that the information reaches all members of the audience. Professional development in a large district has the possibility of resembling the old game of telephone where the first person quietly tells the next person a message who then tells the next person and so on until the message reaches the person with whom the message originated. The first person states what the original message was and then everyone can see how much the message changed. In a large district with thousands of teachers fidelity of implementation is a definite consideration in planning.

In any size district, one challenge of professional development is bridging the divide between what the participants want and expect and what the district has as goals (Wilson & Berne, 1999; D'Ambrosio, Boone, & Harkness, 2004). Wilson and Berne (1999) further express that professional development activities may not meet the goals that were originally planned because of the time that may need to be spent addressing participants' reactions and discussion topics. They go on to consider the need for teachers to be able to discuss and critically reflect on their own teaching and move beyond learning a new skill (Wilson and Berne, 1999). D'Ambriosio et al. (2004) found that including survey responses from students could assist in shaping professional learning experiences for teachers.

One Large District's Experiences

In the summer of 2003, in the era of No Child Left Behind, the role of the Academic Data Representative (ADR) was created in the district in which the study took place using a train the trainer (TTT) model. The main role of the ADR is to assist school staff members understand assessment results and data use. Building principals and program directors were asked to identify an individual who would serve as the data person or ADR at each building and program in the district. In addition to the established job duties that the position of the person was responsible for, the ADR was also responsible for training the teachers in conjunction with the leadership team in the school in which she or he works, to ensure teachers were trained in assessment related topics including proctoring the test, analyzing results, and using data to make instructional decisions. Although the role has changed as state and district assessments have changed, one of the ADR's main charges remains stable: to train teachers in understanding assessment results so that they can be used to improve instruction.

The TTT model has been used in various professions with a variety of participants (Suhrheinrich, 2011). This type of training has also been referred to as pyramidal training, triadic training, and helper model training (Suhrheinrich, 2011). The Nebraska Department of Education and the Educational Service Units (ESUs) and districts utilized a trainer–of –trainers model which is similar to TTT as well, especially during the time of Nebraska's School-based, Teacher-led Assessment and Reporting System (STARS). The trainer–of –trainers model uses existing experts to provide training while teachers new to the process continue to be cycled in, who are able, in turn, to train others (Gallagher, 2007). In a study using TTT, Suhrheinrich (2011) found that this was an efficient and cost effective way to provide training to teachers. While Gallagher (2007) reports that

using teachers to teach teachers is it is not only efficient, but also fosters buy in as the involved teachers are a part of the process development. As the importance of assessing students and using assessment results continued over the years, so did the role of ADR.

Electronic data systems were developed as a part of No Child Left Behind to collect the data that was required (U.S. Department of Education, 2008). In fact, between 2005 and 2007, there was an increase from 48 percent to 78 percent of teachers who reported having access to electronic data systems (U.S. Department of Education, 2008). A few years before the study, in 2002-2003, the district developed two electronic data systems: an online collection system for state test results and an academic data dashboard in to assist in facilitating the use of data. The purpose of the data dashboard was to provide one place where multiple data points could be accessed to assist in data use. The data that can be viewed is based on security permissions so that teachers could obtain assessment results for the students in their classes while allowing principals and ADRs to see teacher, course and grade level data. The data points were taken from the Belfanz study which reported that attendance, behavior, and course grades were

In addition to the creation of this repository for data, district staff created an online collection system where teachers input assessment results for individual students. This online system allowed the district to collect assessment results that could then be provided to the state, district, schools, and parents to inform them of the proficiency status toward AYP. The data could then be uploaded to the dashboard so that it could be accessed more easily. The development of these electronic data systems added responsibilities to the ADR's role, including assisting teachers in the access and use of

the system. Of course, as access does not indicate that assessment data is utilized, opportunities to train staff members in the use of this data increased.

The transition to the Every Student Succeeds Act converted the focus to helping all students and not just the targeted students who could likely be moved into proficiency. This shift caused a reevaluation of what and how assessments measure. As more and more districts across the state moved to measuring growth as well as achievement, the district began to examine what assessments were to be administered and the purpose of each. After piloting MAP Growth in several capacities in several different ways and discussing a variety of considerations with various groups within the district, the district adopted MAP Growth as an interim assessment beginning with the 2017-2018 school year.

District leadership identified the need for professional development for staff members with this shift from achievement to growth as well as administering an online only assessment. In anticipation of this monumental shift, the Assessment Steering Committee was asked to provide feedback regarding professional development needs at different times. It became evident that this critical shift would require a systems approach to thinking and consider both professional development and assessment data use in planning and implementation. After identifying the philosophical and logistical shifts that needed to be implemented, a three year professional development plan was created. The plan involved an integrated design for professional development (Guskey, 2000) that took into consideration necessary changes at both the district and school levels. Formative checks were identified as a way to obtain feedback regarding the implementation of the professional development plan to inform the work.

The district created the position of Assessment Trainers in 2016 - 2017 to provide technical support and data use guidance to schools, and especially teachers, in the support of this undertaking. This technical assistance, as Levine (1991) indicates, is critically important to assist schools in creating effective schools. Although the focus is not implicitly effective schools, one must agree that the implementation of a new way of thinking about assessments can create improved student learning, and thus, more effective schools.

Evaluation of Professional Development

As Wilson and Berne (1999) state, typically evaluation of professional development opportunities assess what the participants liked about the training, but not what was learned. It is important to consider the learning that has occurred as a result of the professional development offering (Guskey, 1986).

In the next chapter, the collection of data and its analysis for this study will be explained.

Chapter 4

Methodology

Profile of Data Collection and Analysis

The purpose of this study was to explore the implementation of year two of a three year professional development plan related to a district wide assessment system to identify what is going well and what needs to be changed in the plan or delivery model. Professional development trainings are needed to assist staff members in gaining new knowledge.

Research Design

For this study, a cross sectional design was used (Gall, Gall, & Borg, 2007), as different groups with varying experience were included in the survey measure. Participants were asked to indicate their primary role in the district so that group responses could be reviewed to assist in determining progress made and the next training topics to include. Survey questions were designed to gauge not only opinions, but also knowledge, regarding the MAP Growth assessment.

Data Source

Data were collected at two time points: at the end of the third quarter in the first year in 2017-2018 (i.e., Time 1) and at the end of the fourth quarter in the 2018-2019 school year (i.e., Time 2). At the end of the beginning of the third quarter, a survey was developed (see Appendix A). At the end of year two of implementation, a survey (see Appendix B) was disseminated to teachers, ADRs, and supervisors that incorporated questions that were both quantitative and qualitative. The content of the survey was developed by educators with expertise in the content of the assessment system as well as

being the trainers for the professional development sessions. Assistance from an Industrial & Organizational Psychologist was utilized to ensure questions were designed to be a psychometrically reliable and valid measure. A variety of questions were included in the survey. The questions went through several revisions to enhance the readability. Demographic information was collected (e.g., In which core content area do you teach?). The survey included questions that asked participants to indicate their agreement using a Likert scale (e.g., How proficient do you feel in identifying strength and growth opportunities in your class?). Additionally, there were questions with yes/no responses and open-ended questions. The survey responses were confidential. The second survey varied slightly as it was adapted to obtain more specific information for Time 2. For example, administrators were added as a job role. The instrument is described in more detail in Chapter 5.

Procedures

In the first year, the survey was emailed to participants. During the second year, the purpose of the survey was discussed and the ADRs were given time to complete the survey at an ADR meeting. It was explained to the ADRs that a survey would be emailed to school staff members, specifically, teachers and building and district administrators. This communication was intended to assist ADRs in the event that they received questions. Following the meeting, the survey was emailed to all K-12 educators in the district data base. Reminders were emailed to possible participants who did not complete the survey within the first few days. The entire survey was completed by 2,020 teachers, 155 administrators, and 88 ADRs with a response rate of 56.8%

Permission to use the previously collected data was obtained from the district as well as the University of Nebraska Medical Center (UNMC) Institutional Review Board approval. After approval was received, the data was thoroughly reviewed by the researcher.

Participants. The study utilized a convenience sample of various district educators in the district database including teachers, administrators, and district support staff. The initial survey was emailed to all educators (n=3,982) in the district data base. Once participants were identified as having knowledge of MAP, administering MAP, and/or accessing reports in the MAP assessment system, the survey was delivered. During the second school year, the entire survey was completed by 2,020 teachers, 155 administrators, and 88 ADRs.

Data Access. The researcher was provided the survey reports from Qualtrics, a survey software tool used to create and disseminate surveys. Qualtrics is utilized to collect district data and possesses the ability provide skip and branching logic as well as reporting.

Analysis

Survey data was analyzed using descriptive statistics. Descriptive statistics were selected in order to deduce conclusions from a large data set. In addition, groups of survey respondents could be compared to better inform the project. First, mean scores were examined along with standard deviations to determine if opinions widely varied.

Research Questions

The following three research questions were developed as a formative check during year two of a three year district developed professional development training plan

to explore the implementation of the districtwide MAP training. The research questions were designed to provide information to inform the bigger picture to see if the MAP Growth training plan assisted in increasing teachers' and administrators' assessment data literacy.

Research Question 1: What is the progress of educators' knowledge and skills in assessment data literacy?

Research Question 2: What is the progress of educators' application of assessment data literacy?

Research Question 3: In this professional development process, what support is helpful and not helpful?

Chapter 5

Survey Development

Introduction

This chapter describes the development of the survey instrument that was used in the research. In addition, Chapter 5 includes details regarding the creation of the research district's three year implementation plan for professional development for the use of a new assessment system.

Description of Instrument

A district MAP survey was developed in the winter of 2018 to assess both the perceptions and knowledge of the MAP assessment. To develop the survey, the district's certified facilitators for MAP Growth reviewed the goals for the implementation year and brainstormed focus areas and questions that would assist in identifying areas of strengths and challenges. Two of the district's certified facilitators are administrators and three are trainers for assessment. Questions were brainstormed and refined to more specific draft versions for several iterations. These draft questions were reviewed and revised by a subject matter expert on psychometrics and survey design. The certified facilitators reviewed and revised drafts and provided further edits to the psychometrics and survey design expert. The questions were reviewed in a meeting where they were honed for exact meaning and specific wording in order to elicit the most specific responses. The survey consisted of 34 questions. Several types of questions were used including ordinal and dichotomous as well as demographic questions. Additional details such as directions for completion, distribution date, and reminders for survey completion were determined and written. A distribution list for the potential participants of the survey was reviewed

and revised to include staff members who it was deemed should have knowledge of the MAP Growth assessment.

Participants included ADRs, teachers, and administrators. The final survey was reviewed and modified to reflect questions specific to the second year of implementation and was disseminated at the end of the school year in 2019. ADRs received the electronic survey first, after discussing the purpose of the survey in a meeting so that they could assist in communicating the distribution to the additional staff members. Following this distribution, the survey was disseminated to teachers and administrators in the district. Survey reminders were emailed to identified participants.

Quantitative and qualitative data was collected through Qualtrics, an online survey tool. The development of the survey contained questions that were specific to the focus of the professional development for that school year as included in the MAP modules. Questions in the two surveys were not asked in the same order so

Three Year Implementation Plan

The three year implementation plan was developed to identify the group and the training that would be provided for each identified month of the year as the district does not have regularly identified professional development time for teachers. Training may take place in grade level, department, or staff meetings and there are several initiatives that need to be addressed. In the initial planning stages, the testing windows were identified for fall, winter, and spring MAP testing. This way, it was known when the assessment results would be available that could be used during the training sessions. The estimated months and dates were identified that would be optimal for sharing information as well as the different groups who would benefit from receiving the training

in order to better support schools. As groups were contacted for possible training times, the schedule had to be adapted as logistics determined the final timeframe for professional development to occur. For example, a meeting might not have been scheduled for a group during the month that was originally identified, so the next available meeting date was used for training. Also, it was realized that some ADRs and schools would need more or less training based on years of use or changes in staff members.

The intention was to provide information to principals first so that they would be aware of the information ADRs and additional staff members received in trainings. District supervisors would receive the same training as ADRs so that as they worked with schools they would have a working knowledge of the system, reports, analyzing the results, and available resources. Saturday and afterschool trainings were made available to accommodate a variety of schedules.

The focus areas for each of the three years follow:

Year 1: Understanding How to Use the System and Applying Reports

Year 2: Informing Instruction – Using MAP Data to Inform Lesson Planning

Year 3: Focusing on Growth - Student Goal Setting

Chapter 6

Results

The first iteration of the district-created survey was disseminated during the 2017-2018 school year. The results from the 2017-2018 school year are noted as Time 1 (T1) in the results tables. The survey was amended to better meet the needs of the second year of the implementation plan and the second iteration of the district created survey was disseminated in 2018-2019, referred to as Time 2 (T2). In the results tables, T1 and T2 will be utilized to indicate the time period that the data was collected.

The first time the survey was collected, the demographic of job role was collected. This was done intentionally so as to help participants feel more comfortable responding to the survey questions in an open and honest manner as a further assurance that they would not be identifiable. The second time the survey was provided, participants were asked to provide their job role and where they worked. In 2017-2018, the survey was not disseminated to the administrators; therefore, the responses reported here were from respondents who self-identified as an administrator. In these cases, the administrator was most likely in an additional job role as well, such as ADR. Therefore, all reported results for administrator were for the 2018-2019 school year. Forced response was not used for any question on the survey.

Responses were examined within the groups and between the groups. Descriptive statistics were calculated for the purpose of understanding both the general outcomes and trends between administration points and displayed in the following tables. Descriptive statistics were calculated by year and then by average change. Differences by school level, by role (between), then school level (within group of teachers) are illustrated.

In addition, a Mann-Whitney U test was conducted due to the unequal *N* sizes and to test the null hypothesis that there is no tendency for the ranks in one population to be systematically higher or lower than the rank in the other population which would indicate that there is no difference between the two populations. However, when comparing teachers at the school levels, a Kruskal-Wallis test was used due to the comparison of greater than two categories. A complete list of question codes used in the results tables and corresponding questions are shown in Appendix C.

Research Question 1 (RQ1)

RQ1: What is the progress of educators' knowledge and skills in assessment data literacy?

The first research question seeks to determine the progress made in educators' knowledge and skills in the MAP Growth Assessment. For the analysis of this study, the knowledge and skills questions have been identified separately.

Knowledge Questions

Tables 1 through 7 will analyze educators' knowledge analyze the questions that represent the MAP Growth Knowledge Questions. Three questions were identified as specifically examining participants' knowledge about assessment data literacy concepts. These three questions are displayed in Table 1. The complete survey with answer options is displayed in Appendix B. The questions were selected response with five answer choices. Only one answer was correct out of the five answer options. If a respondent chose to not answer a question, the response was counted as not a correct answer.

Table 1 displays the percentage of the respondents who answered each question correctly for each of the identified knowledge questions at the aggregate level for the

Time 1 and Time 2 surveys. There was an increase in the percentage of the respondents who answered each question correctly from Time 1 to Time for each of the three questions. The largest increase observed was in knowing the purpose of the MAP Growth test. For this question, "MAP Growth is an assessment that…," in Time 1, the percent of respondents answering correctly was 57.5 while in Time 2, the percent of respondents answering correctly was 68.8, for a change of 11.3%.

Table 1

District MAP Growth Knowledge Questions (GKQ), Percent Respondents Answering Correctly (RAC)

	Knowledge Question	*N*	Percent RAC T1	*N*	Percent RAC T2	% Change
GKQ 1:	MAP Growth is an assessment that…	2175	57.52%	2624	68.79%	+11.27%
GKQ 2:	The RIT Scale…	2175	47.13%	2624	55.45%	+8.32%
GKQ 3:	MAP Growth normative data…	2175	38.11%	2622	47.52%	+9.41%

Note. GKQ=Growth Knowledge Questions; RAC=Respondents Answering Correctly

Overall, there was an increase in the percentage of the respondents who answered each question correctly for each of the three MAP Growth Knowledge Questions from Time 1 to Time 2. This positive change shows that respondents increased their knowledge of the foundational concepts portrayed on the MAP Growth assessment from the first year of implementation to the second year.

Table 2 shows the data disaggregated to depict in general, how groups (i.e., ADRs, teachers, and administrators) responded to the knowledge questions overall. In

general, knowledge related to the MAP Growth Assessment increased from Time 1 to Time 2. In disaggregating the data by individual knowledge questions, it is observed as questions became more difficult, accuracy rates declined relative to one another.

A further analysis of the accuracy of responses for the knowledge questions analyzed by job role is illustrated in Table 3. ADRs had the highest percentage of respondents who answered correctly in both Time 1 and Time 2. In general, there was an increase in the percent of the ADR and teacher groups answering the question correctly between Time 1 and Time 2. However, there was a slight decline observed between Time 1 and Time 2 for ADRs for in GKQ1. A positive change can be seen for each of the questions for the teacher group, with the largest change seen in knowing the purpose of the MAP Growth assessment (i.e., GKQ1). The percentage of the administrator group that answered the knowledge questions correctly in Time 2, scored within the percentages of Time 1 and Time 2 for the teacher group.

Table 2

MAP Growth Knowledge Questions (GKQ), Percent Respondents Answering Correctly (RAC) by Job Role

		ADRs			Teachers			Administrators		
	Question	Percent RAC T1	Percent RAC T2	Change	Percent RAC T1	Percent RAC T2	Change	Percent RAC T1	Percent RAC T2	Change
		N=120	*N*=127		*N*=1514	*N*=1475		*N*=NA	*N*=122	
GKQ 1:	MAP Growth is an assessment that…	95.83%	92.91%	-2.92%	60.83	73.56%	+12.73%	No data	68.18%	NA
GKQ 2:	The RIT Scale…	80.83%	87.40%	+6.57%	49.93%	59.32%	+9.39%	No data	54.55%	NA
GKQ 3:	MAP Growth normative data…	75.00%	82.68%	+7.68%	39.70%	50.92%	+11.22%	No data	40.91%	NA

Note. GKQ=Growth Knowledge Questions; RAC=Respondents Answering Correctly

Overall, Table 2 displays an increase in the percentage correct for both the ADR and teacher groups. The administrator group's percentages were between the ADRs and Teachers. One question, GKQ 1, saw a slight decline for the ADR group.

Table 3 shows the percent of respondents who answered the three questions identified to assess knowledge of three major aspects of the new assessment. The data is broken down by school level of teacher group, specifically elementary, middle, and high. Of the respondents who completed the survey questions identified to measure teachers' knowledge of three aspects of the new assessment, middle school teachers showed an increase in the percentage correct for each of the questions. Elementary teachers showed a slight increase in knowledge about normative data. High school teachers showed a decline in the knowledge questions.

Table 3

MAP Growth Knowledge Questions (GKQ), Percent Respondents Answering Correctly (RAC) by School Level of Teachers

		ES Teachers			MS Teachers			HS Teachers		
	Question	Percent RAC T1	Percent RAC T2	Change	Percent RAC T1	Percent RAC T2	Change	Percent RAC T1	Percent RAC T2	Change
		N=629	*N*=704		*N*=287	*N*=321		*N*=167	*N*=295	
GKQ 1:	MAP Growth is an assessment that…	90.46%	86.65%	-3.81%	81.53%	85.36%	+3.83%	70.06%	61.69%	-8.37%
GKQ 2:	The RIT Scale…	73.77%	69.03%	-4.74%	68.99%	74.14%	+5.15%	55.69%	47.46%	-8.23%
GKQ 3:	MAP Growth normative data…	60.41%	60.80%	+0.39%	49.83%	56.70%	+6.87%	46.11%	42.37%	-3.74%

Note. ES = Elementary School, MS = Middle School, HS = High School; GKQ=Growth Knowledge Questions; RAC=Respondents Answering Correctly

Overall, middle school teachers showed the most improvement in answering the knowledge questions, followed by elementary teachers as depicted in Table 3. High school teachers showed a decrease in the percentage who answered the knowledge questions correctly.

Table 4 illustrates the mean rank and sum of ranks for each of the three knowledge questions for the ADR, teacher, and administrator groups. The highest mean rank for the ADR and administrator groups was for the knowledge of RIT, whereas the highest mean rank for teachers was for knowing what the MAP test is.

Table 4

MAP Growth Knowledge Questions (GKQ), Test Ranks by Job Role

		Question	Mean Rank	Sum of Ranks
ADR				
	GKQ 1:	MAP	992.41	164739.50
	GKQ 2:	RIT	1004.45	166739.00
	GKQ 3:	Norm	999.64.24	165939.50
Teacher				
	GKQ 1:	MAP	778.22	669273.00
	GKQ 2:	RIT	760.98	654446.00
	GKQ 3:	Norm	763.61	656701.00
Admin				
	GKQ 1:	MAP	765.66	12250.50
	GKQ 2:	RIT	778.84	12461.50
	GKQ 3:	Norm	766.03	12256.50

Note. GKQ=Growth Knowledge Questions; ADR *N* =166, Teacher *N* =860, Admin *N* =16

The mean ranks are the highest for the ADR group whereas the mean ranks for the teacher and administrator groups are similar overall.

Table 5 shows the comparison of two groups, specifically ADRs and not ADRs, teachers and not teachers, and administrators and not administrators. The teacher group showed a difference in the question, “MAP Growth is an assessment that” with a

significant difference (p=.023) compared to the ADRs ($p \leq .001$) and the administrator group (p=.943) as measured by the knowledge questions. The null hypothesis is rejected as there is a significant difference between the ways the groups answered the three questions ($p \leq .001$).

Table 5

Test Outcomes for Growth Knowledge Questions (GKQ) by Job Role

	Question	ADRs		Teachers		Administrators	
		Test Outcome	*p* value	Test Outcome	*p* value	Test Outcome	*p* value
GKQ 1:	MAP Growth is an assessment that…	73387.50	.000**	265977.00	.023*	11901.50	.943
GKQ 2:	The RIT Scale…	71388.00	.000**	280804.00	.813	11690.50	.831
GKQ 3:	MAP Growth normative data…	72187.50	.000**	278549.00	.556	11895.50	.935

Note. * = $p < .05$, ** $p = < .01$

The ADR group had the greatest understanding of the MAP Growth knowledge questions out of the three job roles of ADRs, teachers, and administrators.

Additional statistical tests were conducted to examine if differences existed among school levels of teachers and knowledge of MAP Growth concepts. Table 6 depicts the mean ranks for each knowledge question. Overall, the mean ranks for elementary and middle schools are in a similar range, indicating that they responded to the knowledge questions in a similar manner. The means for high school and programs are lower than elementary and middle schools.

Table 6

MAP Growth Knowledge Questions (GKQ), Test Ranks by School Level of Teachers

School Level		Question	*N*	Mean Rank
ES				
	GKQ 1:	MAP	427	428.77
	GKQ 2:	RIT	427	417.35
	GKQ 3:	Norm	427	415.38
MS				
	GKQ 1:	MAP	185	424.53
	GKQ 2:	RIT	185	434.86
	GKQ 3:	Norm	185	409.46
HS				
	GKQ 1:	MAP	164	304.62
	GKQ 2:	RIT	164	321.8
	GKQ 3:	Norm	164	347.91
PR				
	GKQ 1:	MAP	19	254.11
	GKQ 2:	RIT	19	261.84
	GKQ 3:	Norm	19	328.26

Note. ES = Elementary School, MS = Middle School, HS = High School, PR=Program; GKQ=Growth Knowledge Questions

Table 6 provides data that contributes to the idea that the elementary and middle school groups are more similar than different.

Table 7 offers the test outcome and *p* value for the three questions related to MAP Growth knowledge questions. For GKQ1, "MAP Growth is an assessment that…" ($p \leq .001$). Table 7 presents the statistically significant difference found among the four school level groups of teachers at elementary school, middle school, high school, and programs ($p \leq .001$) regarding knowledge questions for the MAP Growth normative data.

Table 7

Test Outcomes for Growth Knowledge Questions (GKQ)

	Question	Test Outcome	*p* value
GKQ 1:	MAP	63.603	.000**
GKQ 2:	RIT	43.862	.000**
GKQ 3:	Norm	18.692	.000**

Note. GKQ=Growth Knowledge Questions; * = $p < .05$, ** $p = < .01$

Table 7 displays that each of the three Growth Knowledge Questions were statistically significant ($p \leq .001$).

Skills Questions

The previous knowledge section analyzed the questions that represented the knowledge questions. In this section, Tables 8 through 15 will analyze MAP Growth Skills as represented by the following questions. The question, How comfortable are you with troubleshooting problems when proctoring" used a Likert-type scale with values assigned as 1 (Extremely uncomfortable), 2 (Somewhat uncomfortable), 3 (Neither comfortable nor uncomfortable), 4 (Somewhat comfortable, to 5 (Extremely comfortable).

The question, "How proficient do you feel when comparing your class with the norm groups" had Likert-type scale with values assigned as: 1 (New to me), 2 (I am familiar with it), 3 (I get it), 4 (I can teach it), to 5 (I can apply it another way).

The answer choices for the following three questions, "I feel prepared when discussing MAP Growth assessment results with parents/ students/ fellow staff members" were 1 (Strongly disagree), 2 (Somewhat disagree), 3 (Neither agree nor disagree), 4 (Somewhat agree), to 5 (Strongly agree).

Table 8 portrays the means and standard deviations for the five skill questions. To be considered in the number of respondents and have the results included, the respondent had to answer 40% of the survey questions for Time 1 and Time 2.

Table 8

District MAP Growth Skill Questions (GSQ), Means and Standard Deviations

	Question	*N*	*M*	*SD*
GSQ 1:	How comfortable are you with troubleshooting problems when proctoring	897	.26	1.078
GSQ 2:	How proficient do you feel when comparing your class with the norm groups	893	.23	.942
GSQ 3:	I feel prepared when discussing MAP Growth assessment results with parents	892	.22	.918
GSQ 4:	I feel prepared when discussing MAP Growth assessment results with students	885	.22	.935
GSQ 5:	I feel prepared when discussing MAP Growth assessment results with fellow staff	883	.18	.899

Note. GSQ=Growth Skill Questions

Table 9 depicts the percent positive for the responses to the identified skills questions at the aggregate level for the Time 1 and Time 2 surveys. Overall, there was an increase in the percentage of respondents answering positively from Time 1 to Time 2. More specifically, there was an increase in the percent positive responses for the skills questions, with the largest change seen in troubleshooting, followed by feeling prepared in discussing results with students.

Table 9

District MAP Growth Skill Questions (GSQ), Percent Respondents Answering Positively (RAP)

	Skill Question	N	Percent RAP T1	*N*	Percent RAP T2	Change
GSQ 1:	How comfortable are you with troubleshooting problems when proctoring	1083	37.43%	1320	47.75%	+10.32%
GSQ 2:	How proficient do you feel when comparing your class with the norm groups	1083	9.93%	1320	11.94%	+2.01%
GSQ 3:	I feel prepared when discussing MAP Growth assessment results with parents	1083	43.26%	1320	51.14%	+7.84%
GSQ 4:	I feel prepared when discussing MAP Growth assessment results with students	1083	43.82%	1320	52.78%	+8.98%
GSQ 5:	I feel prepared when discussing MAP Growth assessment results with fellow staff members	1083	45.89%	1320	53.78%	+7.88%

Note. GSQ=Growth Skill Questions; RAP=Respondents Answering Positively

Overall, there was an increase in the percentage of respondents answering positively from Time 1 to Time 2. In general, respondents feel more confident in proctoring, knowing how to interpret the norms for their classroom, and in discussing the results with others.

A positive increase was seen in teachers in all questions asked while the ADR group showed a slight decrease in the five questions identified to represent skills (see Table 10).

Table 10

MAP Growth Skill Questions (GSQ), Percent Respondents Answering Positively (RAP) by Job Role

		ADRs			Teachers			Administrators		
	Skills Question	Percent RAP T1	Percent RAP T2	Change	Percent RAP T1	Percent RAP T2	Change	Percent RAP T1	Percent RAP T2	Change
GSQ 1:	How comfortable are you with troubleshooting problems when proctoring	93.33%	90.55%	-2.78%	38.44%	53.97%	+15.53%	No Data	41.80%	NA
GSQ 2:	How proficient do you feel when comparing your class with the norm groups	67.50%	64.57%	-2.93%	6.54%	10.44%	+3.90%	No Data	18.85%	NA
GSQ 3:	I feel prepared when discussing MAP Growth assessment results with parents	90.00%	86.61%	-3.39%	45.84%	57.29%	+11.45%	No Data	63.11%	NA
GSQ 4:	I feel prepared when discussing MAP Growth assessment results with students	89.17%	88.98%	-0.19%	46.04%	58.71%	+12.67%	No Data	64.75%	NA
GSQ 5:	I feel prepared when discussing MAP Growth assessment results with fellow staff members	92.50%	91.34%	-1.16%	48.08%	60.27%	+12.19%	No Data	63.11%	NA

Note. GSQ=Growth Skill Questions, NA= Not Available; RAP=Respondents Answering Positively

Table 10 illustrates a slight decline in the percent of ADRs answering positively. The teacher group is becoming more confident in proctoring which may be a result of them being asked to proctor the assessment more frequently in year 2, as was part of the training plan communication.

Table 11 conveys the skill questions by school level of teacher. When the findings of the teacher group are disaggregated by school level of teachers, elementary school and middle school teachers revealed a positive change in all five skill questions while a questions decline in the can be seen in the results of the high school teachers (see Table 11).

Table 11

MAP Growth Skill Questions (GSQ), Percent Respondents Answering Positively (RAP) by School Level of Teachers

		ES Teachers			MS Teachers			HS Teachers		
Question		Percent RAP T1	Percent RAP T2	Change	Percent RAP T1	Percent RAP T2	Change	Percent RAP T1	Percent RAP T2	Change
GSQ 1:	Troubleshooting	52.31%	62.22%	+9.91%	58.89%	66.36%	+7.47%	49.70%	44.75%	-4.95%
GSQ 2:	Norm Comp	9.22%	10.65%	+1.43%	11.50%	19.94%	+8.44%	4.79%	3.73%	-1.06%
GSQ 3:	Disc P	68.52%	73.86%	+5.34%	67.60%	68.22%	+0.62%	40.72%	32.88%	-7.84%
GSQ 4:	Disc S	65.82%	73.15%	+7.33%	71.43%	71.96%	+0.53%	46.11%	37.29%	-8.82%
GSQ 5:	Disc F	70.27%	75.85%	+5.58%	70.73%	71.96%	+1.23%	49.10%	37.63%	-11.47%

Note. ES = Elementary School, MS = Middle School, HS = High School; GSQ = Growth Skill Questions; NA= Not Available; RAP=Respondents Answering Positively

Further statistical tests were run to compare groups by job role to determine if there was a difference between them for the skills questions. Table 12 includes the mean rank for skill questions for ADRs, teachers, and administrators.

Table 12

MAP Growth Skills Questions (GSQ), Test Ranks by Job Role

Question			Mean Rank	Sum of Ranks
ADR				
	GSQ 1:	Troubleshooting	446.86	63453.50
	GSQ 2:	Norm Comp	448.29	63656.50
	GSQ 3:	Disc P	466.55	66250.50
	GSQ 4:	Disc S	466.65	66265.00
	GSQ 5:	Disc F	466.94	66305.00
Teacher				
	GSQ 1:	Troubleshooting	460.42	249550.00
	GSQ 2:	Norm Comp	444.65	241887.50
	GSQ 3:	Disc P	451.50	244711.00
	GSQ 4:	Disc S	448.41	241695.00
	GSQ 5:	Disc F	439.71	237442.00
Admin				
	GSQ 1:	Troubleshooting	347.61	3128.50
	GSQ 2:	Norm Comp	454.50	4090.50
	GSQ 3:	Disc P	421.06	3789.50
	GSQ 4:	Disc S	419.00	3771.00
	GSQ 5:	Disc F	386.50	3478.50

Note. ADR N=142, Teacher N =539-544, Admin N=9

Table 13 shows a significance for teachers regarding troubleshooting compared to the ADR and administrators. A difference was not found among the groups for the rest of the skill questions.

Table 13

Test Outcomes for Growth Skills Questions (GSQ) by Job Role

		ADRs		Teachers		Administrators	
	Question	Test Outcome	*p* value	Test Outcome	*p* value	Test Outcome	*p* value
GSQ 1:	Troublesh	46314.00	.835	65500.50	.092	3083.50	.197
GSQ 2:	Norm Comp	46704.50	.947	68998.00	.679	3910.50	.925
GSQ 3:	Disc P	44633.50	.346	69247.00	.737	3744.50	.745
GSQ 4:	Disc S	43685.00	.237	67324.50	.546	3726.00	.755
GSQ 5:	Disc F	43270.00	.160	67895.50	.656	3433.50	.470

Note. * = $p < .05$, ** $p = < .01$

Table 14

Mean Ranks for Growth Skill Questions (GSQ) by School Level of Teachers

		Question	*N*	Mean Rank
ES				
	GSQ 1:	Troublesh	319	270.26
	GSQ 2:	Norm Comp	319	276.11
	GSQ 3:	Disc P	320	281.47
	GSQ 4:	Disc S	317	288.15
	GSQ 5:	Disc F	319	286.27
MS				
	GSQ 1:	Troublesh	140	267.40
	GSQ 2:	Norm Comp	140	280.25
	GSQ 3:	Disc P	139	252.73
	GSQ 4:	Disc S	139	240.95
	GSQ 5:	Disc F	138	243.05
HS				
	GSQ 1:	Troublesh	75	277.70
	GSQ 2:	Norm Comp	77	239.19
	GSQ 3:	Disc P	75	264.94
	GSQ 4:	Disc S	75	253.31
	GSQ 5:	Disc F	75	259.42
PR				
	GSQ 1:	Troublesh	7	305.07
	GSQ 2:	Norm Comp	7	280.57
	GSQ 3:	Disc P	7	219.93
	GSQ 4:	Disc S	7	165.36
	GSQ 5:	Disc F	7	173.14

Note. ES = Elementary School, MS = Middle School, HS = High School; PR=Program; GSQ=Growth Skill Questions

Table 14

Table 15 illustrates the test outcomes for the skill questions. There was a significant difference among groups regarding discussing MAP with students and fellow staff members so the null hypothesis is rejected as there is a difference in the groups.

Table 15

Overall Test Outcomes for Growth Skill Questions (GSQ)

		Test Outcome	*p* value
GSQ 1:	Troublesh	.640	.887
GSQ 2:	Norm Comp	4.631	.201
GSQ 3:	Disc P	5.010	.171
GSQ 4:	Disc S	15.600	.001**
GSQ 5:	Disc F	12.627	.006**

Note. GSQ=Growth Skill Questions; * = $p < .05$, ** $p = < .01$

Since the *p* value is greater than .05 for the questions pertaining to troubleshooting, norm comparison, and discussing with parents, it is confirmed that there is no significant difference between the teachers' responses at elementary school, middle school, high school, and program teachers. However, there is a significant difference between the teachers at elementary school, middle school, high school, and programs for discussing results with students (p=.001) and fellow staff members (p=.006).

Research Question 2: What is the progress of educators' application of assessment data literacy?

The previous skills section analyzed the questions that represented the skills questions. In this section, Tables 16 through 23 will analyze MAP Growth Application as represented by the following questions. Two survey questions were identified as supporting the application of assessment data literacy. These two questions were completed using a Likert-type scale with values assigned as: 1 (New to me), 2 (I am familiar with it), 3 (I get it), 4 (I can teach it), to 5 (I can apply it another way). Table 16

identifies the means and standard deviations for each application question while Table 17 shows the percent positive responses for the questions. To be considered in the number of respondents and have the results included, the respondent had to answer 40% of the survey questions for Time 1 and Time 2.

Table 16

Means and Standard Deviations for District MAP Growth Application Questions (GAQ)

	Question	*N*	*M*	*SD*
GAQ 1:	How proficient do you feel in identifying strength and growth opportunities in your class	886	.19	.974
GAQ 2:	How proficient do you feel in using your MAP reports to group students by individual needs	890	.18	1.001

Note. GAQ=Growth Application Questions

The findings indicate that while there was an overall increase in the percentage of positive responses to the question, "How proficient do you feel in identifying strength and growth opportunities in your class," there was a decrease in the results for the question, "How proficient do you feel in using your MAP reports to group students by individual needs" (see Table 17).

Table 17

District Growth Application Questions (GAQ), Percent Respondents Answering Positively (RAP)

	Question	*N*	Percent RAP T1	*N*	Percent RAP T2	Change
GAQ 1:	How proficient do you feel in identifying strength and growth opportunities in your class	2175	12.78	2622	15.22	+2.44

GAQ 2:	How proficient do you feel in using your MAP reports to group students by individual needs	1083	14.34	2622	11.94	-2.40

Note. GAQ=Growth Application Questions

The results in Table 18 depict the percentage of percent positive responses for Time 1 and Time 2. The ADR group displayed a slight decline in application. The administrator group scored higher than teachers in application. Elementary and middle school teachers display an increase in the application of MAP Growth concepts while high school teachers reveal a decrease (Table 19).

Table 18

District Growth Application Questions (GAQ), Percent Respondents Answering Positively (RAP) by Job Role

		ADR			Teachers			Administrators		
	Application Question	Percent RAP T1	Percent RAP T2	Change	Percent RAP T1	Percent RAP T2	Change	Percent RAP T1	Percent RAP T2	Change
GAQ 1:	How proficient do you feel in identifying strength and growth opportunities in your class	68.33%	67.72%	-0.61%	9.84%	14.17%	+4.33%	No Data	22.95%	NA
GAQ 2:	How proficient do you feel in using your MAP reports to group students by individual needs	69.17%	64.57%	-4.60%	16.25%	10.44%	-5.81%	No Data	12.82%	NA

Note. GAQ=Growth Application Questions; NA= Not Available; RAP=Respondents Answering Positively

Table 19

MAP Growth Application Questions (GAQ), Percent Respondents Answering Positively (RAP) by School Level of Teachers

		ES Teachers			MS Teachers			HS Teachers		
	Question	Percent RAP T1	Percent RAP T2	Change	Percent RAP T1	Percent RAP T2	Change	Percent RAP T1	Percent RAP T2	Change
GAQ 1:	How proficient do you feel in identifying strength and growth opportunities in your class	13.83%	15.63%	+1.80%	14.98%	21.81%	+6.83%	11.38%	8.14%	-3.24%
GAQ 2:	How proficient do you feel in using your MAP reports to group students by individual needs	17.17%	20.88%	+3.71%	17.42%	23.90%	+6.48%	10.78%	6.44%	-4.34%

Note. ES = Elementary School, MS = Middle School, HS = High School; GAQ=Growth Application Questions; RAP=Respondents Answering Positively

The results displayed in Table 19 indicate that elementary and middle school teachers feel more confident from Time 1 to Time 2 in their ability to identify strengths and growth opportunities in their classes as well as using the results on the reports to individually group students according to their needs. High school teachers reported feeling less confident from Time 1 to Time 2 in their ability to identify strengths and growth opportunities in their classes as well as using the results on the reports to individually group students according to their needs.

The mean ranks for the application questions by job role are displayed in Table 20.

Table 20

MAP Growth Application Questions (GAQ), Test Ranks by Job Role

		Question	Mean Rank	Sum of Ranks
ADR				
	GAQ 1:	ID Streng	464.08	64043.00
	GAQ 2:	Grouping	449.82	63874.00
Teacher				
	GAQ 1:	ID Streng	433.17	234780.00
	GAQ 2:	Grouping	446.35	241473.50
Admin				
	GAQ 1:	ID Streng	498.56	4487.00
	GAQ 2:	Grouping	407.28	3665.50

Note. ADR N=138-142, Teacher N=541-542, Admin N=9

Table 21

Test Outcomes for Growth Application Questions (GAQ) by Job Role

		ADRs		Teachers		Administrators	
		Test Outcome	*p* value	Test Outcome	*p* value	Test Outcome	*p* value
GAQ 1:	How proficient do you feel in identifying strength and growth opportunities in your class	48772.00	.275	87627.00	.109	3451.00	.491
GAQ 2:	How proficient do you feel in using your MAP reports to group students by individual needs	52495.00	.816	93946.50	.896	3620.50	.633

Note. * = $p < .05$, ** $p = < .01$

Table 22

Mean Ranks for Growth Application Questions (GAQ) by School Level of Teachers

School Level		Question	*N*	Mean Rank
ES				
	GAQ 1:	ID Streng	318	274.60
	GAQ 2:	Group	318	277.98
MS				
	GAQ 1:	ID Streng	139	274.14
	GAQ 2:	Group	138	261.80
HS				
	GAQ 1:	ID Streng	77	259.86
	GAQ 2:	Group	77	258.75
PR				
	GAQ 1:	ID Streng	7	244.79
	GAQ 2:	Group	7	231.21

Table 23 illustrates the test outcomes and *p* values for the MAP Growth Application Questions. No difference was found between the way the ADR group, the teacher group, and the administrator group answered.

Table 23

Test Outcomes for Growth Application Questions (GAQ)

		Test Outcome	*p* value
GAQ 1:	ID Streng	1.641	.650
GAQ 2:	Group	2.324	.508

Note. * = $p < .05$, ** $p = < .01$

The data in Table 23 shows that there is not a difference in GAQ 1 (p=.650) and GAQ 2 (p=.508).

Research Question 3: In this professional development process, what support is helpful and not helpful?

The previous application section analyzed the questions that represented the application questions. In this section, Tables 24 through 30 will analyze MAP Growth support as represented by the following proctoring questions. A total of two research questions were categorized to answer research question 3. Two questions were asked of ADRs, teachers, and administrators. The answer choices for the two questions, "When proctoring the MAP Growth assessments I feel supported" and "When proctoring the MAP Growth assessments I feel prepared" were (Strongly disagree), 2 (Somewhat disagree), 3 (Neither agree nor disagree), 4 (Somewhat agree), to 5 (Strongly agree). Table 24 presents the means and standard deviations for the proctoring questions. To be considered in the number of respondents and have the results included, the respondent had to answer 40% of the survey questions for Time 1 and Time 2.

Table 24

Means and Standard Deviations for District MAP Growth Proctoring Questions (GPQ)

	Question	*N*	*M*	*SD*
GPQ 1:	When assessment proctoring I feel supported	878	-0.3	1.044
GPQ 2:	When assessment proctoring I feel prepared	854	.15	.907

Note. GPQ=Growth Proctoring Questions

In reviewing results regarding support and preparation for assessment proctoring, ADR results display a decline while teacher results indicate an increase in Table 25.

Table 25

MAP Growth Proctoring Questions (GPQ), Percent Respondents Answering Positively (RAP) by Job Role

		ADRs			Teachers			Administrator		
	Question	Percent RAP T1	Percent RAP T2	Change	Percent RAP T1	Percent RAP T2	Change	Percent RAP T1	Percent RAP T2	Change
GPQ 1:	When assessment proctoring I feel supported	93.33%	85.04%	-8.29%	51.65%	58.51%	+6.86%	No Data	51.64%	NA
GPQ 2:	When assessment proctoring I feel prepared	92.50%	86.61%	-5.89%	49.60%	61.08%	+11.48%	No Data	52.46%	NA

Note. NA=Not Available; GPQ=Growth Proctoring Questions; RAP=Respondents Answering Positively

Table 25 displays data that indicates that teachers are feeling more confident in their preparedness to administer the assessment and the support that they receive.

In looking further at the school level of teachers, Table 26 depicts a decline in feeling supported at all school levels of teachers. A feeling of preparedness revealed a slight increase for elementary and middle school teachers while high school teachers presented a decrease.

Table 26

MAP Growth Proctoring Questions (GPQ), Percent Respondents Answering Positively (RAP) by School Level of Teachers

		ES Teachers			MS Teachers			HS Teachers		
	Question	Percent RAP T1	Percent RAP T2	Change	Percent RAP T1	Percent RAP T2	Change	Percent RAP T1	Percent RAP T2	Change
GPQ 1:	When assessment proctoring I feel supported	76.95%	71.88%	-5.07%	69.34%	68.22%	-1.12%	58.68%	42.37%	-14.31%
GPQ 2:	When assessment proctoring I feel prepared	73.77%	76.28%	+2.51%	66.90%	71.03%	+4.13%	56.29%	41.69%	-14.60%

Note. ES = Elementary School, MS = Middle School, HS = High School; GPQ=Growth Proctoring Questions; RAP=Respondents Answering Positively

Table 27 illustrates the mean rank for MAP Growth support and preparedness of proctoring the assessment. There is a statistical difference between ADRs and not ADRs as observed in Table 28 for proctor support.

Table 27

Test Ranks for MAP Growth Proctoring Questions (GPQ)

		Question	Mean Rank	Sum of Ranks
ADR				
	GPQ 1:	Proc Supp	478.94	67051.00
	GPQ 2:	Proc Prep	416.44	57884.50
Teacher				
	GPQ 1:	Proc Supp	429.56	231103.50
	GPQ 2:	Proc Prep	434.01	227419.50
Admin				
	GPQ 1:	Proc Supp	463.28	4169.50
	GPQ 2:	Proc Prep	385.13	3081.00

Note. ADR N=139-140, Teacher N=524-538, Admin N=8-9

Table 28 illustrates the test outcomes and *p* values for the MAP Growth Proctoring Questions. A significance was found between the way the ADR group answered from the way the teacher and administrator groups answered regarding support during proctoring.

Table 28

Test Outcomes for Growth Proctoring Questions (GPQ)

		ADR		Teacher		Administrator	
		Test Outcome	*p* value	Test Outcome	*p* value	Test Outcome	*p* value
GPQ 1:	Proc Supp	40454.50	.022*	63698.50	.111	3317.00	.745
GPQ 2:	Proc Prep	42523.50	.515	61794.00	.264	2745.00	.588

Note. * = $p < .05$, ** $p = < .01$

Table 29 provides the mean ranks for the school level of teachers.

Table 29

Mean Ranks for MAP Growth Proctoring Questions (GPQ) by School Level of Teachers

School Level		Question	*N*	Mean Rank
ES				
	GPQ 1:	Proc Supp	317	269.46
	GPQ 2:	Proc Prep	310	274.62
MS				
	GPQ 1:	Proc Supp	137	270.55
	GPQ 2:	Proc Prep	133	255.03
HS				
	GPQ 1:	Proc Supp	76	263.98
	GPQ 2:	Proc Prep	73	221.55
PR				
	GPQ 1:	Proc Supp	7	272.14
	GPQ 2:	Proc Prep	7	257.43

Note. ES = Elementary School, MS = Middle School, HS = High School; PR=Program; GPQ=Growth Proctoring Questions

Table 30 shows the test outcome for the MAP Growth proctoring questions which relate back to training that has occurred. There is a significant difference among teacher level groups regarding feeling prepared when proctoring the assessment. The null hypothesis is rejected as there is a significant difference between the groups specifically for the question "When assessment proctoring I feel prepared" (p=.029).

Table 30

Test Outcomes for Growth Proctoring Questions (GPQ)

	Question	Test Outcome	*p* value
GPQ 1:	Proc Supp	.113	.990
GPQ 2:	Proc Prep	9.023	.029*

Note. * = $p < .05$, ** $p = < .01$

There was a significant difference between teacher groups feeling prepared (p = .029). The teacher groups were similar in response to feeling supported when proctoring.

Chapter 7

Discussion

The overall purpose of this study was to explore the progress of the implementation of one district's professional development plan in year two. Overall, this study showed that progress has been made in training staff members in the use of a new assessment system. But this study was more than asking participants to take a survey to see if they liked the training. As Guskey (1986) expressed, it is important to consider the learning that professional development can bring to participants. We too felt that it is important to examine not only the affective aspects of professional learning but also the knowledge and skills that professional development can generate and try to measure it. The intent of the study was, and is, a check to see how a three year professional development plan is doing in its implementation phase in order to make changes to the plan to better meet the needs of educators so that students' learning needs could be met as well.

The goals undertaken are massive, not only to assist in the understanding of the delivery of a new assessment, but a mind shift in the use of the results. To move beyond proficiency to the growth of all students is not an easy task for any district in the wake of No Child Left Behind. In looking at all of the results tables presented in Chapter 6, there are several main takeaways for this study.

First, the ADR group showed the most growth consistently. This is understandable as this is the group that has dedicated training time of which a large focus is assessments and results. The fact that teachers were able to demonstrate growth means that the training is reaching them. However, it is important that assessment data literacy

reaches more teachers more consistently. In order to achieve this, time is needed with educators to show improvement on a wider scale.

The district's ADRs are a well-respected and knowledgeable group of educators. Their unceasing hard work and dedication are admirable and make them an indispensable member of a school staff. In the district, the train the trainer model has been utilized as a way to train teachers in the district. It has not been considered as a means of training administrators as previously this training was provided during principals' meetings. However, if assessment data literacy training is no longer being provided to different groups in the previous manner, the train the trainer model needs to be reconsidered. Perhaps the ADRs are training their administrators as well as the teachers. If this is the case, this change in the flow of information should be addressed in the ADR trainings to discuss strategies for communicating this information to their supervisors.

Professional development trainings take time to plan and deliver. The results serve as evidence that the structure of the school day vary among the levels of elementary school, middle school, and high school. Although everyone has the same amount of time, how it is designated varies. Elementary teachers have grade level meetings, middle school teachers have team meetings, but it can be challenging to find time for high school teachers to meet and discuss student needs, much less have a professional development training.

Thus, it may not be surprising that the results indicate that high school teachers did not score as high as their elementary and middle school colleagues. In looking at professional development and the implementation plan, we know that ADRs have received professional development, but we cannot ensure all teachers have received

training. This could be part of a future study as well as making data actionable after the concepts are mastered.

The professional development plan that was created included training for all levels of the organization and timed the trainings for when the most recent results were available. It was a well thought out plan. That being said, change is inevitable in education. Some of these changes are within district control and some are outside of the district's immediate control. It can come from within the district, such as adjustments to meetings to try to better meet needs of participants. It can come from outside of the district, such as changes in state testing requirements.

Before the beginning of the Time 2 school year, there was a district change made in which job roles could serve as ADRs. This change resulted in many new ADRs replacing many ADRs who had served in this capacity for years. This loss in experience may have impacted the results for the ADR group in Time 2. It is beneficial to take the time to reflect on these happenings so that trainings can be adapted to better meet all participants' needs.

Limitations

There are several limitations associated with this study. One is the survey instrument. The responses of administrators were indicated for the second year of the survey. Responses collected from administrators during year one of the survey would have contributed to a more complete comparison.

Additionally, there were changes made to the delivery of professional development groups during the second year. This impacted the training plan that had been created could not be implemented in the manner in which it was designed.

Also, it might have been beneficial if the number of participants were equally represented among elementary, middle, and high schools.

Future Research

There is a need to review the training of administrators. If administrators, and specifically principals, don't understand or agree with the importance of data use, they may not prioritize trainings of teachers in their schools; thereby, not providing the ADRs with the opportunity and structure to provide professional development to the teachers. Including administrators in professional development is essential to the success of training teachers and additional staff members in the use of data.

The dissemination of knowledge is both upward and downward for the ADRs as a change in district meeting structures has they may have the responsibility for not only providing data use training to teachers and also to their principals who are their supervisors. This prompts the question of whether administrators, both school and district leaders, need to be present at the ADR meetings. It would seem that the presence of administrators could potentially assist in moving the essential work forward of putting data into action and should be examined further.

It would be interesting to examine the number of staff changes for each school to assist in determining how turnover may have affected the implementation plan. Additionally, it would add insight to the plan to be able to determine which schools have been able to provide trainings to teachers and to what extent the trainings have occurred. Of course, examining student achievement data along with the training information would be beneficial to determine if there was a relationship between them.

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Appendix A: 2018 MAP Survey

Q1 What is your job role? (choose all that apply)

- [ ] Teacher
- [ ] ADR
- [ ] Instructional Coach
- [ ] Administrator
- [ ] Instructional Facilitator
- [ ] Curriculum Specialist
- [ ] ESL Resource Teacher
- [ ] Special Education Teacher
- [ ] Other _____

Q23 Have you received MAP Growth training?

- ○ Yes
- ○ No

Q14 Where do you teach?

- ○ Elementary
- ○ Middle
- ○ High

Q15 Did you proctor the MAP Growth fall administration for your class?

- ○ Yes
- ○ No

Q16 How was the pacing of MAP Growth training during ADR meetings this semester?

- ○ Far too slow
- ○ Too slow
- ○ About right
- ○ Too fast
- ○ Far too fast

Q17 How much training have you been able to provide at your building after ADR meetings according to the following training timeline?

- ○ None at all
- ○ A little
- ○ A moderate amount
- ○ A lot
- ○ A great deal

Q18 How useful have the MAP Growth trainings been?

- ○ Not at all useful
- ○ Slightly useful
- ○ Moderately useful
- ○ Very useful
- ○ Extremely useful

Q19 How useful are the LibGuides training materials when facilitating training at your building?

- ○ Not at all useful
- ○ Slightly useful
- ○ Moderately useful
- ○ Very useful
- ○ Extremely useful

Q20 Describe how you implement training in your building (e.g., who, what, were, when, and how)

_____

_____

_____

_____

_____

Q21 What barriers have you encountered with training?

_____

_____

_____

_____

_____

Q2 How comfortable are you with troubleshooting problems when proctoring?

- ○ Extremely uncomfortable
- ○ Somewhat uncomfortable
- ○ Neither comfortable nor uncomfortable
- ○ Somewhat comfortable
- ○ Extremely comfortable

Q3 MAP Growth is an assessment that:

- ○ Adapts to a student's current level based on their question response
- ○ Focuses only on grade level material
- ○ Is less precise than traditional paper-and-pencil assessments
- ○ Uses different scales for different grade levels
- ○ We haven't yet covered this in training

Q4 The RIT Scale:

- ○ Measures student achievement independent of grade level
- ○ Requires the same sets of items to be administered in order to compare students
- ○ Is grade level dependent
- ○ Uses unequal intervals to calculate student standings
- ○ We haven't yet covered this in training

Q5 MAP Growth normative data:

- ○ Compares student performance to students in the norm group
- ○ Indicates expected RIT scores for students in grades K-12
- ○ Does not compare same grade students across the country
- ○ Does not change over time
- ○ We haven't yet covered this in training

Q6 Did you receive training on the class reports?

- ○ Yes
- ○ No

Q7 Have you looked at a class report for the fall term from your class or school?

- ○ Yes
- ○ No

Q8 How proficient do you feel with comparing your class with the norm groups?

- ○ New to me
- ○ I am familiar with it
- ○ I get it
- ○ I can teach it
- ○ I can apply it another way

Q9 How proficient do you feel in identifying strength and growth opportunities in your class?

- ○ New to me
- ○ I am familiar with it
- ○ I get it
- ○ I can teach it
- ○ I can apply it another way

Q10 How proficient do you feel in using your MAP reports to group students by individual needs?

- ○ New to me
- ○ I am familiar with it
- ○ I get it
- ○ I can teach it
- ○ I can apply it another way

Q11 When assessment proctoring I feel:

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Supported	○	○	○	○	○
Prepared	○	○	○	○	○

Q12 I feel prepared when discussing MAP Growth assessment results with:

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Parents/Guardians	○	○	○	○	○
Students	○	○	○	○	○
Fellow Staff Members	○	○	○	○	○

Q13 What additional support is needed for MAP Growth?

_____

_____

_____

_____

_____

Page Break

Q25 Thank you for participating in our MAP Growth training questionnaire.

End of Block: Default Question Block

Appendix B: 2019 MAP Survey

Q2 What is your job role? (choose all that apply)

- [ ] Teacher
- [ ] ADR
- [ ] Instructional Coach
- [ ] Administrator
- [ ] Instructional Facilitator
- [ ] Curriculum Specialist
- [ ] ESL Resource Teacher
- [ ] Special Education Teacher
- [ ] Other _____

Q3 How much experience have you had with the MAP Growth assessment and results?

- ○ Limited
- ○ Basic
- ○ Proficient
- ○ Advanced
- ○ This doesn't apply to me

Q4 Where do you teach/work?

- ○ Elementary
- ○ Middle
- ○ High
- ○ Program
- ○ Central Office

Q5 In which elementary school do you teach?

Q6 In which middle school do you teach?

Q7 In which core content area do you teach?

- ○ Reading
- ○ English/Language Arts
- ○ Mathematics
- ○ Science
- ○ Social Studies
- ○ Other _____

Q8 In which high school do you teach?

Q9 In which core content area do you teach?

- ○ Reading
- ○ English/Language Arts
- ○ Mathematics
- ○ Science
- ○ Social Studies
- ○ Other _____

Q10 In which program do you teach?

Q11 How was the pacing of MAP Growth training during ADR meetings this year?

- ○ Far too slow
- ○ Too slow
- ○ About right
- ○ Too fast
- ○ Far too fast

Q12 How much training have you been able to provide at your building after ADR meetings?

- ○ None at all
- ○ A little
- ○ A moderate amount
- ○ A lot
- ○ A great deal

Q13 How useful have the MAP Growth trainings been?

- ○ Not at all useful
- ○ Slightly useful
- ○ Moderately useful
- ○ Very useful
- ○ Extremely useful

Q14 How useful are the LibGuides training materials when facilitating training at your building?

- ○ Not at all useful
- ○ Slightly useful
- ○ Moderately useful
- ○ Very useful
- ○ Extremely useful
- ○ I have not used the LibGuides materials

Q15 What barriers have you encountered with training?

_____

Q16 Did you proctor a MAP Growth test this year?

- ○ Yes
- ○ No

Q17 How useful are the LibGuides materials?

- ○ Not at all useful
- ○ Slightly useful
- ○ Moderately useful
- ○ Very useful
- ○ Extremely useful
- ○ I have not used the LibGuides materials

Q18 Describe how you prefer to receive MAP Growth training? (choose all that apply)

- [ ] Grade level/team/department meetings
- [ ] Staff meetings
- [ ] Optional after school meetings
- [ ] Webinars
- [ ] Curriculum/in service days
- [ ] Saturdays
- [ ] Summer

Page Break

Q19 How comfortable are you with troubleshooting problems when proctoring?

- ○ Extremely uncomfortable
- ○ Somewhat uncomfortable
- ○ Neither comfortable nor uncomfortable
- ○ Somewhat comfortable
- ○ Extremely comfortable

Q20 MAP Growth is an assessment that:

- ○ Adapts to a student's current level based on their question response
- ○ Focuses only on grade level material
- ○ Is less precise than traditional paper-and-pencil assessments
- ○ Uses different scales for different grade levels
- ○ We haven't yet covered this in training

Q21 The RIT Scale:

- ○ Measures student achievement independent of grade level
- ○ Requires the same sets of items to be administered in order to compare students
- ○ Is grade level dependent
- ○ Uses unequal intervals to calculate student standings
- ○ We haven't yet covered this in training

Q22 MAP Growth normative data:

- ○ Compares student performance to students in the norm group
- ○ Indicates expected RIT scores for students in grades K-12
- ○ Does not compare same grade students across the country
- ○ Does not change over time
- ○ We haven't yet covered this in training

Q23 How comfortable are you with the following reports?

	I'm not familiar	I can access my report	I can interpret the results	I can use the data from the report to inform instruction
Class Report	○	○	○	○
Class Breakdown	○	○	○	○
Achievement Status & Growth (ASG) Projection Report	○	○	○	○
Achievement Status & Growth (ASG) Summary Report	○	○	○	○
Achievement Status & Growth (ASG) Quadrant Report	○	○	○	○
Student Profile	○	○	○	○
Student Progress Report	○	○	○	○
Learning Continuum Class View	○	○	○	○
Learning Continuum Test View	○	○	○	○

Q24 How frequently do you find this report useful?

	Never	Sometimes	About half the time	Most of the time	Always
Class Report	○	○	○	○	○
Class Breakdown	○	○	○	○	○
Achievement Status & Growth (ASG) Projection Report	○	○	○	○	○
Achievement Status & Growth (ASG) Summary Report	○	○	○	○	○
Achievement Status & Growth (ASG) Quadrant Report	○	○	○	○	○
Student Profile	○	○	○	○	○
Student Progress Report	○	○	○	○	○
Learning Continuum Class View	○	○	○	○	○
Learning Continuum Test View	○	○	○	○	○

Q25 Would you like more training on this report?

	Yes	No
Class Report	○	○
Class Breakdown	○	○
Achievement Status & Growth (ASG) Projection Report	○	○
Achievement Status & Growth (ASG) Summary Report	○	○
Achievement Status & Growth (ASG) Quadrant Report	○	○
Student Profile	○	○
Student Progress Report	○	○
Learning Continuum Class View	○	○
Learning Continuum Test View	○	○

Page Break

Q26 Do you run your own MAP Growth reports?

- ○ Yes
- ○ No

Q27 How proficient do you feel with comparing your class with the norm groups?

- ○ New to me
- ○ I am familiar with it
- ○ I get it
- ○ I can teach it
- ○ I can apply it another way

Q28 How proficient do you feel in identifying strength and growth opportunities in your class?

- ○ New to me
- ○ I am familiar with it
- ○ I get it
- ○ I can teach it
- ○ I can apply it another way

Q29 How proficient do you feel in using your MAP Growth reports to group students by individual needs?

- ○ New to me
- ○ I am familiar with it
- ○ I get it
- ○ I can teach it
- ○ I can apply it another way

Q30 When proctoring MAP Growth assessments I feel:

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Supported	○	○	○	○	○
Prepared	○	○	○	○	○

Q31 I feel prepared when discussing MAP Growth assessment results with:

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Parents/Guardians	○	○	○	○	○
Students	○	○	○	○	○
Fellow Staff Members	○	○	○	○	○

Page Break

Q32 **The focus for Year 2 was using the Learning Continuum to plan for instruction.**

Have you received the following training?

	Yes	No
Whole Group Planning	○	○
Small Group Planning	○	○
Individual Planning	○	○

Q33 I would like more training about:

	Yes	No
Whole Group Planning	○	○
Small Group Planning	○	○
Individual Planning	○	○

Q34 **The focus for next year will be goal setting.**

How familiar are you with using MAP Growth data to set goals at the following levels:

	I'm not familiar	I have considered it	I have tried it	I have successfully implemented
School	○	○	○	○
Classroom	○	○	○	○
Individual Student	○	○	○	○

Q35 What additional support or training is needed for MAP Growth?

_____

_____

_____

_____

_____

End of Block: Default Question Block

Appendix C

Code	Question
MAP	MAP Growth is an assessment that
RIT	The RIT Scale
Norm	MAP Growth normative data
Troublesh	How comfortable are you with troubleshooting problems when proctoring
Norm Comp	How proficient do you feel when comparing your class with the norm groups
Disc P	I feel prepared when discussing MAP Growth assessment results with parents
Disc S	I feel prepared when discussing MAP Growth assessment results with students
Disc F	I feel prepared when discussing MAP Growth assessment results with fellow staff
ID Streng	How proficient do you feel in identifying strength and growth opportunities in your class
Group	How proficient do you feel in using your MAP reports to group students by individual needs
Proc Sup	When assessment proctoring I feel supported
Proc Prep	When assessment proctoring I feel prepared