4-2020

Barriers And Opportunities For Provision Of Specialized Programming For Rural, Low-Incidence Students

Eric McGough

BARRIERS AND OPPORTUNITIES FOR PROVISION OF SPECIALIZED PROGRAMMING FOR RURAL, LOW-INCIDENCE STUDENTS

By

Eric McGough

A DISSERTATION

Presented to the Affiliated Faculty of

The College of Graduate and Professional Studies at the University of New England

Submitted in Partial Fulfillment of Requirements

For the degree of Doctor of Education

Portland & Biddeford, Maine

April, 2020

Eric McGough
April, 2020
Educational Leadership

BARRIERS AND OPPORTUNITIES FOR PROVISION OF SPECIALIZED PROGRAMMING FOR RURAL, LOW-INCIDENCE STUDENTS

ABSTRACT

The dichotomy between increasing accountability mandates and access to appropriate service provision is particularly evident in consideration of mandates pertaining to students represented in special education, Section 504, students who are English learners, migrant students, and homeless students. For the purposes of this study, these students are represented as the low-incidence student population. The purpose of this study was to identify factors that enhance or facilitate those factors that hinder efficient delivery of services to the low-incidence student populations in a very rural region in New England. Participants in this study were three district administrators, three school social workers, and two specialized service providers. The research questions examined these opportunities and barriers from the perspective of service providers and administrators in northern Maine. Existing collaborative structures that could be leveraged to enhance facilitating factors and address barriers were documented.

Through analysis of the qualitative data from the interviews, five emergent themes were identified. The five themes were Stakeholders/Team Approach, Technology, Common/Universal Barriers, Formal vs. Informal Data, and Services-Success Correlation. Participants noted that identified barriers must considered when administering services to low incidence populations, while providers also needed to maintain an awareness of new barriers that could develop. Findings from this study support the assertion that utilizing a range of resources to optimize

efficiency and collaborative structures can yield increased access to specialized services, leading to improved student performance.

In consideration of the themes identified in the qualitative data derived from this study, approaches to provision of services might include more blended options, or even fully-remote options. Blended services would include direct or on-site instruction and consultation, coupled with instruction and consultation services done remotely. Remote options for service provision allow for more types of coaching and monitoring, partnering with a staff member on-site, or providing a student services at home.

Recommendations for leaders and service providers certainly include evaluating appropriate programming and services for students first, and then considering flexibility of options to achieve that end state. Although a traditional approach to service provision is to work within the framework of what is currently available, equity of educational programming necessitates making programming decisions solely on what is appropriate for the student. Furthermore, recommendations include developing both formal and informal partnerships and leveraging technology and existing programs to address student needs in efficient and effective manners.

Keywords: Barriers, Blended, Collaborative, Low-Incidence Student Population, Remote, Specialized Services

University of New England

Doctor of Education
Educational Leadership

This dissertation was presented
by

Eric McGough

It was presented on
April 2, 2020
and approved by:

Michelle Collay, Ph.D, Lead Advisor
University of New England

Kim Roberts-Morandi, Ed.D, Secondary Advisor
University of New England

Timothy L. Doak, CAS, Affiliate Committee Member
Maine School Administrator

ACKNOWLEDGMENTS

Having the support and resources to participate in this program and conduct this study is not something to be taken for granted. First and foremost, I thank God that I have been blessed to persist through the challenges and conduct what I believe to be a meaningful and impactful study. The students that I am honored to serve deserve the very best in their educational experiences, and it is my hope that reflecting upon these findings will continue to support that initiative.

I am also exceedingly grateful to my family for their support and devotion to what was required to complete this work. It is that shared belief and commitment to service that inspires me to serve my community. There is no doubt that the completion of this work would not have been possible without that consistent support.

It has been an honor to work with the incredible professionals who helped to guide me along this path. Dr. Collay, Dr. Roberts-Morandi, and Mr. Doak were always available and ready to provide me with the guidance and tutelage necessary to develop and conduct a study worthy of completion. Given all of the dynamics of job changes and military service, their flexibility, support, and encouragement that was consistent throughout helped to make all of this possible. I offer my sincerest gratitude to these advisors for their extraordinary guidance and support.

Thank you also to the amazing professionals that I have the privilege of serving alongside every day. It is the shared commitment to serving our students that yields tangible action in effectively meeting the needs of those we serve. It is my hope that we never stop learning and adapting what we do to meet the ever-growing demands of service in this industry.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1

INTRODUCTION

Federal, state, and local mandates are continuing to raise the bar for providing a meaningful and impactful education to all students. As educators in the United States have made incredible strides in identifying and advocating for students of all ability levels and backgrounds, there is an increasing awareness of whether and how various subgroups are being served. Legislation such as the Individuals with Disabilities Education Act (IDEA, 2004) and the Every Student Succeeds Act (ESSA, 2015) are clearly stipulating that protections are in place for serving various subgroups of low incidence students.

Certain regions of the United States have implemented entities for oversight of programs for students with special needs. The Board of Cooperative Educational Services (BOCES) model is one such approach to streamlining and regionalizing the administration and delivery of many specialized services. Such a model has been utilized since the mid-twentieth century, with strong results to support its use. For instance, the BOCES of New York State currently supports the special education service provision for 16,571 students (About BOCES, 2017).

Whereas regionalized models have been around for decades in some parts of the United States, other regions are struggling to transition into such a model. Northern Maine, for instance, does not use any such regionalized model for specialized educational programming or service provision. Currently, school districts with a particular program or service provider may contract out their service for a fee, but the individual school district continues to be the entity responsible for each program or service provider. As such major shifts in the organization of service provision involve many stakeholders, a critically important group to consider is administrators and specialized service providers who are often charged with establishing such structures.

Especially in a distant rural area like northern Maine, there are personnel and structural barriers to implementation of alternative models to service delivery.

Problem of Practice

The State of Maine faces a variety of challenging factors to overcome in meeting the demands of educating students across the state. Maine as a whole currently has 185,735 students in 174 school districts, with no districts ranking in the top 1,000 nationally for enrollment (List of school districts in Maine, n.d.). Much of the northern region of Maine consists of Aroostook County, which represents 6,453 square miles, or approximately 21% of the state's land area (Facts about Maine, n.d.). However, this sprawling region is home to only 43 schools, 36 of which are public schools (October 2017 Data, 2017).

Additionally, data from the Maine Department of Education October 1st Enrollment Count from 2017 indicates that Aroostook County public schools account for only approximately 5.18% of the total student attending count in the state (October 2017 Data, 2017). The fact that more than one-fifth of the state is home to slightly over one-twentieth of the public school students in the state also highlights a logistical challenge to serving students who are entitled to equal access to an appropriate education. Expanding on this, it is also important to consider the number of students included in low-incidence student subgroups who are also included in this already sparse total.

Public data from the Maine Department of Education's 2017 October 1st Enrollment Count note that approximately 17.59% of Maine students are recipients of special education services, and approximately 3.5% of Maine students are English learners (October 2017 Data). Taking these percentages and applying them to the total number of students in Aroostook County (9,374) would indicate that there are approximately 1,649 students receiving special education

services and 305 students receiving services as students who are English learners throughout the entire county (October 2017 Data). It is quite evident when considering the student data paired with the geographical data that the task of serving low-incidence student subgroups spread out over such a vast region presents a challenge that is not unfamiliar to many of the geographically-isolated regions around the United States, and one in desperate need of solutions.

Purpose of the Study

Whereas the challenges that educators in geographically remote and sparsely populated areas face in providing essential programming and services to students in low incidence student subgroups are not uncommon, each region has unique dynamics and factors to be considered when identifying barriers as a step to developing and implementing solutions. The State of Maine Department of Education has already taken several steps to promote regionalization in the more geographically isolated and remote parts of the state. Title 20-A MRS Chapter 114-A, in accordance with Department of Education Rule Chapter 122, establishes a Fund for the Efficient Delivery of Educational Services (FEDES) grant (Maine Department of Education, FEDES, 2018). In addition, the State of Maine Department of Education offers up to $100 million to the regional winner of the State of Maine Department of Education's Major Capital School Construction Pilot for developing an Integrated, Consolidated 9-16 Educational Facility (Potila, 2018).

The State of Maine Department of Education has established a recognition of the problem and a willingness to invest in solutions. However, viable solutions require investment and engagement from more stakeholders than just the Department of Education. To effectively address the growing problem of educational programming and service provision for students in low-incidence subgroups in a geographically remote area, identifying practical barriers noted by

administrators and service providers is paramount to advancing the collaborative effort to leverage resources in an efficient and meaningful way. A primary purpose of this study is to identify those specific opportunities and barriers in the northern region of Maine to then inform a systematic approach to addressing them.

Another important purpose of the study is identifying not only the current challenges, but also the strengths. Although some factors act as barriers that make the appropriate service and educational programming provision for low-incidence populations more challenging to implement, this study also explored what strengths or factors are enhancing the provision of such services and programming to this specific population in the northern Maine region. Barker (1990) proposed that the advantages of technology application for serving staff and students in rural schools outweigh the disadvantages, and this finding lent credibility to the consideration that such structures can facilitate advantageous programming through nontraditional methods.

An additional element of this study's purpose is to explore what collaborative structures are currently in place within the northern Maine region, and how they are being utilized to facilitate collaboration among administrators and service providers serving students with low-incidence disabilities or learning needs. This could include formal collaboratives like the Central Aroostook Council on Education (CACE), or less formal collaboratives like a regional group of districts that share online courseware licenses. Identifying the scope and nature of these collaborative structures would yield the potential for identifying how greater use of the collaborative structures could be employed.

Research Questions

Given the scope of this study and its implications for subsequent action, the primary research question also includes further considerations noted as subquestions.

What potential opportunities and barriers do administrators and specialized service providers in northern Maine identify as enhancing or inhibiting the provision of specialized educational programming and services for low-incidence students of northern Maine?

- What are factors that currently enhance or facilitate the provision of specialized programming and service for low-incidence students of northern Maine?
- To what extent do factors such as geography/access, flexibility, and budgeting influence the provision of specialized educational programming and services for low-incidence students of northern Maine?
- How do specialized service providers and administrators in northern Maine utilize collaborative structures currently in place for serving low-incidence students, and with whom do they collaborate?

The overarching question addresses the focal point of specific opportunities and barriers noted among the participants in the identified stakeholder group (administrators and specialized service providers). The subquestions allow for a somewhat different angle on the original question, which will be important for informing recommendations on what to do about the findings of the study. By considering what is already in place that might enhance progress, as well as considering access, the findings will inform a more practical approach to addressing the problem.

Conceptual Framework

This study allowed the researcher to gather data through a qualitative methods approach. Because of the amount of data readily available regarding achievement and disproportionality, this research design focused on gathering rich qualitative data from stakeholder groups within the region of northern Maine. This approach is consistent with the conceptual framework of the

study, as the goal of identifying the connection between access to appropriate educational programming and the application of social justice theory in education is evident.

The data gathered were invaluable for devising a tangible approach to solving a chronic problem that rural districts throughout northern Maine face every day. Moreover, it is the students requiring access to specialized educational programming who are the primary focal point of the challenges noted in this chronic problem. Griffiths (2007) outlined a framework for social justice in educational practice that serves as the key theoretical framework of this study. Griffiths (2007) notes that her framework places great emphasis on discovering the perspectives of others, as opposed to an assumption of any universal subject or object of knowledge. These open and focused interactions serve as a guide for the collaborative process of gathering qualitative data, rather than the mere study of subjects within a region.

Consistent with Griffiths' framework for understanding social justice in educational practice, a limitation of the study is the degree of relevance to other regions, given that it is a qualitative study focusing on trends identified through extensive interviewing. However, a real strength is the relevance to the region for which the problem is identified. This study, rooted in a flexible and collaborative approach, offers the insights of participants representing school districts across the northern Maine region, from the perspective of those in administrative and service provision roles for low-incidence student populations. It is hoped that the findings and recommendations from this study inform the development of policy to further the cause of social justice in educational practice, manifesting in improved access to appropriate educational programming for students represented in low-incidence populations.

As Griffiths' (2007) framework for understanding social justice in educational practice presents a dynamic model that allows for a multidisciplinary approach, this study also

incorporates secondary influences from other theoretical frameworks. Griffiths (2007) points out how “Hard-pressed managers and teachers, themselves coping with ever changing conditions and turbulent times, would benefit from theories which addressed their urgent needs” (p. 186). As such, this study also incorporates concepts of Turbulence Theory, as described by Shapiro and Gross (2013). The primary focal point of the study is provision of services for students who make up low-incidence populations in northern Maine, and many of the implications of the study fall on those charged with the decision-making capacity to respond to the turbulent times that established the problem of practice.

Shapiro and Gross describe Turbulence Theory as a way to provide additional context to a problem at hand. They identified four degrees of turbulence, ranging from light to extreme (Shapiro and Gross, 2013). Turbulence Theory is consistent with the focus of this study in that there are degrees of turbulence present within efforts to serve all students in various geographical portions of the northern Maine region. Certain subgroups considered part of the low-incidence population of students, require a range of educational responses, and their challenges may create turbulence that varies from light to extreme. It was anticipated that the rich data gathered from the participants would remain consistent with the degree of turbulence confronted by stakeholders for advancing the cause of social justice via access to appropriate educational programming for low-incidence populations.

Delving deeper into Turbulence Theory, Gross and Shapiro (2013) assert that Turbulence Theory, in conjunction with the Multiple Ethical Paradigms, operate as an integrated system that allows for those facing ethical dilemmas to make relevant predictions, explanations, interpretations, and applications. By identifying trends in the qualitative data derived from this study, such tasks are more likely to be readily performed by those facing the ethical dilemmas.

Even the very idea of ethical dilemmas reflects back to social justice theory in educational practice as the primary framework of this study.

It is critically important, however, to not overextend the connection between the multiple ethical paradigms and the idea of social justice. Particularly, the ethic of justice is a frequently observed construct in the field of education. Lawrence Kohlberg asserted that schools should teach principles of equity, among others (cited in Shapiro and Gross, 2013). As a proponent for the ethic of justice, this would not perfectly align with Griffiths' (2007) assertion that the term equity is not synonymous with social justice. Although many of the underlying principles align and are consistent, it is important to note the subtle manner in which they do not.

As the conceptual framework is an interwoven structure that blends the constructs of social justice, turbulence, and ethical paradigms, the study is both justified and explained through these ideas. Griffiths' (2007) framework is both supportive of and supported by Turbulence Theory, which walks hand-in-hand with ethical paradigms. This conceptual framework is what allowed for a way to explore barriers, advantages, and collaborative structures, while also framing a perspective for interpreting the data gathered from the study.

Assumptions and Limitations of the Study

A major limitation of this study is that the qualitative data gathered and considered may not necessarily reflect the barriers in other regions where regionalized service provision is limited. The idiosyncratic nature of this study, while also potentially an opportunity for discovery, is a limitation that is generally accepted when conducting such a study. Griffiths (2007) notes that the process must be patiently carried out by educators in the educational arena, as people are likely to create their own versions in formats that are useful to them. Consequently, such considerations must be carefully thought out when attempting to replicate or expand on this

study. One example is the fact that a low-incidence disability subgroup in northern Maine might not necessarily be a low-incidence disability subgroup in another region of the United States.

A critically important assumption of this study is that the provision of specialized services is insufficient for certain subgroups within low-incidence populations. While some larger districts in these regions may have more programming to offer, and some smaller districts may have a particular program that is highly effective for a specific population, it is assumed that the wide array of programming necessary to serve such a diverse population of students is not available. Again, that presents as a potential limitation, given the specific nature of the data included in this study.

Another key assumption pertains specifically to the respondents, which is that the feedback was reasonable and honest. As the nature of the semistructured format allows for rich depth of detail in the data, the importance of reasonable and honest feedback from the participants is essential and assumed in this study. Given that respondents represent a very limited number of specialized personnel for their particular discipline in northern Maine, the assumption becomes all the more essential in gathering data.

Scholarly Significance

Issues impacting rural education often do not get much attention, because on the national scale, they do not impact many students (Cohn, 2017; Lavalley, 2018; Smarick, 2017). However, that circumstance makes addressing them all the more important (Beeson & Strange, 2003). While this particular study utilizes a qualitative approach to identifying barriers and advantages in the provision of educational services to low-incidence students in northern Maine, the significance of this study and its implications for further studies is also very important.

Smarick (2017) asserts that approximately one-fourth of America's students are educated in schools classified as rural, equating to nearly 10 million students. Smarick (2017) explains that, whereas children in low income urban areas still have proximity and access to many services and resources, the isolation of poor students in rural areas is much more difficult to overcome. This is noted by the fact that children born into poverty in the rural South of the United States have only a five percent chance of reaching the top income quintile as an adult (Smarick, 2017). It is evident that the northern Maine region is not unique in its challenges to meet the educational needs of low-incidence students, and this study's significance could also serve as a model to replicate in other rural regions of the United States.

Definition of Terms

1. Individualized Education Plan (IEP): An Individualized Education Plan is the federally-mandated plan developed by the IEP team in accordance with an identified special education student's academic, functional/developmental skill needs.
2. Individualized Language Acquisition Plan (ILAP): An Individualized Language Acquisition Plan is a federally-mandated plan developed by the Language Acquisition Committee (LAC) in accordance with an identified student who is an English learners' language acquisition needs.
3. Language Acquisition Committee (LAC): The LAC is a team composed of administration, classroom teachers, special education teachers (if applicable), service providers (if applicable), an endorsed Teacher of English for Speakers of Other Languages (TESOL), parents, and a student (if age-appropriate) who qualifies for English language services. This team meets at least annually to review data and develop a plan to serve and accommodate an identified student in their educational programming.

4. Low-Incidence Student Population: For the purposes of this study, low-incidence student populations include special education students, students with a Section 504 plan, migrant students, homeless students, and students who are English learners.
5. McKinney-Vento: The McKinney-Vento Homeless Education Assistance Act provides Federal protections and funding for students who meet the criteria for homeless.
6. Migrant Education: Migrant education includes programming and services for students who are displaced due to seasonal work for parents or relatives.
7. Northern Maine Region: Although generally considered Aroostook County, northern Maine is considered (for the purposes of this study) as the approximate geography north of Bangor, Maine.
8. Regional Collaborative: A group, formally or informally organized, or educational units or service providers that share resources to more efficiently provide services to students and/or professionals.
9. Rural Schools: Schools that are characterized by geographic isolation and small student population.
10. Teacher of English for Speakers of Other Languages (TESOL): The TESOL is an endorsed teacher who is trained in linguistics and language acquisition for the purpose of supporting and providing the instruction for an student who is identified as an English learner.

Conclusion

As the expectations and rigor in the modern landscape of education continue to increase in the United States, the demands on education agencies increase commensurately. One-half of America's schools are classified as rural, which the National Center for Educational Statistics (2006) defines as being nonmetropolitan in nature (Lavalley, 2018). Northern Maine presents as

an entire region that is non-metropolitan in nature, and experiences many of the challenges common among rural parts of the United States. Although rural schools have smaller student populations, low-incidence student populations are present and in need of appropriate services and educational programming the same as their counterparts in other areas.

Students who make up low-incidence populations often lack sufficient access to appropriate educational programming. While there are a host of factors that are responsible for that situation, it is, at its core, an issue of social justice. Griffiths' (2007) framework for understanding social justice in educational practice offers not only the foundational support for identifying the problem at hand but also a reasonable approach by which barriers can be identified. Supportive theories, such as Turbulence Theory, offer additional insights into the manifestation of the social justice issue facing low-incidence student populations in northern Maine. It is this comprehensive consideration of factors that will inform a study that identifies not only trends in barriers among specific sections of low-incidence student populations, but also recommendations for actions to address the problem.

Although the current body of research points to a substantial lack of attention in funding and research for rural education, researchers continue to identify barriers and challenges in the efficient delivery of services to low-incidence student populations. The literature identifies limitations in resources available as one of the primary reasons the appropriate service provision to low-incidence populations in rural areas can be challenging, while other barriers continue to be prevalent. Ultimately, this study pursued not only the identification of those barriers but also the advantages of leveraging collaborative structures currently being utilized to facilitate a greater consideration of how to improve the provision of services and educational programming to low-incidence students in northern Maine.

CHAPTER 2

LITERATURE REVIEW

With rural school districts making up approximately half of the school districts in the United States, there is a limited but growing body of research addressing various elements of educational programming in that environment (Lavalley, 2018). The prevalence and long-lasting impact of poverty and limited resources in rural areas have forced lawmakers and policy analysts to consider ways to streamline the provision of educational services in these areas (Smarick, 2017). As such, consolidation and the shared provision of resources is one of the more well-represented themes in the current body of literature. The literature also addresses not only the challenges for specialized services and programming in rural areas but factors common among high-achieving rural schools.

Consideration has been given to school size, and the literature contains numerous examples of how the size of a school unit impacts certain outcomes. Collaboration is often an area impacted by the same barriers that impede the efficient delivery of shared services, and presents some key themes in the literature. While special education often garners much of the attention in the current body of research, there is a growing body of literature addressing other segments of the low-incidence student population. Lastly, there is considerable research influencing educational theory that informs the study of barriers to appropriate educational service provision.

Consolidation and Resource Sharing

Scribner (2016) articulates in great detail the complexity of the dynamics involved in the concept of school consolidation. Scribner (2016) notes that the idea of local control of public education is at the core of many of the arguments involving school consolidation. These

dynamics, coupled with attempts at standardizing the education experience and limited resources, influence debates that extend well beyond student achievement. While those ends are certainly an important part of the conversation, Scribner's discussion of the political and financial considerations underscores what is often the most impactful aspect of evaluating the effectiveness of school consolidation.

Strange (2013) also found that many of the legislative battles over school consolidation are reflective of the considerations shifting from student achievement to financial benefits. Noting that student achievement was at one time at the center of consideration for school consolidation, it is now the dwindling resources and sparse populations that are of critical importance. The cultural centrality of the schools to the communities they serve also makes for difficult dynamics when finances are central to the debate about consolidation.

Gordon and Knight (2008) produced a study that considered the cost efficiency of instructional delivery for schools in Iowa that participated in the incentivized cost-sharing efforts. They found that there was no statistical effect on the pupil-to-teacher ratio, dropout rates, or enrollments. Other findings were that local revenue was not offset among those receiving the incentive funds, and thus the revenues increased. Furthermore, expenditures also increased, but not to the extent of the increase in revenues. The study notes a lack of quality data on student outcomes but did note that the incentivized cost sharing did not lead to efficiency gains from either whole grade sharing or consolidation.

Howley, Johnson, and Petrie (2011) outline the basic concepts of consolidation, and how the universal assumption that consolidation leads to economic efficiency and improved student achievement is inconsistent with research. Their study notes that there are a variety of other factors, such as regional differences and contextual differences, that impact the economic and

achievement benefits of consolidation. They also note that, as a result, deconsolidation may even be more effective for improving student achievement, indicating that instances in which other negative factors have become present must be considered. The consideration that there are numerous factors affecting student achievement, not simply school size and program offerings, is consistent with the overall body of research. While consolidation is often financially driven, the need to find ways to streamline costs while being sensitive to factors that impact student achievement is a reliable claim.

Warner and Lindle's (2009) research outlines consideration of factors when consolidation is both necessary and educationally beneficial. School-community relations are a critically important factor in the implementation of such a change, and the authors note the research-supported link between the physical learning environment and student performance. Given the political ramifications of school boards and the decision to consolidate schools, the ethical dilemma that ensues is often a factor of great relevance. This research presents valid considerations when determining whether consolidation is best. There are often a number of other factors in the discussion of whether to consolidate, with student achievement only one of those factors to be considered. Although the consideration of how a town or community will be impacted should be noted, the effect of consolidation on student achievement must be paramount.

Hu and Yinger (2008) conducted a study of school consolidation in New York State, noting that regarding property values, the larger districts did not find the same impact when consolidation occurs. Based on their research, districts with 1,700 pupils actually did not experience any difference in property values as a result of school consolidation. Another factor

to consider is the typical size of districts that consolidate, and possible economic reasons that district leaders might have to consider it.

Duncombe, Yinger, and Zhang (2016) analyzed the trends of property values over a 10-year period in New York, looking for potential impacts of consolidation. With the exception of one relatively large district, property values were negatively impacted in the years directly following school consolidation. However, the authors noted that this trend eventually slowed, and then reversed. This is a critically important consideration in the school consolidation debate because that is often a concern that town residents have when considering the implications of consolidation. Duncome and Yinger (2007) also outlined the financial benefits of consolidation in New York State. They found that, for districts with 300 pupils, doubling the enrollment cut costs by 61.7 percent. With 1,500 pupils, that cost reduction becomes 49.6 percent when doubling enrollment. This research highlights a clear financial benefit for consolidation, particularly in instances where the student populations are extremely low.

Haddad and Alsbury (2008) considered key factors in the analysis of potential policy decisions involving school district consolidation. They noted four control variables: average years of teacher experience, percentage of families in poverty within the school district, the educational level of the community, and pupil-to-teacher ratio. The two dependent variables in this study were a percentage of 8th graders among the applicable schools proficient in reading and those who were proficient in math (based on standardized testing). The authors concluded that the consideration of spatial analyses in this study illustrates the need to consider local and regional dynamics as a more important factor in student achievement, and not just an ideal size that is universally applicable.

Howley, Howley, Hendrickson, Belcher, and Howley (2012) utilized a qualitative approach to evaluate the overall impact of consolidation in rural communities. This study evaluated districts that shared resources and administration, with the goal of maintaining the school identity and autonomy that many rural communities fear losing with the consolidation of schools. In this instance, the researchers found that sharing resources and administration, as well as itinerant staff, was a reasonable compromise to keep the autonomy of schools in the various communities. The authors noted that this compromise allowed for the greater good in each community. The overall outcome was the need to identify the resourcefulness that rural schools must have to maintain their identity and autonomy.

Nitta, Holley, and Wrobel (2010) analyzed interview data from students and teachers in four Arkansas schools that were impacted by consolidation. Despite the fact that some of the elements noted were divergent and contradictory, the authors note that two common themes emerged among those interviewed. First, students responded to the social disruption of the changes better than the teachers, when looking more specifically at the development of relationships. Second, almost all students and teachers from both sending and receiving schools interviewed noted at least some benefits from the consolidation.

Williams (2013) considered micropolitical factors in a rural part of Louisiana where school consolidation was being addressed by the school board. In this instance, the micropolitical factors that are often associated with consolidating schools in small towns were present (i.e., fear of losing local control of education, fear of the town dying, etc.). Also of note, contextual factors such as educational equality and current degrees of segregation become factors in determining the benefits of consolidation, beyond just student achievement and fiscal efficiency.

School Unit Size

Knoth-Humlum and Smith (2015) evaluated the effect of school size on student graduation and career projections at age 30. They noted that research from another European country indicates that there is a significant effect when looking at school size and long-term outcomes, particularly for male students, and those from lower socioeconomic status backgrounds. The results of this study indicate that there was not a statistically significant effect on long-term outcomes for the general student population in Denmark, but there was a positive effect on student outcomes for those who are considered more vulnerable, with a given example being boys who complete a vocational program.

Malhoit and Black (2003) identified student achievement in small schools as greater than that in large schools, particularly for economically-disadvantaged students. This finding also suggests there are limited financial benefits for consolidation, because of the cost of high dropout rates and other problems associated with lower student achievement. They also note that schools that aren't too small are also able to provide sufficient offerings in the core curriculum, thus negating the argument that the additional course offerings at a larger school lead to increased student achievement.

Although this research is dated, the conclusions are valid and consistent with the overall body of research. The biggest challenge with interpreting this information is the subjective definition of what constitutes a small school. In one part of the United States, a small school district might have 2,000 students. In another part of the United States, that enrollment would be considered a moderate-to-large school district. More concrete definitions of school district sizes would allow for more universal applicability of the data.

In a multiyear, statewide analysis of standardized assessment scores on state assessments in literacy, mathematics, and science skills and content knowledge, Barnes, Slate, Moore, and Martinez-Garcia (2017) evaluated passing scores among students identified for special education. Students were then identified as being either in a small-size school district (up to 1,599 students), moderate-size school district (1,600–9,999 students), or large-size school district (more than 10,000 students). Student performance on state testing in reading, mathematics, science, social studies, and writing indicated that large-size school districts were highest performing in each of the five subject areas, while small-size school districts were the lowest performing in four out of the five areas (reading being the exception).

A study conducted by Berry and West (2010) analyzed student achievement in the form of returns to education, when considering school size. Berry and West note in this large-scale study that state of birth was the only factor correlated with achievement, again supporting research where regional considerations become a significant variable in this analysis. They further noted that students who were educated in states with smaller schools obtained higher returns to education and completed more years of schooling (Berry & West, 2010). Estimates indicate that students from states with larger schools made significantly lower earnings later in life, and although larger districts were associated with somewhat higher returns in education and increased educational attainment. In most categories analyzed, the harmful effects of larger schools outweighed gains from the consolidation of districts (Berry & West, 2010).

De Haan, Leuven, and Oosterbeek (2016) note that there is a challenge in researching school size increase and student achievement because positive effects from larger school size can potentially be outweighed by a decrease in school choice and competition. In analyzing student achievement that resulted from the Dutch consolidation effort of primary schools, a minimum

increase of 10% in school size led to a 0.72% of a standard deviation increase in student achievement. Reduced competition and choice were not shown to have a statistically significant impact on student achievement, according to this study.

Lowen, Haley, and Burnett (2010) take a somewhat different approach to evaluate the optimal size of a school regarding the effect on student achievement. Lowen et al. (2010) note that many studies evaluate indicators of student achievement (i.e., state testing) with school size being the variable. They proceed to discuss that the optimal school size can be somewhat subjective, given a variety of factors. A statistical model is presented that focuses primarily on teacher incentives and a pay structure that would identify the optimal number of teachers for a given school. Teacher effectiveness is a noted factor when identifying the overall size of an effective school.

This unique approach is consistent with advocacy for school choice and incentive-based pay. The authors note that a simplistic view of a relationship between school size and student achievement doesn't consider all of the factors that impact such achievement. While effective instruction is a valid consideration, it is also not an all-encompassing factor when evaluating the influence of school size. That said, the statistical model for identifying teacher effectiveness and its resulting optimal school size is a valid point for consideration. The primary finding is that size is only one factor, and that should be noted in the application of this model.

Challenges of Specialized Programming for Rural Schools

Teacher recruitment and retention is a significant problem across the United States, but is accentuated in rural areas. Berry, Petrin, Gravelle, and Farmer (2017) analyze this shortage, as well as the professional development needs of special educators. This nationally-conducted study confirmed the challenges faced by schools across the nation in hiring and retaining qualified

teachers. Furthermore, it is the assertion of the authors that rural special educators would benefit from the following knowledge to enhance their professional practice: working with paraprofessionals and parents, low-incidence disabilities, emotional and behavior disorders, classroom management, skills in collaboration and inclusive practices, and curriculum content (Berry, Petrin, Gravelle, & Farmer, 2017).

Helge (1981) conducted a study in which data from the National Rural Research and Personnel Preparation Project were collected with the purpose of investigating problems in implementing comprehensive special education programs. While cultural, geographic, climatic, socioeconomic, and other factors were present, the following three factors were actually determined to be primary barriers to establishing special education programs in rural schools: teacher retention and recruitment problems, rural attitudinal problems, and problems based on rural terrain (Helge, 1981). Appropriately aligned to this study, Helge's original study was followed by one that focused on cost efficient service delivery strategies.

With recruitment and retention of qualified special educators being a problem consistent in the research for rural education, Johnson, Humphrey, and Allred (2009) provide a promising model to support special education recruitment and retention in rural areas. Their model draws from teacher education, online service delivery, collaboration, and evidence-based practices to synthesize an effective approach (Johnson, Humphrey, & Allred, 2009). The relationship among rural districts, higher education, and governing agencies was also noted to be an important factor in this study.

Howley, Rhodes, and Beall (2009) focus on students identified as gifted who attend school in rural communities. As with other populations, the authors note four primary challenges facing rural schools: declining population, persistent poverty, changing demographics, and

ongoing accountability requirements. This study found that the availability of resources, such as distance learning, can provide a creative solution to both foster continued growth for gifted students and encourage them to remain in their communities to serve as leaders.

Smarick (2017) draws particular attention to how philanthropic efforts to address areas stricken by chronic poverty are often directed at urban areas, leaving rural areas in significantly greater need. The researcher notes that rural students are more likely to abuse recreational drugs and have a higher teenage birth rate than their urban peers, which also has a significant impact on educational outcomes in these areas. He asserts that these characteristics also have a direct impact on the likelihood of rural children to go on to receive a four-year college degree. It is the lack of not-for-profit organizations and other entities that often generate funds to support poorer areas that Smarick (2017) identifies as being a major barrier to effective educational programming in rural areas.

Cohn (2017) details factors identified by education leaders in rural California that have impacted the ability to provide quality educational programming in that region. The education leaders of rural regions identify the opioid crisis, lack of qualified staff (instructional and otherwise), lack of mental health professionals in the area, and geographic isolation as major factors influencing the educational outlook for that region (Cohn, 2017). The article closes by identifying how the author, who had previously perceived urban educators to have the biggest challenges, developed a new awareness for the under-identified challenges of rural education.

Lavalley (2018), formerly of the Center for Public Education, identified that rural counties experience more poverty than urban counties in the United States, with child poverty rates of 64% to 47% respectively. The researcher noted that lack of access to upper-level mathematics instruction is one byproduct of schooling in rural areas, with students in rural

schools having access to approximately half of the upper-level mathematics courses as their urban peers. Although rural students are more likely to complete high school than their urban peers, they are less likely to earn a four-year degree, at a rate of 51% to 62% respectively. Lavalley (2018) proceeds to identify difficulty recruiting qualified instructors, with a 10-percentage point gap in earning a master's degree between rural and suburban teachers.

Lavalley (2018) notes barriers that make rural education difficult, citing that rural school districts receive approximately 17% of their respective state's funding, and are also negatively impacted by the funding formula for the provision of Title I funds. Geographic isolation also impacts the cost to transport students across a larger geographic area. This circumstance also impacts school choice, with only 11% of charter schools being rural, as opposed to the 56% that are urban. Despite the assumption that virtual learning can adequately address all of the needs of remote learners, more than two-thirds of Americans who lack internet access live in rural areas (Lavalley, 2018).

Beeson and Strange (2003) studied rural districts across the United States to identify urgent educational elements across the nation. The authors note that, whereas individual states present with their own respective, unique factors, consideration of those factors across the nation are an important starting point. They identified low rural teacher pay, limited computer use in rural classrooms, lower amounts of money spent on school leadership, and a higher proportion of expenditures spent on transportation as the four most urgent items in rural education.

High-Achieving Rural Schools

Barley and Beesley (2007) utilized a primarily qualitative research approach to ascertain the elements that are common among high-performing, high-needs schools in rural areas. Participants were asked to describe what factors made a rural school successful, and what is an

appropriate way to evaluate success. Among the schools participating in the study, it was noted that high expectations, focus on student learning, use of data, individualized instruction, teacher retention and professional development, and alignment of curriculum with assessment were all important determining factors for school success.

As would be the case in most qualitative analyses, the richness of the data is great. The multiphase approach to gathering this type of data and the consistency of the themes present would indicate that there are strong implications that can be drawn in situations with similar dynamics. However, one must also be cautioned to consider that generalizing rural areas on the basis of just meeting the definition of rural can be misleading, and it is important to take regional factors into consideration.

Masumoto and Brown-Welty (2009) studied high achieving, rural schools in California to analyze what aspects made them successful. The authors noted that, whereas the districts faced many of the challenges common to rural districts, they essentially found innovative ways to overcome those barriers. While research is replete with examples of rural districts failing to offer highly-effective instruction, adequately fund necessary programs and initiatives, and establish strong support systems, the common thread among the districts analyzed was that they found innovative ways to leverage resources and establish partnerships to achieve those goals (Masumoto & Brown-Welty, 2009). Masumoto and Brown-Welty (2009) noted that parent engagement was a major factor in increasing achievement among populations of high poverty and high numbers of students who are English learners.

Collaboration

Friend, Cook, Hurley-Chamberlain, and Shamberger (2010) found that co-teaching is one of the reasons that collaboration is an integral part of special education. Co-teaching has evolved

over time, but it is becoming an ever-increasing approach to educating students in the least restrictive environment. The authors note that, while co-teaching has been a collaborative strategy that has received considerable attention in the research, it is also evident in the research that it is not always well understood. The authors assert that consistent definitions and concepts for best co-teaching practices would be an important step to improve on the effectiveness of this collaborative approach.

Taking collaboration a step further, Anderson-Butcher and Ashton (2004) identify the increased number of social, emotional, and physical needs with which students present, and the need for collaboration in order to effectively support these students. The authors look at collaboration from another perspective, focusing on stakeholders and organizations that are primarily external to the school setting. The authors focus on intraorganizational collaborations and their benefits in serving students with functional needs (Anderson-Butcher & Ashton, 2004).

Allan and Miller (1990) conducted action research that found collaboratives between schools and universities allowed for a teacher-researcher model to be utilized in effective professional development. The authors also note that while these collaboratives promote a network among professional educators, it is also aimed at reducing disillusionment and burnout often experienced by teachers (Allan & Miller, 1990). Allan and Miller continue on to note that the blend of classroom teaching experience and research opportunities create a professional development structure that is conducive to a study-application relationship.

Non-Special Education Subgroups in Low-Incidence Populations

Dronkers, Van Der Velden, and Dunne (2012) compared the educational performance of 15-year old migrant students with characteristics of their socioeconomic status, ethnic background, and the educational system. The authors note consistent findings with previous

research; namely, that inequalities within certain programs are a noteworthy factor (Dronkers, Van Der Velden, & Dunne, 2012). The authors found that there is not any one uniformly good or bad system for migrant students, but rather different groups excel under different systems.

Good, Masewicz, and Vogel (2010) provided a qualitative analysis of the barriers to academic achievement that Latino students who are English learners face. The authors utilized participants from parent and teacher stakeholder groups in a rural school district in the Rocky Mountain region of the United States for focus group interviews. The authors noted emergent trends related to the following concerns: communication gaps, culture clashes, weak Individualized Language Plans (ILPs), lack of teacher preparation in multiculturalism, low language acquisition, and a lack of effective instructional strategies for students who are English learners (Good, Masewicz, & Vogel, 2010).

Theories Influencing the Study of Appropriate Educational Service Provision

North (2006) notes that while social justice is a rapidly growing area of study, the conceptual underpinnings of it are not as frequently explored. North's complex model presented highlights of the diversity and reflexivity that is evident in Griffiths' (2007) model. It is the absence of the simplicity of concepts such as universal equality that really make up these conceptual underpinnings. The author's chief aim is to show the action-based approach to social justice in education, which is again consistent with Griffiths' work in the "fairer schools" initiative.

Marshall (2004) identifies the relatively weak, and somewhat obligatory, emphasis on social justice preparation for educational leaders. The author highlights the disproportionality of women and minorities in administration, and how the high turnover rate of administrators is also a key factor in the case for a stronger and more intentional approach to social justice preparation

as necessary for administrators. While training is a component of most leadership programs, the author asserts that a more direct approach to training and preparation in this area is what is needed for transformational leadership.

Extending further into theories informing this study, Kotter's 8 steps to transforming organizations is an applicable framework to reference (Farris, Demb, Janke, Kelley, & Scott, 2009). Kotter notes that complacency can reflect four potential causes: (1) absence of a major and visible crisis; (2) human nature's capacity for denial, especially if people are busy and/or stressed; (3) kill-the-messenger-of-bad-news and/or a low confrontation culture; and (4) lack of timely, specific performance feedback from external sources (Farris, Demb, Janke, Kelley, & Scott, 2009). Essentially, a sense of complacency is implicit in identifying barriers to more effective service provision models, given that continuing with the current approach has not yet spurred regional partners to significant action. To effectively identify and inform barriers, this model offers a strong perspective.

Lewin's three-part theory of change management, involving unfreezing, change, and refreezing, is applicable to sustaining the transformational change that addressing this problem necessitates (as cited in Cummings, Bridgman, & Brown, 2016). Refreezing doesn't mean becoming stuck in the scenario resulting from the change phase, but rather maintaining the change in approach and methodology that brings about the desired result. Fullan's (2006) emphasis on capacity building as a part of his change theory coincides with the idea of sustained change leading to consistent practice. Ultimately, the idea that change will yield a desirable climate for continued progress and sustained development of the organization is consistent with the free market theory of change (Billet, 1978).

Continuing to draw connections, change theory is an implicit concept when accepting the fundamental background points of promoting social justice in educational practice. Lewin's change theory, particularly as applied to the field of education, is consistently observed in research addressing advancement of educational programming. Lewin's 3-step model of unfreeze, change, and refreeze would align (in an overly-simplified manner) to the initial phase of this approach (cited in Burnes, 2004). However, the idea of refreezing is precisely where this model would fall short. It is the ongoing and fluid nature of the change process that will prevent the problem from resurfacing.

Resistance to change is something that is often found in isolated areas that have been able to sustain a way of life for an extended period of time. Macri, Tagliaventi, and Bertolotti (2002) present a grounded theory that "interprets resistance to change in terms of interdependencies between the characteristics of the economic environment and of the industry, the dispositions of individuals, and the patterning of their actions within the social network" (p. 1). Considering these factors provides a better understanding as to why the resistance to change often exists in many of these settings, as well as how to be mindful in approaching the change.

To effectively promote improved access to appropriate educational programming for low incidence populations, a clearly-defined and systematic approach will be paramount. Consideration of change dynamics will also be a necessity. Kotter's eight-stage model is revisited at this point, because this model offers insights that align to recommendations on how to apply the key theories identified in this study. Bucciarelli (2015) notes that Kotter's model begins with observing a failure in change, and follows with a positive engineering vision to transform that error into stages that facilitate a successful change. This provides the full-circle element of the various frameworks informing this study, because it is the facilitation of that

change that is the manifestation of social justice in educational practice for the low incidence student populations in the northern Maine region.

Strengths, Weaknesses, and Gaps in the Current Research

The current body of research reflects a strength in the presentation of literature related to special education. This particular subgroup within the overall population of low-incidence students is well represented in the research, and that allows for studies to report where a variety of models have produced several important themes. Whereas the special education literature is actually a strength, that particular subgroup in low incidence populations are well represented.

A relative weakness or gap in the literature is other subgroups within the low-incidence populations. Student achievement for Section 504 students, migrant education students, and students who are English learners are all groups that the literature examines, but with plenty of gaps. For instance, much of the literature involving Section 504 students is grouped in with special education students as simply "students with disabilities." Migrant education students and students who are English learners are often grouped together in minority populations. It is important for researchers to identify barriers to service provision for these groups, considering their intricate needs.

Another strength in the current body of research is that student achievement is a major point of emphasis in education. Particularly with the shift to proficiency-based learning, education research is replete with literature on defining achievement more accurately, as well as how to enhance it. Current research also effectively addresses instructional strategies for enhancing the learning environment, which is also a noted factor in addressing student achievement. Furthermore, there is a significant amount of research concerning optimal class

size, and some consideration to school and district size in regard to the impact on student achievement.

This leads to one of the weaknesses currently present in the body of research, and that is some ambiguity in how size is defined. What might be a large school system in one part of the country would be in the smallest school classification in another. Although there is some element of addressing specific numbers to define size, there is not a wealth of information properly addressing that aspect. Another weakness in the current body of research is that there are often geographic and demographic factors reflected in school size. While smaller schools tend to be rural, and larger schools tend to be in more populated areas, there are variances there that must be considered when evaluating student achievement.

A major gap in the overall body of research is going beyond "optimal" school and district size to consideration of the shift resulting from consolidation. While a particular school size might fit within what should be an optimal range for the provision of educational programming, that does not take into account the relative nature of size. This is where accurately defining school and district size would be beneficial, as it would allow for research to address not only the construct of overall size, but also the consideration of size transitioned from and into other sites.

Another major gap in the current body of research is identifying the implications of consolidation and school/district size for different populations. Much consideration seems to be given to more advanced students, as being part of a larger school would theoretically provide more flexibility in educational programming and variety of course offerings. The consideration for special education students, however, is not nearly as prevalent in the current research. One study did a good job of addressing student achievement and school size for the special education population in Texas, but there was no consideration given to what impact consolidation would

have. For schools, districts, and states urging districts to consolidate and regionalize the provision of services, that is critically important information to consider.

CHAPTER 3

METHODOLOGY

As previously noted, limited access to appropriate programming for students in low-incidence populations is a prime example of a social justice issue in education. Although the students are at the heart of the issue, it is often the administrators and specialized service providers that are the best positioned to influence policy and program development. They are both stakeholders and serve stakeholders to ensure students and families receive services. As such, the methodology of the study incorporated Griffiths' (2007) social justice in educational practice as the primary theory for addressing how the inadequate provision of educational programming to low-incidence student populations is restricted by certain barriers.

The limited degree of specialized programming and service provision available to students of many school districts in northern Maine is a tangible, driving force that has informed the direction of the study. In consideration of the special education population specifically, the duty of schools to provide a Free and Appropriate Public Education (FAPE) to students in the least restrictive environment (LRE) was also a key element in evaluating considerations of how to incorporate more specialized programming in the local, public school setting (U.S. Department of Education, 2004). Another critically important and federally mandated element was parent involvement in IEP team decisions, particularly those involving educational programming and placement (Dabkowski, 2004). While such protections are exclusively for students receiving special education services, appropriate educational programming and service provision is also mandated for such low-incidence populations as migrant students, homeless students, students who are English learners, and Section 504 students.

In consideration of these factors and dynamics, a qualitative methods approach was appropriate for garnering insights to inform the research questions. A qualitative approach informed considerations of administrator and specialized service provider perceptions of the effectiveness and appropriateness of current specialized programming offered in the public school setting in northern Maine. To account for the thoroughness of data that was paramount to informing research question considerations, a semistructured interview format was utilized with selected administrators and specialized service providers to identify themes and trends that further inform implications of the study.

The primary rationale for a qualitative approach to the study was because the need for richer, deeper data did more than inform this research. This work informed subsequent steps to be taken in the transformational shift that will provide cutting-edge services to the students in northern Maine. On a secondary level, the qualitative approach also enabled a process to engage stakeholders and establish a precedent that such considerations are a critically important part of informed, transformational decision making. Lastly, the qualitative approach allowed for a research design that could be replicated in other settings, thus further contributing to the current body of research.

The interviews consisted of 11 questions with 12 follow up questions used to prompt participants to expand on responses to the initial questions. Each of the questions and subquestions were applicable to all respondents, with the unique perspective of each role providing insights specific to that perspective. The rationale for this approach was to provide a way for the researcher to identify emergent themes among the participants, while also providing unique insights to specific subgroups. While the overarching theme of the semistructured interview was to identify the barriers and challenges to service provision and educational

program provision, consideration was also given to collaborative opportunities, potential strengths present, and academic achievement.

Setting

The setting for this study was two school districts that share administration and service functions in the northern region of Maine. As noted in Chapter 1, the region contains 36 public schools, and solid representation by staff from across the region where these factors were thoroughly examined was critical to adequate data collection. Many of the districts in the northern Maine region share some form of administration, services, or educational programming. The two districts that served as the setting for this study allowed for analysis of factors that would likely be comparable throughout the region.

Although the setting for the study was made up of two rural school districts from an expansive geographic area like northern Maine, the actual interviews were conducted in a one-on-one format, in a designated location at a site conducive to the respondents' ability to participate. In cases where the respondent had any preference for a particular location in which to participate in the one-on-one interview format, such preference was considered by the interviewer.

Participants/Sample

Direct participants in the study were applicable administrators and specialized service providers from northern Maine, specifically within the two districts representing the site for this study. One former special education administrator participated in the study, with the important perspective of what programs and services are currently offered within their district, as well as those for which they contract with other entities. The special education administrator who participated represents a small school district, with total enrollment of the district around 1,000

students. Other administrators who participated were a district superintendent of schools and an assistant superintendent of schools. These participants provided the perspective of those who oversee district operations, offering a broader view of educational service provision and collaboration.

Specialized service providers who were invited to participate in the study brought the perspective of those who prescribe services for which students within various subgroups of the low-incidence student population qualify. One of the service providers who participated is a related service provider, serving students in multiple districts in the region. Another service provider is a Teacher of English to Speakers of Other Languages (TESOL), and also brought the perspective of working with multiple districts in the region.

Lastly, three social workers and service providers who oversee Section 504 services, and who often work with homeless and migrant students, were able to offer a unique insight into that subgroup of low-incidence students. These participants represented the two different districts in northern Maine, particularly in regard to district size and caseload numbers. The majority of these participants, however, are a group of only a small number of personnel in their respective districts who perform their particular job duties.

Permission for participation in the study came from respective superintendents, acting as the liaisons for each district represented in the study. Inquiry was made via email to superintendents from each of the districts in the northern Maine region, explaining the purpose and scope of the study. Superintendents were provided with an explicit list of the topics addressed in the interview and informed of how the data would be utilized and analyzed to complete this study. Furthermore, Superintendents were invited to reach out by phone or in person for elaboration on any questions or concerns they had prior to granting permission for

respective personnel to participate in the study. Participants were recruited via email upon receipt of permission from superintendents. The email was similar in nature to what was originally presented to the superintendents, with a similar follow up process.

Data

The data from this study provided a systematic series of considerations to not only support the assertion that more specialized programming is an area of need for northern Maine but also to document the administrator and specialized service provider perceptions of this need. Such transformational change, particularly in areas that are more given to resist major changes, requires thoughtful consideration of not only foundational data, but also a clear understanding of barriers interfering with stakeholder support. The qualitative data offered insights into barriers and solutions that could be explored to inform partnerships and collaborative work to better serve students within the low-incidence student populations.

The semistructured interview format allowed participants the opportunity to engage in the series of questions aimed at identifying overarching themes and emergent trends across the entire region and from various groups. The initial and follow up questions were not only aimed at identifying intricacies within a particular subgroup but also allowed participants to offer insights about whether there were emergent trends within those more specialized areas. Whereas the initial and follow up questions were determined in advance of the interview and consistent among the respondents, general follow up questions were used to dig deeper in a particular response. These included prompts or questions to gain clarification on a particular response.

Throughout the study, participants had the opportunity to review transcripts of their interviews to examine them for accuracy and suggest changes. Furthermore, the democratic nature of this inquiry process was a point of emphasis. Participants needed to feel that they could

be reflective and thorough in their responses if they were to provide the valuable insights that this study required.

Analysis

The qualitative data gathered from the semistructured interviews were analyzed to identify if there were any relevant themes or trends pertaining to the research questions of this study. For any trends or themes that arose, consideration was given to their alignment with the elements of the research questions. Specifically, trends and themes that arose from the semistructured interview data offered specific insights into barriers and current strengths within specific subgroups in the total low-incidence student population. The analysis of the data not only looked for trends but also sought to identify disproportionality within specific subgroups.

Participant Rights

All of the information pertaining to interview data was kept in a locked file, with digital evidence and thematic notations maintained on a secure network. Participants were notified and reminded that they could choose not to participate at any point before or during the study. All personally-identifiable information was removed from print and digital materials throughout the course of this study.

Possible unintended negative outcomes from this study could have been the arousal of negative feelings toward a particular school, staff, or specific service providers. Despite the fact that personally identifiable information was not used in the reporting of the results, certain trends or themes noted could still generate negative feelings. Additional unintended outcomes could have been an unwarranted fear of abrupt change in program offering without consideration of the fact that such arrangements are mutually agreed upon by each local school board. With the

thought of communities losing their schools, fears of unintended negative outcomes could have been aroused.

Potential Limitations of the Study

A very practical and primary limitation to the study was the idiosyncratic nature of a study involving a specific region of a state. Participation in the study had the potential to be another major limitation of the study. With a relatively limited number of specialized service providers available for participation, having even two or three who do not wish to participate could have impacted the data gleaned from the semistructured interviews. Another potential limitation was a lack of awareness of specialized programming available in school districts in more populated areas. As northern Maine is a very isolated and remote part of the country, many people who have not had exposure to school systems outside of the county, let alone the state, likely wouldn't have had an awareness of specialized programming that is commonplace in many districts outside of the region.

Conclusion

This qualitative approach to establishing emergent themes and trends involving the administrator and specialized service provider perceptions of the specialized programming currently available and the barriers to partnering for more specialized programming options, were significant considerations within the context of the population involved. Despite the thorough and systematic approach to gathering valid and relevant data to inform considerations for the entire region, the identified potential limitations of the study were also weighed heavily when determining the implications of this study. Chapter 4 further details the process and procedures carried out for the data acquisition, and provides evidence as to the emergent themes and trends to be considered as the implications of this study.

CHAPTER 4

FINDINGS

The dynamics impacting effective collaboration for service provision to students in low-incidence populations are quite intricate. Both barriers and facilitating factors can differ somewhat among educational systems on a national and even a regional level. The purpose of this study was to consider those factors that are present in northern Maine, so as to then identify practical strategies for leveraging the strengths and appropriately addressing the challenges.

Paramount in the identification process is gathering relevant, qualitative data from a broad spectrum of participants. The data was collected by utilizing an interview protocol consisting of 11 items (along with prompts for delving further into each area), to facilitate a means for gathering data relevant to the research questions. The data were then coded into general themes as presented, and then the coding process refined the themes into overarching themes and subthemes that fell within each of the more broad themes.

Site Description

District A and District B were utilized as the site for this study. Both districts are considered distant rural districts, in that they are geographically isolated from any population centers. Furthermore, they share such functions as superintendent of schools, occupational therapy, English language acquisition services, food services, and vocational programming. In addition to these functions, the two districts also coordinate on an “as needed” basis for things such as transportation maintenance, various central office functions, and special service provision. Of those shared functions and services, several of them have been shared only in the past 3–5 years. With this shift in coordinated functions/service provision, the two districts served as an appropriate site for conducting this study.

Additionally, the study first identified the challenges in the coordination of service provision and collaboration, and then presented the strengths and benefits for consideration. Given that there are already some existing structures to consider between District A and District B, those who supervise and provide services within those structures would be able to offer relevant insights into what helps to foster a more conducive environment for collaboration and coordination. Many of the insights drawn from participants in these two districts lead to recommendations in the concluding chapter.

As previously discussed, there are a variety of logistical factors that influence the effective collaboration necessary for quality service provision to low-incidence student populations. Whereas there are factors influencing collaboration in any setting, those factors in more geographically isolated regions bear consideration. One of the primary purposes of this study was to gain insights on trends for what is noted as those consistent factors administrators and specialized service providers in District A and District B identified as facilitating or supporting the efficient organization of, and leadership for, the provision of specialized educational programming and services for students from low-incidence populations. This in turn would inform a systematic approach to addressing specific challenges and barriers in the northern region of Maine. District A and District B currently share some administrative functions, as well as service provision, thereby representing a relevant site for this study in the northern Maine region.

Data Analysis

The qualitative data gleaned from the interviews were analyzed to identify emergent themes and trends within identified low-incidence student populations from the perspective of both service providers and administrators. Themes and trends consistently noted were then cross-

referenced with the interview questions, and consideration was then given to the alignment between the research question and subquestions, and the emergent trends and themes noted.

Specific insights into facilitators, barriers, and current strengths within specific subgroups in the total low-incidence population subgroups were then analyzed, given the context in which the study was conducted. Further consideration was given to any disproportionality observed within the data. Disproportionality, for the purposes of this study, is any barrier, challenge, or advantage that is over- or under-represented in any of the subgroups of the low-incidence student population. For example, if technology were particularly advantageous for special education students, more so than other low-incidence subgroups, that was noted as a disproportionality.

Participants

Individual staff members were selected and invited to participate in the study on the basis of their role(s) within their respective district(s). To properly consider each subgroup of the low-incidence student population, participant selection included at least one individual who either provides direct services or oversees the programming for each subgroup of students. Furthermore, participants were also selected in such a way that there was a relatively balanced representation from both District A and District B, with several of the participants already working in both districts. This allowed for data to reflect the professionals' experiences in both districts. The following table (Table 1) outlines the roles of each participant and the characteristics of their position.

Table 1

Roles and Characteristics of Participants

District Administrator #1	• Supervisor of All District Operations
District Administrator #2	• Supervisor of Curriculum, Instruction, and Assessment • Supervisor of ESOL, Migrant, Homeless, and Title I Intervention Programs
District Administrator #3	• Supervisor of Federal Programs • Supervisor of Programming for Exceptional Students
Social Worker #1	• Executes Functions of School Counseling • Liaison for Migrant and Homeless Students • School Section 504 Case Manager • School Attendance Coordinator
Social Worker #2	• Executes Functions of School Counseling • Liaison for Migrant and Homeless Students • School Section 504 Case Manager • School Attendance Coordinator
Social Worker #3	• Home-School Programming Coordinator • Executes Functions of School Counseling • School Attendance Coordinator
Service Provider #1	• Occupational Therapist
Service Provider #2	• Teacher of English for Speakers of Other Languages (TESOL)

Analysis Method

Initially, the researcher sought to analyze the qualitative data to identify the emergent trends and themes both as a total population and as disaggregated subgroups within identified low-incidence populations. As the proposal was revised and preparations were made for gathering the data, it was considered that the nature of the study would not lend itself to gathering significant and conclusive data for disaggregation. Although relevant points were made pertaining to specific segments of the overall low-incidence student population, these were primarily reflected in only one of the participant's responses, and therefore would not provide enough relevant data to consider disaggregation for presentation in this study. As such data

analysis maintained integrity to the intent of the study by looking at the low-incidence student population as a whole, the study gave consideration to specific points from various pockets of that populations administrators and/or service providers.

Alignment of the themes with respective subquestions also evolved over the development of both the proposal and the interview tool. With the nature of the study evolving from an analysis of the entire region to an analysis of a representation of the region, the research subquestions evolved to reflect a relevant analysis of the subject of the study. The interview tool was paramount for ascertaining the quality of data necessary to organize and align themes and trends between the interviews and the research question. Once established, the data very organically aligned to the different constructs noted within the research subquestions.

Following the completion of the interviews, the process of coding the data revealed broad themes, such as the inherent barriers of resources (both fiscal and personnel) as anticipated. Other broad themes, such as the degree of capacity to employ collaborative structures, were not as anticipated. In both instances, a deeper dive into the specific nature of the broad themes was necessary to arrive at conclusions and make applicable recommendations from the study.

Initially, the subsequent deeper dive yielded a great number of elements within those broad themes. As anticipated, many of these reflected the dynamics of a specific program or segment of the student population, requiring consideration as to their coordination within the low-incidence student population. Another interesting aspect of the coding process was noting some of the subtleties between participants working exclusively in one district, versus those who work in both districts. There was a clear awareness among all participants of needs and practical ways to leverage strengths, but it was the points of emphasis that were noted among the participants.

Those participants who work in both districts were able to note more of the factors that inhibit more coordination and collaboration in certain areas. Those participants who worked exclusively in one district were able to note more of the areas in their specific districts where collaboration could potentially take place, with some reference to examples of where it may have taken place in the past. These subtleties in the responses offered some unique insights that inform meaningful and impactful recommendations present in the following chapter.

The final stages of refining the themes and trends in the coding process came from the third round of reviewing the data, where data were organized into one of three categories: people, numbers, and logistics. Although still broad, this refined set of categories differed from the original broad overview in that it allowed natural trends to develop within each of the three categories. This is where the theme of stakeholders/team approach was solidly developed, and aspects of the common/universal barriers were developed. The common/universal barriers were also informed largely by logistics, but some of the data that fell within the “people” category fit more appropriately there.

After coding the transcripts for emergent trends and themes, there were five themes that were consistently identified within the responses from the study participants as seen in Table 2:

Table 2

Themes and Subthemes

Key Themes	**Corresponding Subthemes**
Stakeholders/Team Approach	• School Personnel • Parents/Students • Community Partners
Technology	• Professional Development • Collaboration • Instruction/Service Delivery
Common/Universal Barriers	• Fiscal • Personnel • Geographical
Formal vs. Informal Data	• Academic • Demographic • Observable
Services-Success Correlation	• Learned Skills • Confidence • Met Needs

Participants highlighted the value of both formal and informal data for problem identification, goal development, and progress monitoring. Service providers offered many examples from their respective roles of how each type of data plays an essential role in a needs-assessment process, particularly one in which needs are effectively addressed. Furthermore, the correlation noted between service provision and student success was a consistent element identified among administrators and service providers.

Presentation of Results

Five key themes were noted among the qualitative data provided from the participants: stakeholders/team approach, technology, common/universal barriers, formal vs. informal data, and services-success correlation. While these themes were evident throughout the interviews,

unique nuances were also present from each of the perspectives. Furthermore, both insights and recommendations were present within each of the themes noted.

It is these relative strengths that are currently being employed within the district that respondents identify as effective vehicles for leveraging even better collaboration and coordination between districts for the service provision of low-incidence students. Additionally, identification of the common/universal barriers that are present serve as not just a barrier at surface level but also a potential strength to be leveraged. The constructs of a stakeholder/team approach, as well as the effective implementation of technology, both serve as critical elements representing relative strengths.

Stakeholder/Team Approach

The first theme generated from the coding involves considerations of stakeholders and the team approach. Participants consistently identified the value of stakeholder involvement in both the planning and execution of effective program planning and service provision. Participants also consistently noted that the team approach is essential to meeting the diverse needs of students within the low-incidence population. However, the differences among the participants primarily came when identifying who the key stakeholders are.

Harrison (2013) identifies students, parents, teachers, administration, school board, community businesses and groups, the Department of Education, and society as stakeholders in the education process. The spectrum of stakeholders included in this group spans the actual product of the educational program (student), all the way to society as a whole. Participants in this study identified similar stakeholder groups, discussing the levels at which they impact service provision and educational programming specific to the low-incidence student population.

Bringing it back to a focus of the stakeholders at different levels impacting student programming, District Administrator #2 specifically cited the focal point of the student in the process of individualized learning by noting that "we focused on individual students and what is the best program or programs for them." The customization of student programming is at the heart of specialized service provision. As the following subthemes identify, stakeholders within these groups were noted to have an impact in educational programming and service provision for students within the low-incidence student population.

School Personnel. Participants consistently identified administration, general and special educators, interventionists, service providers, and school counselors as the critical stakeholders tasked with implementing effective service provision for low-incidence student populations. School counselors and service providers were often identified, given the fact that low-incidence students are have formal documentation and there is often a service or consultation that is included as a part of the educational programming prescribed in their respective plans. Similarly, personnel of specialized and alternative programs were noted as key stakeholders. Social Worker #2 asserted that these stakeholders facilitate "a large number of options for kids."

It was also noted that the nature and role of participants could and should depend on the nature of the situation at hand. In reference to the fluid role of stakeholders in educational program planning and implementation, Service Provider #1 noted, "there's a lot of flexibility with regards . . . by whom." Furthermore, District Administrator #2 noted that "it depends on the nature of the concerns with the student as to who is around the table." The application of this point is relevant to team-based student programming decisions, as well as larger scale collaborative problem solving.

Parents/Students. Parents were identified here predominantly given their understanding of the specific needs of their students, and how those insights inform those with expertise on a broader, program development level. One study participant highlighted the value of parent involvement as a stakeholder, even if the involvement had previously been limited. District Administrator #3 points out, "They might not have gotten off to the best start, but that doesn't mean the parents cannot now help fill in that gap." This places an impetus on schools to continue to engage parents and students, even in instances where engagement has previously been limited.

Parent communication was also a consistently identified area of stakeholder involvement. Several participants noted that parent engagement, due to the ESEA mandate, is a very beneficial requirement that is forcing schools to program in ways that translate directly to academic progress. Both service providers and administrators identified a variety of ways in which parents are consistently communicated with, in both districts. Also embedded within these responses aligns with the technology theme, because several participants cited that traditional communication methods (such as letters and bulletin boards) have lacked the effectiveness that social media and web-based platforms now present. However, access to all of the web-based platforms was also identified as a factor for consideration, given that some parents do not have the resources to have consistent access to such platforms. As such, Social Worker #2 stated, "because texting has become the universal way of communicating nowadays." That is a way that parent communication is circumventing the access to technology, which is a barrier that some parents face.

Student engagement and ownership of their educational programming, as well as impacting the educational programming as a whole, was noted as a key element within this subtheme. District Administrator #1 identified how critically important student engagement in

the team process is, noting that students might not be successful in transitioning to postsecondary training and/or work if "they never advocated for themselves and the entity didn't even know they had a plan." Students who are more engaged in their educational program planning and implementation are better able to self-advocate, and consequently have a greater chance at success beyond high school. Social Worker #3 provided an interesting insight in this regard, pointing out, "I do think we go outside the box and evidence proves that and that our dropout rate may be higher, but most of them went on." Specifically, the participant was highlighting how alternative options to complete educational programming take students who might otherwise drop out and not graduate high school and help them engage in programming that will give them the skill set to pursue postsecondary career goals.

Community Partners. Several of the participants also identified community partners and outside agencies as having a role in providing service for low-incidence student populations. Community partners and outside agencies represent the third subtheme identified through the coding process. Those participants who deal more directly with student services (such as school counselors), identified outside agencies as having resources and personnel that supplement or complement the work being done within the school. Social Worker #3 pointed out that "the big push lately has been on getting out in the community and making sure that we're . . . connecting with community resources, because we are the liaison for the community, not just for the school." In reference to a program that is not a part of the school system, Social Worker #2 shared that a particular representative from that organization "works . . . to help us understand what (this organization) has to offer, and what might fit some of our students in helping them transition into there."

District Administrator #1 draws specific attention to community partners in the healthcare industry and the model they use, noting that "it opens the doors for much better education for some of the students who really need it." Although that perspective comes from more of a macro view, the micro view also remains consistent in the impact of community partners. As for critical community partners that are stakeholders for service provision, Social Worker #1 refers specifically to mental health services, therapy, and medication management. These components of service provision are often included in programs, but require community partners in the healthcare industry to facilitate for many small districts.

Technology

Technology was a them that developed strongly when participants noted current strengths, practices, and means by which further collaboration could be leveraged. Although mostly explicit, there were instances in which responses implied technology at the heart of what was being brought forth, which was something that took multiple reviews of the data to identify and categorize. For instance, Social Worker #2 points out explicitly that, "It (technology) allows us to collaborate via teleconferencing and such. There's not too much that we can't overcome." Social Worker #2 then proceeded to talk about flexibility in student programming, and states, "I think we could even broaden that [web-based courses] even more, and not just use it for credit recovery, but use it for actual curriculum and programming that students can use." That example highlights how technology was noted both explicitly and implicitly by participants.

This also was important to distinguish from data focusing more on specific numbers and analysis from the districts, because that allowed for the establishment of the final two themes. In that regard, Social Worker #2 stated, "I rarely use pen and paper anymore." This was in reference to record keeping and maintenance of documentation. It also underscores the point that

descriptions of system-wide technology needed to be distinguished from those responses that pertain to technology used for student programming.

Professional Development. Participants consistently indicated that professional development and training opportunities are not as prevalent in northern Maine as they are in other parts of the state and country, given a variety of geographical and logistical barriers. However, technology allows for participation in many of these through webinar, distance learning, and so forth. Social Worker #2 noted, "I don't think there are any limitations. Technology today provides us with . . . it allows us to collaborate via teleconferencing and such. There's not too much that we can't overcome."

Taking this observation a step further, participants consistently noted that there are highly beneficial trainings and professional development opportunities at the national, state, and regional levels, and technology facilitates participation in those. District Administrator #1 stated, "I think there are some really good programs at the national level for staff development." District Administrator #1 further indicated, "I think we're really not exposed to enough of this to make it become more common practice in our schools." District Administrator #2 elaborated on that particular point even further by noting the importance of doing "a good job of making sure that the information gets disseminated." This sharing of professional learning, along with access to the professional learning, is more feasible through the use of technology.

Collaboration. Technology was consistently identified as both a strength and a vehicle to be leveraged for continued collaboration. As previously noted, technology has been an effective way to include parents, as well as students, into the planning and implementation process. Despite the fact that not all parents have access to some technology in the home, it was identified that there are other ways for parents to access technology and engage in the process through

public entities (such as the community library). Collaboration for both planning and execution of these identified areas was also consistently identified to be available and practical through the use of technology. Social Worker #2 noted with District A and District B that, "I think we share a great deal with them. I think knowledge of their programs has helped us create our own, and even improve on some . . . and I believe we stretch their programs as well."

Another point that was noted regarding collaboration was staff collaborating and supporting one another, without developing too much of a dependence on other districts. District Administrator #3 pointed out, "We don't want to be dependent on another district for an essential thing." This point was noted even as it applies within a particular school or program, as Service Provider #1 pointed out "collaboration within the same school, (such as) the therapist communicating with the teacher and with the ed techs who then have to carry over specific strategies." This further underscores the point of enhancement without dependence, to the greatest extent possible.

Instruction/Service Delivery. A district might not have enough students to fill a specific class, but those students would be able to utilize technology to access a class being offered somewhere else. This could also include instructional resources and assistive technology. District Administrator #3 cited, "We were able to collaborate with [neighboring district] at one point on a braille printer." Utilizing and sharing technology has positive ramifications on districts that are able to do this.

Remote service provision was also identified similarly as an area where the logistical barriers inherent in a geographically isolated region could be overcome. This was identified for special services provision (such as occupational therapy), as well as nondisability related services (such as English language acquisition intervention). Participants cited examples such as

when identifying how technology is a means for effective service provision and can continue to be explored for even more ways to provide services. An important caveat to the idea of sharing resources was noted by District Administrator #1, pointing out that "it really needs to be a mindset of sharing and not, we know more than you do. . . . It's about coming in and offering ideas and suggestions so that a program can be successful (and) competitive."

Taking that belief a step further, Service Provider #2 noted, "We have the apps, or we have the software. It needs to be used more efficiently and effectively. We need to understand the programs and how they can enhance our students' education." This illustrates the important point that just incorporating technology is not what determines student success or failure, but rather the effective implementation of it. Along with that, participants noted that technology is an important component, but is not the exclusive vehicle for education delivery. Service Provider #2 went on to point out that many of the students in this student population are "hands on . . . these groups of students need the hands on. They need that direct instruction." This was not stated to mitigate the value of technology, but rather to clarify what participants noted as the defined parameters of technology as a benefit to instruction and service delivery.

Common/Universal Barriers

Common and universal barriers to collaboration for regionalized service provision for low-incidence student populations was the third theme identified from the data. Fiscal, personnel, and geographical barriers were among the most commonly noted from the participants. Participants cited various ways that each of those logistical elements impacted service provision and professional development, with nuances unique to the individual perspectives.

Additional logistical barriers were also identified as commonplace. Most frequently identified among the participants were scheduling dynamics among schools, differences in district policies and procedures, and individually-identified areas to be addressed for accountability purposes. The scheduling barrier relates to the point about limited personnel, in that course offerings and service provision are more challenging with such limited numbers. Differences in policies and procedures, as well as individual areas for accountability, were noted as being logistical barriers because what one district might need to focus on, another might not. Whereas this difference could be complementary work between the districts, it also could create an imbalance in how the work is done.

Fiscal. Of those common barriers, limited resources were a very common barrier identified. The expense of travel, registration/participation costs, and materials were noted as a challenge for participation in various types of training and collaborative opportunities on a broader scale. District Administrator #2 indicated that "cost to the district for expenses that are associated with the travel" added a barrier specifically as it pertains to training and collaboration. Taking that a step further, district finances are allocated to what the particular district identifies as important or addressing a need. District Administrator #1 pointed out, "If districts don't see it as something serious then we won't (focus on it)." This makes the fiscal barrier even more of an issue when it has to be deemed important enough to invest the resources. District Administrator #3 made a similar point by noting "the biggest barrier is that something else comes up that's always high priority."

Participants cited that the "cost of doing business" is expensive enough, without factoring in the additional travel expenses to participate in trainings or arrange for services. Social Worker #1 pointed out that "our budget is a big piece." Social Worker #1 proceeded to detail that the

budget is even more of a factor limiting more in-depth trainings and professional development. That point circles back to the earlier points noted about how the expense and priority to the district must be commensurate.

Personnel. The greatest resource that was identified as a challenge is qualified personnel. Due to the nature of both districts being relatively small in size, there are several positions in both administration and service provision in which there is only one individual in the district qualified to perform that task. As such, freeing those people to engage in collaborative work and various types of training is not always feasible. District Administrator #3 pointed out, "Time is a big factor, coordinating schedules." Service Provider #2 referred to themselves as an "island," being the only service provider in that particular discipline in either district, and noted that "It's hard for me because collaboration is very important, but I really do not have people to collaborate with."

Considering open positions, that has been and continues to be a significant barrier to both collaboration and service provision. District Administrator #1 pointed out, "A lot of times, small northern Maine communities will not ever be able to hire personnel they need. So if they can't hire, they're relying on people who are untrained to do what they can with students who have special needs." District Administrator #2 noted that "we have fewer and fewer applicants whenever there is a position open and so that, I believe, can be a challenging factor for servicing our students." This particular subfactor directly impacts both the district's capacity to provide services and the quality of those services.

Geographical. Geographical isolation was another area identified by several of the participants as a common barrier. This was noted to limit the accessibility to qualified personnel, made transportation between districts more challenging, and made the free flow of ideas and new

initiatives more difficult. District Administrator #3 pointed out, “It could be difficult to travel to other locations for administrators and service providers. Time is a big factor, coordinating schedules.” District Administrator #2 noted that it is “close to a 50-50 split as far as local. . . . By that I mean within a 60 mile distance from the location where I work compared to having to travel five or six hours for the other professional development opportunities.” Even what is regarded as local by that criteria could be considered prohibitively far away.

Several participants noted the challenge of getting service providers with unique certifications and credentials to the area, when many of the local post-secondary institutions do not even offer programs to become certified in those areas. Also, many of the districts in the area were identified as employing a lot of the same practices. Whereas there are positive elements of collaboration inherent in that approach, it was also noted to restrict the flow of new ideas that more accessible areas might have. District Administrator #1 stated, “I think we’re really not exposed to enough of this.”

Formal vs. Informal Data

Data were something that were consistently identified among the respondents, but it was the distinguishing of formal and informal data that made for an unexpected theme to develop. With the increasing emphasis on data-driven decision making for accountability purposes, this was both a consistent theme among the respondents and a key element for consideration in this study. An interesting point that underscores these themes, however, was, “With the low-incidence population it gets really difficult to track progress with state test scores because they don’t actually report them to us often because the incident is so low (District Administrator #3).”

Furthermore, the respondents also included examples of how effective services consistently yield increased student success is an additional theme in regard to data. However,

this topic was determined to be worthy of its own theme, because it represents a significant enough trend that is by nature different from the consideration of both formal and informal data. Service Provider #1 specifically pointed out that "you would see an increase in both [data and student success] as they progress."

Many accountability measures from the federal and state level all the way down to the individual student level require the significant use of formal data. Participants consistently pointed out how much of that data is available, and how it does have a benefit and value. However, it was the informal data that many participants noted to have a strong impact on collaboration and service provision. Those data, which could be anything from anecdotal observations to stakeholder feedback, was consistently identified as offering a depth of understanding to the data that more formal measures do not always provide. Social Worker #1 specifically referred to student check-in data, citing, "That's another great tool for data reporting. Again, specifying goals without overwhelming the students on what they need to work on." This would be similar to the considerations between quantitative and qualitative analyses.

Participants noted examples of informal data that were typically reflective of their role. For instance, those who work directly with students tended to cite more anecdotal observation-type data as being important, while those in a more supervisory role often provided survey feedback-type responses as available data. Social Worker #3 drew attention to the fact that observing students produces critical data, noting, "We're supporting the students that are feeling overwhelmed after being out. . . . It's an eye opener to say you're doing some good things, and it made me take a look at what is it that we're doing that is supportive." The consistent part, however, was that participants noted the value of both formal and informal data measures.

Academic. Participants consistently identified data as important for academics. Progress monitoring, reporting on student progress, and making data-driven decisions were evident throughout many of the responses from participants. District Administrator #2 highlighted the specific importance of local assessment data, because it allows for appropriate intervention and collaboration so that "there shouldn't be any surprises or students being left with their needs unmet." This should also be taken into consideration with District Administrator #3's word of caution with state assessment data, noting that the small size of the testing population could prevent data from being available for consideration.

Participants identified academic data as being an important element to use as a starting and follow-up point for students. Particularly as it applies to students who are coming from one district to another, having that benchmark data is an effective way to have productive service provision in a prompt fashion. District Administrator #3 noted that, "it was an easy click of a button, and we get all the files and we can proceed right away." Being able to have those starting points readily available informs decisions in instances like this when there is not as much observable data to rely on.

Demographic. Gaining an understanding of the students who are coming to one's school was also a common subtheme within the overarching data category. Many participants pointed out the dynamics of a rural community with lower socioeconomic status as a factor that impacts how they meet the needs of the students that are coming to school. District Administrator #1 noted, "I find, in rural areas because poverty is setting in. . . . A lot of these places are not very conducive to learning and you have a lot of these students that we work (with) every day, feeding and helping their younger brothers and sisters have supper at night." This administrator proceeded to identify, "It's a draining factor on having your brain ready to learn versus operating

in full function all the time to serve as a surrogate parent for some of these kids (District Administrator #1).

Social Worker #1 noted, “In our district we have an extremely high percentage of low socioeconomic kiddos. . . . I think it’s an issue because there’s a lot of things that the kids can get and that the communities do for these kids and they pick up the pieces.” This point highlights the references to the importance of demographic data, because those community partners and agencies can only mobilize in specific cases where the data are available. This also applies to school services, particularly the Migrant Education Program.

Observable. Participants also noted observable data as a consistent element of the overall data element. Observable data could include seeing and perceiving how the student is performing in regard to their academic skills, and could also include observations of functional performance and well-being. One participant noted that observation data is important because a particular student might meet passing criteria to exit a particular service or classification, but “cannot write a clear paragraph. So those gaps need to be filled (Service Provider #2).”

Another component of observable data is behavior data. Multiple participants identified that there are teams specifically designed to review that data and make decisions on that basis. Social Worker #1 pointed out, “I present that (behavior data) to the PBIS team pretty regularly. . . . That data is great to have.” Service Provider #1 also made a point in this regard, noting that in many cases the progress can be “seen” in the students to whom effective services are provided.

Services-Success Correlation

The fifth and final theme identified from the data was the correlation between quality service provision and student success. Participants consistently noted that student success was

not simply relative to the particular skill or area where the service was being provided, but noted the success to be more universal. The pride of success is not exclusive to the student, either. Service Provider #2 noted, “I’m very proud that when my students obtain these scores, they have earned them.”

Participants asserted that students who are given appropriate support and services feel more confident in their learning, and that translates to positive benefits in other areas. District Administrator #1 noted, “normally if it’s a good experience it leads to other things.” Consequently, several participants pointed out that when students do not have access to the same quality of services as other students, they are more apt to experience discouragement and not be as engaged in their overall school experience. Social Worker #3 pointed out that students “didn’t want to look stupid because they can’t do it or they were struggling.” This was in reference to the feeling of isolation that can come from ineffective service models.

From the perspective of those who have more of a direct role with students, another important subtheme in this correlation is that meeting specific needs is essential to student engagement. Social Worker #2 identified that “sometimes it just takes a little bit” in generating that positive outcome. Service Provider #2 noted, “We need to be empathetic and understand why our kids are struggling and how we can make them successful.”

Learned Skills. Students successfully learning skills, whether academic or otherwise, was also a subtheme noted within the idea of appropriate service provision resulting in success. District Administrator #3 made an important point, however, to highlight a relevant factor of appropriateness in this regard, “. . . yes, if their goals are appropriate and have been well-developed.” The administrator proceeded to note, “If they’re getting the services they need and the goals are specific enough to be worked on and to be able to measure, yeah, I would say. . . .”

The specific nature of the skills learned underscores the broad point made by many of the participants that the acquisition of skills learned is a key dynamic in the success of service provision. Service Provider #1 noted that "in theory, that's the reason we provide the specialized services" in reference to acquired skills and educational success. Social Worker #2 pointed out that developing such programming with that goal in mind, "is a strength of this district," particularly as it applies to thinking outside the box to do so.

Confidence. Many of the participants identified the importance of confidence as a trait of students who make progress, and further elaborated that the confidence is developed through success within receiving services. Having a team consider data and prescribe programming specific to the student is a factor that is recognized by students. When they see the success that comes from those interventions, it impacts how they view themselves and their overall experience. Social Worker #1 refers to a specific case manager who has had a great deal of success with building student confidence, which manifests in ". . . the more a kid has a caring adult in their corner, I think the more successful they're going to be."

District Administrator #1 stated, "I think when you make progression in these services, it builds confidence in these learners. And when you build confidence academically, you're going to excel." Service Provider #2 also made a similar statement, but from a different angle. They noted that it leads to confidence that the teacher/service provider knows what they are talking about, and are not talking out of both sides of their mouth. In both examples is the common thread that confidence comes as a result of success.

Met Needs. An important aspect of met needs is not isolating students. One particular participant detailed the shift in service provision from a national perspective, noting that inclusion has been a critically important part of helping to "normalize" students and their

perceptions. Meeting the needs of the students facilitates greater access and inclusion, which leads to better results. Social Worker #3 pointed out, “We started using [specialized program] more and we’ve seen more advancement with those students.” That participant also proceeded to elaborate on the quoted point by identifying an observed correlation between achievement and thinking outside the box.

Particularly given certain types of services (such as social work services), a variety of other met needs can be the end result of effective service provision. Social Worker #1 referred specifically to services from McKinney-Vento that, when targeted effectively, translated to a variety of met needs. Social Worker #2 made a similar point, talking about how effective collaboration leads to effective service provision, and how that approach played an integral role in keeping kids safe.

Summary

The five themes identified within the data offer a coherent identification of the problem presented as a premise of the study, as well as ample evidence that steps are actively being taken to address the problem. The five themes were Stakeholders/Team Approach, Technology, Common/Universal Barriers, Formal vs. Informal Data, and Services-Success Correlation. The stakeholders and team approach brought to light the value of stakeholder involvement in both the planning and execution of effective program planning and service provision. The data was consistent in that the team approach is essential to meeting the diverse needs of students within the low-incidence population.

The data indicated that technology was one of the most consistent themes, particularly as it related to strengths to be leveraged. Social Worker #2’s point highlights this finding, noting, “It (technology) allows us to collaborate via teleconferencing and such. There’s not too much

that we can't overcome." The data also indicated that technology is a facilitating factor as it applies to access to professional development, in that professional development and training opportunities are not as prevalent in the region given a variety of geographical and logistical barriers.

Common and universal barriers to collaboration for regionalized service provision for low-incidence student populations was also a consistent theme found in the data. The most consistent subthemes within that broad theme were fiscal, personnel, and geographical barriers. Additional logistical barriers identified include scheduling dynamics between schools, differences in district policies and procedures, and individually-identified areas to be addressed for accountability purposes.

Data were consistently identified among participants as valuable and found to be a theme, but it was the distinguishing of formal and informal data that was not expected. The data indicated how effective services consistently yield increased student success, and how that emerged as an additional subtheme in regard to data. An understanding of the students being served was also a common subtheme within the overarching data category. Demographic and observable data came up within this subtheme.

The correlation between quality service provision and student success was the fifth and final theme from the data. Participants asserted that students who are given appropriate support and services feel more confident in their learning, and that translates to positive benefits in other areas. Furthermore, meeting specific needs is essential to student engagement. Service Provider #2 noted, "We need to be empathetic and understand why our kids are struggling and how we can make them successful."

As participants noted both barriers and opportunities to improve programming, a creative approach to exploring new ideas will supplement and support the work already underway. Careful consideration must be given to addressing the identified barriers, while also maintaining an awareness of new barriers that could develop as a result. Chapter 5 will highlight recommendations from the literature, in consideration of the insights gleaned from this study.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Geographically remote and sparsely populated areas in many parts of the nation face challenges in providing essential programming and services to students in low incidence student subgroups, and each region has unique dynamics and factors to be considered when looking to identify barriers as a step to developing and implementing solutions. The State of Maine Department of Education has taken several measures to promote regionalization in the more geographically isolated and remote parts of the state. To inform the efficient and effective targeting of such dynamics in northern Maine, identifying practical barriers noted by administrators and service providers is a critical element to supporting the collaborative effort and leveraging resources in an efficient and meaningful way. One of the primary purposes of this study is to identify those specific challenges and barriers in the northern region of Maine to inform a systematic approach to addressing them.

Another purpose of the study was to evaluate the strengths of staff and programming that are present in the region. Identifying the barriers illuminates only one element of the overall picture, and being able to contrast those dynamics with the strengths present helps to identify viable pathways for leveraging those weaknesses into strengths. Participants in the study were able to provide unique perspectives that offered in-depth qualitative data outlining these strengths and barriers to service provision for low-incidence students. As previously noted, students in the low-incidence population (for the purpose of this study) include those identified as special education, Section 504, students who are English learners, migrant, and/or homeless.

Finally, translating the complete picture of the strengths of and barriers to efficient collaboration for service provision to students in the low-incidence student population required

evaluating what current entities are already in place to facilitate the necessary steps forward to improve service provision. As indicated in the results, several participants cited both formal and informal collaborative groups that utilize resources to streamline the work of collaboration and facilitate these opportunities. Others identified potential areas where even more collaboration is feasible and could be beneficial.

Review of the Research Question

The study was designed to address the following overarching research question: What potential opportunities and barriers do administrators and specialized service providers in northern Maine identify as enhancing or inhibiting the provision of specialized educational programming and services for low-incidence students of northern Maine? The following subquestions guided the analysis and interpretation of the data:

What are some factors that currently enhance or facilitate the provision of specialized programming and service for low-incidence students of northern Maine?

Technology was consistently identified by participants as a facilitating factor to be leveraged for efficient and effective service provision, collaboration, and professional development. As it relates to efficient and effective service provision, technology was often cited as a way to provide access to courses and specific services that might not otherwise be available in a district that does not have a large enough population to implement a particular course or service to create a course or program. Regarding this specific point, Service Provider #2 noted, "We have the apps, or we have the software. It needs to be used more efficiently and effectively. We need to understand the programs and how they can enhance our students' education." Furthermore, sharing of instructional resources and tools was a component of technology impacting service delivery. District Administrator #3 cited, "We were able to collaborate with

[neighboring district] at one point on a Braille printer." In addition to that, Social Worker #2 added, "I think we could even broaden that [web-based courses] even more, and not just use it for credit recovery, but use it for actual curriculum and programming that students can use."

Collaboration was also identified as an area where technology can serve as a facilitating factor. Collaboration is a practice that was noted to be embraced between District A and District B, and that was evident in the data from the participants' responses. Social Worker #2 noted with District A and District B that "I think we share a great deal with them. I think knowledge of their programs has helped us create our own, and even improve on some . . . and I believe we stretch their programs as well." In addition, District Administrator #1 pointed out that "it really needs to be a mindset of sharing and not, we know more than you do. . . . It's about coming in and offering ideas and suggestions so that program can be successful, (and) competitive." The fact that this concept is embraced by both districts is critical for leveraging it as a continued strength through the use of technology.

Professional development was yet another area that the data indicated was positively impacted by the use of technology as a facilitating factor. Social Worker #2 points out explicitly that "It (technology) allows us to collaborate via teleconferencing and such. There's not too much that we can't overcome." Service Provider #1 included the caveat of collaboration happening on an even more micro level, noting that "collaboration within the same school, (such as) the therapist communicating with the teacher and with the ed techs who then have to carry over specific strategies."

The data from this study remain consistent with the theoretical framework that was essential in designing the study to explore the research question. As it pertains to enhancing and facilitating factors from this study, Griffiths (2007) identifies the following as one of her

guidelines for establishing procedures: “A fair school is always a learning community of pupils, teachers, support staff, parents and neighbourhood. Equality is not the end but the way. The same is true for fairness (p. 188).”

Access is an important component of equality and fairness. Applying Griffiths’ (2007) principle underscores the essence of the data addressing this particular element of the research question. Technology is a facilitating factor in part because it is a vehicle to generate the equality and fairness both within the various stakeholder groups, as well as for the school unit as a whole.

Furthermore, the findings from this study are consistent with trends in the current body of literature. An analysis of the literature involving high-achieving, rural schools offers insights consistent with the findings of this study. Barley and Beesley (2007) noted several factors as important in the success of rural schools, and two that jump out in consideration of the findings of this study are individualized instruction and professional development. The connection to these constructs and the use of technology as a key method of enhancing them offers a clear link. Masumoto and Brown-Welty (2009) note similar findings, but cite the caveat of innovative practices as a component of these factors. This point was especially relevant in consideration of students who are English learners.

To what extent do factors such as geography/access, flexibility, and budgeting influence the provision of specialized educational programming and services for low-incidence students of northern Maine?

In evaluating the second subquestion, the data gathered identified the extent to which several factors impacted service provision and programming to students in the low-incidence student population in northern Maine. Common and universal barriers to collaboration for regionalized service provision for low-incidence student populations was noted as a third,

overarching theme from the data. More specifically, fiscal, personnel, and geographical barriers were among those most commonly noted from the participants. Logistical barriers were also referenced by participants as barriers that they observe having an impact.

Of those common barriers, limited resources were commonly noted among the participants. The expense of travel, registration/participation costs, and materials were noted as a challenge for participation in various types of training and collaborative opportunities on a broader scale. District Administrator #2 stated, the ". . . cost to the district for expenses that are associated with the travel" could and do tend to pose a barrier. District Administrator #1 pointed out, "If districts don't see it as something serious then we won't (focus on it)." This presents an interesting dynamic in the consideration of fiscal limitations as a barrier. District Administrator #3 added, "The biggest barrier is that something else comes up that's always high priority." Social Worker #1 pointed out, "Our budget is a big piece," and then proceeded to identify this as even more of a factor for more in-depth trainings and professional developments. However, the expenses indicated can potentially be mitigated by group collaboration, but still create a hurdle that districts have to be aware of when planning collaboration and service provision for low-incidence population students.

Geographical isolation was a common barrier noted among many of the participants. Accessibility to qualified personnel, transportation between districts, and redundancy of ideas were all cited as a result of geographical isolation. Here again, participants noted many logistical barriers that result as a result of geographical isolation. District Administrator #3 pointed out, "It could be difficult to travel to other locations for administrators and service providers. Time is a big factor, coordinating schedules." District Administrator #2 noted that it is "close to a 50-50 split as far as local. . . . By that I mean within a 60 mile distance from the location where I work

compared to having to travel five or six hours for the other professional development opportunities."

The unique nature of the service provided among many segments of the low-incidence student population necessitate very specific personnel, ideas, and materials that are more challenging as a result of the geographical isolation. Specifically, the lack of qualified personnel was identified as the most frequently referenced challenging barrier. Attracting the needed number of qualified personnel is difficult, given the other barriers identified. District Administrator #1 pointed out, "A lot of times, small northern Maine communities will not ever be able to hire personnel they need. So if they can't hire, they're relying on people who are untrained to do what they can with students who have special needs." District Administrator #2 noted, "We have fewer and fewer applicants whenever there is a position open and so that, I believe, can be a challenging factor for servicing our students."

Here again, Griffiths' (2007) theoretical framework for understanding social justice in educational practice is evident in the study design and data gathered. Griffiths (2007) asserts, "Hard-pressed managers and teachers, themselves coping with ever changing conditions and turbulent times, would benefit from theories that addressed their urgent needs (p. 186)." That premise also supports the role of Turbulence Theory, as defined by Shapiro and Gross (2013), as an element of the theoretical framework that influenced the design of this study. As the barriers and inhibiting factors to service provision persist and even grow, the level of turbulence increases commensurate with it. The data from this study identify both the acceptance of that premise and the response from these participants to it. That is where the theory comes full circle, because the data then come back around to support the appropriateness of Griffiths' (2007) theoretical framework as the lens through which these data could be analyzed.

In addition to the connection to the theoretical frameworks that influenced this study, the findings, as pertain to noted barriers, are consistent with what is identified in the current body of literature. Berry et al. (2017) found that teacher recruitment and retention is a significant problem across the United States, but is accentuated in rural areas. Helge (1981) found that the following three factors were actually determined to be primary barriers to establishing special education programs in rural schools: teacher retention and recruitment problems; rural attitudinal problems; and problems based on rural terrain. Howley et al. (2009) identified four primary challenges facing rural schools: declining population; persistent poverty; changing demographics; and ongoing accountability requirements. Education leaders in rural California identify the opioid crisis, lack of qualified staff (instructional and otherwise), lack of mental health professionals in the area, and geographic isolation as major factors influencing the educational outlook for that region (Cohn, 2017).

Lavalley (2018) points out that lack of access to upper-level mathematics instruction is a byproduct of schooling in rural areas, with students in rural schools having access to approximately half of the upper-level mathematics courses as their urban peers. Even though rural students are more likely to complete high school than their urban peers, they are less likely to earn a four-year degree, at a rate of 51 percent to 62 percent respectively (Lavalley, 2018). Lavalley (2018) identified difficulty recruiting qualified instructors, with a 10-percentage point gap in earning a master's degree between rural and suburban teachers. Geographic isolation also raises the cost to transport students across a larger geographic area (Lavalley, 2018). This isolation also impacts school choice, with only 11% of charter schools being rural, as opposed to the 56% that are urban (Lavalley, 2018). Despite the assumption that virtual learning can adequately address all of the needs of remote learners, more than two-thirds

of Americans who lack internet access live in rural areas (Lavalley, 2018). Beeson and Strange (2003) identified low rural teacher pay, computer use in rural classrooms, lower amounts of money spent on school leadership, and the proportion of expenditures spent on transportation as the four most urgent items in rural education. These are prime examples of how the literature is consistent with the theoretical frameworks utilized to design this study, as well as the data gathered from this study.

How do specialized service providers and administrators in northern Maine utilize collaborative structures currently in place for serving low-incidence students, and with whom do they collaborate?

Participants identified the Central Aroostook Council on Education (CACE) and the Northern Maine Education Collaborative (NMEC), which are regional collaboratives, as collaborative structures that are currently utilized for collaborative work and professional development. District Administrator #2 noted, “we’re fortunate to have two organizations. We have NMEC and we have CACE that both have forums that invite multiple districts to those different meetings and professional development.” District Administrator #3 specifically referred to CACE, noting, “They (CACE) had specific things we were discussing, and that all came out ahead of time, but it was really good.”

While participants identified entities such as CACE that are already established to generate the collaboration necessary for appropriate service provision, participants also identified informal partnerships as ways to organically grow the collaboration and efficient service provision. Some of the participants talked about how they already have established informal networks among colleagues from other districts, and how beneficial that has been, particularly with a transient population. Social Worker #3 asserted the need to not “reinvent the wheel,”

when it comes to collaborating with colleagues from around the region. Furthermore, participants often discussed how outside agencies provide an even more effective avenue to facilitate collaboration. One participant referenced the consideration of collaborative models utilized by larger businesses and healthcare providers, noting that "schools are just a microcosm of what the community is" (District Administrator #1). Other participants, however, talked about how many of these outside agencies partner with many districts, and create a logical pathway to build those collaborative structures even further. Social Worker #1 noted, "Up here in the county, I know that there is a coalition that meets regularly and they have people from all over, whether it's medical or mental health, United Way, food pantries. . ."

Griffiths' (2007) theoretical framework for understanding social justice in educational practice is consistent with the underlying factors of collaboration from the data found in this study. Inherent in collaboration, particularly as it applies to partnerships with entities outside the field of education, is that there will be a change of direction or learning that comes with the different perspective. In that regard, Griffiths (2007) states, "There is an in-built chance of learning leading to a complete change of direction (including of dearly held values and traditions)." That perspective supports the escalating level of turbulence that is evident in much of the data gleaned from this study. Moreover, it is consistent with the current body of literature on the topic of collaboration.

Anderson-Butcher and Ashton (2004) identify the increased number of social, emotional, and physical needs with which students present and the need for collaboration in order to effectively support these students. The authors evaluate collaboration from another perspective, with the emphasis on stakeholders and organizations that are primarily external from the school setting. It is the authors' focus on intraorganizational collaborations that identify the benefits for

serving students with these functional needs (Anderson-Butcher & Ashton, 2004). Allan and Miller (1990) conducted action research that found collaboratives between schools and universities allowed for a teacher-researcher model to be utilized in effective professional development. The authors also note that, whereas these collaboratives promote a network among professional educators, they are also aimed at reducing disillusionment and burnout often experienced by teachers (Allan & Miller, 1990). Given the challenges in rural areas with teacher recruitment and retention, Johnson et al. (2009) offer a model that draws from teacher education, online service delivery, collaboration, and evidence-based practices to synthesize an effective approach (Johnson et al., 2009). The relationship among rural districts, higher education, and governing agencies was also noted to be an important factor in this study.

Limitations of the Study

Given that the study explored the research questions from the perspective of a quasi-case study of two districts who share several personnel and services, one of the limitations in interpreting the data was extrapolating conclusions that would be universally applicable. The data offered rich insights for the two organizations utilized as sites for this study, and also served as a potential model for additional studies of this nature. However, dynamics and collaborative structures are very intricate, and often unique to a particular district or group of districts.

Another limitation of this study was the scope of the participants in the study. While participants offered a variety of perspectives, contributing to the richness of the data, their divergent roles also did not allow for very much overlap of perspectives. As such, disproportionality was not a viable construct to evaluate in the course of this study. A deeper dive into specific subgroups of the low-incidence student population might yield even more insights into specific trends noted in the qualitative data.

Recommendations Based on the Findings

In consideration of the themes identified, Griffiths' (2007) framework of social justice in educational practice continues to be at the heart of the underlying issues identified. Looking no further than those factors related to accessibility, those are social justice issues at their core. Whether it be accessibility to programming for students, or even accessibility to resources and collaborative opportunities for educators, identifying and addressing ways to utilize and enhance that accessibility is a social justice issue when pertaining to students from the low-incidence population.

From that perspective, continuing to leverage the strengths of technology is a viable path forward. From the collaboration standpoint, utilizing collaborative tools like Google Hangouts for real-time communication, Google Classroom for resource sharing and collaborative dialogue, and Zoom meetings for real-time virtual meetings are excellent ways to conduct such collaborative work in an efficient manner that is not limited by the barriers identified by participants. Furthermore, continuing to utilize technology to offer services to students in the low-incidence student population allows for streamlined provision, leading to better caseloads, more student collaboration, and better communication among teachers. Taking that a step further, the training and professional development that will play a large role in improving provision of services will continue to be utilized by effectively leveraging technology.

Turbulence theory, as Shapiro and Gross (2013) define it, is also present within the very dynamic of utilizing the present strengths and avenues to address areas identified as in need of improvement. One concept common among many of the participants was the idea of compliance not being the standard, but high-quality and high-yield being the expectation for collaborative practices and service provision to all students, and particularly those of the low-incidence student

population. With the level of turbulence increasing as standards rise and resources do not rise commensurate with them, the participants all responded with an awareness of that challenge, and took a very intentional approach to addressing it.

Another interesting area that these findings can inform is when service provision is limited by barriers that aren't inherent in the northern Maine region. With schools and districts around the world arranging for service provision without being present in the school buildings, many of these strengths to be leveraged are universally applicable. The findings of this study support the assertion that effective collaboration and service provision are not dependent on physical location or building, but rather on the utilization of different types of infrastructure.

This concept underscores the growing need to build capacity for service provision and collaboration through remote options. Burns (2011) of Education Development Center, Inc. (EDC) outlines six different avenues of consideration for remote learning. These avenues include: print-based, audio-based, televisually-based, multimedia-based, web-based, and mobile technologies. Burns (2011) proceeds to point out, "distance learning has been rapidly transformed as a result of the evolution, proliferation, and convergence of networked and wireless technologies and platforms—and the new types of interactions such changes spawn (p. 123)."

Furthermore, Burns (2011) expands on that point by asserting that the technology is only one component of effective distance learning and collaboration, and it is the type and quality of instruction that is the critical factor. Burns' assertion is consistent with the findings of this study, in that the vehicle used for service provision and collaboration is important, but it is the proper leveraging and application of it that is even more impactful. Building capacity requires a two-

pronged approach, where the technological capacity must develop commensurate with the capacity to execute sound practice through the use of that technology.

Given the critical nature of type and quality of instruction, professional development is another key recommendation drawn from the findings of this study, as well as the literature. Specifically, Burns (2011) identifies that content knowledge and a structured instructional approach are the two components of good teaching. As the findings of this study strongly identify how technology can be used to optimize collaboration and professional development, even amid the logistical barriers inherent in geographically remote areas, building teacher and service provider capacity is an essential recommendation from these data and the body of literature.

Recommendations for Future Study

A future study topic would be to select any one of the low-incidence student population subgroups and conduct a study based on that population alone. A larger number of participants would allow for a deeper dive into the trends identified in this study, and might also inform additional recommendations for that specific population. This would, however, require more participants from that specific population, and that could be a potential barrier to developing and conducting the study.

Another potential avenue for further study is broadening the scope of the study to include more of an overview for a particular region. While that was the original intent of the study, there proved to be a number of logistical barriers that didn't allow for the study to proceed in that direction. While a study of that nature might not yield as thorough an analysis that this particular study was able to gather, such a study would allow for consideration of disproportionality. With

that being a point of emphasis across the state, such a study would likely be of benefit in addressing that idea.

Additionally, community-based opportunities are another area for future research supported by the findings of this study. Beakley, Yoder, and West (2003) outline the value and components of Community Based Instruction (CBI), noting such practice is consistent with developing notable gains for students. One of the most important elements of CBI is that the learning is very practical, and occurs in natural learning environments. Especially for students in the low-incidence population, this is an effective manner to promote skill carryover that leads to further self-efficacy. Future study in this area would be particularly relevant in analyzing capacity and opportunities for development in specific communities and regions. This would inform a more comprehensive approach to addressing the opportunities for effective service provision to low-incidence population students.

Conclusion

Rural schools are not immune from the increase in expectations for America's educational system. With such transformational shifts in program delivery, barriers to efficient collaboration and service provision are even more evident in many areas where resources are sparse. As previously noted, one-half of America's schools are classified as rural, which the National Center for Educational Statistics (2006) defines as being nonmetropolitan in nature (Lavalley, 2018). The sites utilized in this study represent a portion of the northern Maine region, which has always been a sparsely-populated rural region.

Access to effective service provision is, at its core, a social justice issue. Social justice in education is not limited to the low-incidence student populations, but it is certainly an area where it is visible. Griffiths' (2007) framework for understanding social justice in educational practice

offers not only the foundational support for identifying the problem at hand, but also a reasonable approach by which barriers can be ascertained. There are also theories, such as Turbulence Theory, that offer additional insights into the manifestation of the social justice issue facing low-incidence student populations within the sites utilized for this study. These theories were present at the heart of the study, and were evident in the rich responses from the participants.

Trends in the literature were consistent with many of the findings from this study. Howley, Wood, and Hough (2011) found that rural elementary educators actually had more positive attitudes toward technology integration than their nonrural counterparts. The consistent identification of technology as a vehicle to progress was a major takeaway from this study. The recommendations noted above are reflective of those themes found in the literature, given understanding of current avenues in place at the sites studied. By utilizing these strengths and accounting for the barriers, there is a viable path forward for effective and efficient service provision and collaboration for the low-incidence student population.

REFERENCES

Allan, K. & Miller, M. (1990) Teacher-researcher collaboratives: Cooperative professional development. *Theory Into Practice, 29*(3). Retrieved from DOI: 10.1080/00405849009543454.

Anderson-Butcher, D. & Ashton, D. (2004). Innovative models of collaboration to serve children, youths, families, and communities. *Children & Schools, 26*(1). Retrieved from: https://doi.org/10.1093/cs/26.1.39

Barker, B. A. (1990). Distance education in rural schools: Advantages and disadvantages. *Rural Educator, 12*(1), 4–7. Retrieved January 18, 2019 from https://www.learntechlib.org/p/144074

Barley, Z, & Beesley, A. (2007). Rural school success: What can we learn? *Journal of Research in Rural Education, 22*(1). Retrieved from http://www.umaine.edu/jrre/22-1.pdf

Barnes, E., Slate, J., Moore, G., Martinez-Garcia, G. (2017). Differences in academic performance by school district size for students in special education: A multiyear, statewide investigation. *Global Journal of Human-Social Science Research*. Retrieved from https://socialscienceresearch.org/index.php/GJHSS/article/view/1978

Beakley, B., Yoder, S., & West, L. (2003). *Community-based instruction: A guidebook for teachers.* Retrieved from https://files.eric.ed.gov/fulltext/ED481853.pdf

Beeson, E. & Strange, M. (2003). Why rural matters 2003: The continuing need for every state to take action on rural education. *Journal of Research in Rural Education, 18*(1). Retrieved from http://jrre.psu.edu/wp-content/uploads/2016/05/18-1_1.pdf

Berry, A. B., Petrin, R. A., Gravelle, M. L., & Farmer, T. W. (2017). Issues in special education teacher recruitment, retention, and professional development: Considerations in

supporting rural teachers. *Rural Special Education Quarterly, 30*(4), 3–11. https://doi.org/10.1177/875687051103000402

Berry, C., & West, M. (2010). Growing Pains: The school consolidation movement and school outcomes. *Journal of Law, Economics, & Organization, 26*(1), 1–29. Retrieved from http://www.jstor.org/stable/25620048

Billet, L. (1978). The free market approach to educational reform. The Rand Paper Series. Retrieved from file:///Users/ericmcgough/downloads/P6141.pdf

Boards of Cooperative Educational Services of New York State (2017). *About BOCES*. Retrieved from https://www.boces.org/about-boces

Bucciarelli, L. (2015). A review of innovation and change management: stage model and power influences. *Universal Journal of Management, 3*(1), 36–42. Retrieved from DOI: 10.13189/ujm.2015.030106

Burnes, B. (2004). Kurt Lewin and the planned approach to change: A reappraisal. *Journal of Management Studies, 41*(6). Retrieved from https://doi.org/10.1111/j.1467-6486.2004.00463.x

Burns, J. M. (1978). *Leadership.* New York, NY: Harper & Row.

Burns, M. (2011). Distance education for teacher training: Modes, models, and methods. Education Development Center, Inc., Washington, DC. Retrieved from: https://www.edc.org/sites/default/files/uploads/Distance-Education-Teacher-Training.pdf

Center for Public Education, Center for Educational Statistics (2006). *What is rural?* Retrieved from http://www.centerforpubliceducation.org/sites/default/files/WhatIsRural.jpg

Cohn, C. (2017). With multiple challenges, rural schools warrant far more attention. *EdSource*. Retrieved from https://edsource.org/2017/with-multiple-challenges-rural-schools -warrant-far-more-attention/586432

Cummings, S., Bridgman, T., & Brown, K. (2016). Unfreezing change as three steps: Rethinking Kurt Lewin's legacy for change management. *Human Relations, 69*(1), 33–60. Retrieved from: http://journals.sagepub.com/doi/pdf/10.1177/0018726715577707

Dabkowski, D. (2004). Encouraging active parent participation at IEP team meetings. *Teaching Exceptional Children, 36*(3), 34–39. Retrieved from https://doi.org/10.1177/004005990403600304

De Haan, M., Leuven, E., & Oosterbeek, H. (2016). School consolidation and student achievement. *The Journal of Law, Economics, and Organization, 32*(4), 816–839. Retrieved from https://doi-org.une.idm.oclc.org/10.1093/jleo/eww006

Dronkers, J., Der Velden, R. V., & Dunne, A. (2012). Why are migrant students better off in certain types of educational systems or schools than in others? *European Educational Research Journal, 11*(1), 11–44. Retrieved from https://doi.org/10.2304/eerj .2012.11.1.11

Duncombe, W., & Yinger, J. (2007). Does school district consolidation cut costs? *Education Finance and Policy, 2*(4). Retrieved from DOI: 10.1162/edfp.2007.2.4.341.

Duncombe, W., Yinger, J., & Zhang, P. (2016). How does school district consolidation affect property values? A case study of New York. *Public Finance Review, 44*(1). Retrieved from http://journals.sagepub.com.une.idm.oclc.org/doi/full/10.1177 /10911421145246 17#articleCitationDownloadContainer

Endrew, F. v. Douglas County School Dist. RE–1, No. 15–827, 580 U.S. ___ (2017), slip. op. at 11.

Every Student Succeeds Act of 2015 (ESSA) (2015). Pub. L. No. 114-95 § 114 Stat. 1177 (2015–2016).

Facts about Maine (n.d.). Retrieved from https://www.maine.gov/legis/general/facts/facts.htm

Farris, K., Demb, A., Janke, K., Kelley, K., Scott, S. (2009). *American Journal of Pharmaceutical Education; Alexandria, 73*(8). Retrieved from: DOI:10.5688/aj7308158

Friend, M., Cook, L., Hurley-Chamberlain, D. & Shamberger, C. (2010). Co-Teaching: An illustration of the complexity of collaboration in special education. *Journal of Educational and Psychological Consultation, 20*(1), 9–27. DOI: 10.1080/10474410903535380

Fullan, M. (2006). *Change theory: A force for school improvement.* Centre for Strategic Education. Retrieved from http://michaelfullan.ca/wp-content/uploads/2016/06 /13396072630.pdf

Good, M., Masewicz, S. & Vogel, L. (2010). Latino English language learners: Bridging achievement and cultural gaps between schools and families. *Journal of Latinos and Education, 9*(4), 321–339. Retrieved from DOI: 10.1080/15348431.2010.491048

Gordon, N., & Knight, B. (2008). The effects of school district consolidation on educational cost and quality. *Public Finance Review, 36*(4). Retrieved from http://journals.sagepub .com.une.idm.oclc.org/doi/abs/10.1177/1091142107305219 #articleCitationDownloadContainer

Griffiths, M. (2007). Towards a theoretical framework for understanding social justice in educational practice. *Educational Philosophy and Theory, 30*(2). DOI: 10.1111/j .1469-5812.1998.tb00322.x

Haddad, M. A., & Alsbury, T. (2008). Using spatial analyses to examine student proficiency: Guiding district consolidation and reform policy decisions. *Planning and Changing, 39*(1), 98–126. Retrieved from https://une.idm.oclc.org/login?url=https://search -proquest-com.une.idm.oclc.org/docview/916395616?accountid=12756

Harrison, B. (2013). *Local school community: Major stakeholders* [PDF document]. Retrieved from Prezi at: https://prezi.com/nciu1tl8rbqd/local-school-community-major-stakeholders

Helge, D. I. (1981). Problems in implementing comprehensive special education programing in rural areas. *Exceptional Children, 47*(7), 514–520. https://doi.org/10.1177/001440298104700704.\

Howley, A., Howley, M., Hendrickson, K., Belcher, J., & Howley, C. (2012). Stretching to survive: District autonomy in an age of dwindling resources. *Journal of Research in Rural Education, 27*(3), 1–18. Retrieved from https://une.idm.oclc.org/login?url =https://search-proquest-com.une.idm.oclc.org/docview/1011060303?accountid=12756

Howley, A., Rhodes, M., & Beall, J. (2009). Challenges facing rural schools: Implications for gifted students. *Journal for the Education of the Gifted, 32,* 515–536, 576–577. Retrieved from https://une.idm.oclc.org/login?url=https://search-proquest-com.une .idm.oclc.org/docview/222272053?accountid=12756

Howley, A., Wood, L., & Hough, B. (2011). Rural elementary school teachers' technology integration. *Journal of Research in Rural Education, 26*(9). Retrieved from http://jrre.psu.edu/ articles/26-9.pdf

Howley, C., Johnson, J., & Petrie, J. (2011). Consolidation of schools and districts: What the research says and what it means. *National Education Policy Center*. Retrieved from http://nepc.colorado.edu/publication/consolidation-schools-districts

Hu, Y., & Yinger, J. (2008). The impact of school district consolidation on housing prices. *National Tax Journal, 61*(4). Retrieved from http://go.galegroup.com.une.idm.oclc.org/ps/i.do?p=AONE&u=bidd97564&id=GALE|A197721235&v=2.1&it=r&sid=summon&authCount=1

Individuals with Disabilities Education Act, 20 U.S.C. § 1400 (2004).

Johnson, E. S., Humphrey, M. J., & Allred, K. W. (2009). Online learning and mentors: Addressing the shortage of rural special educators through technology and collaboration. *Rural Special Education Quarterly, 28*(2), 17–21. https://doi.org/10.1177/875687050902800203

Knoth Humlum, M., & Smith, N. (2015). Long-term effects of school size on students' outcomes. *Economics of Education Review, 45,* 28–43. Retrieved from https://doi.org/10.1016/j.econedurev.2015.01.003

Lavalley, M. (2018). Out of the loop: Rural education in the U.S. *Center for Public Education*. Retrieved from http://www.centerforpubliceducation.org/research/out-loop-rural-education-us

List of school districts in Maine (n.d.). Retrieved from https://ballotpedia.org/List_of_school_districts_in_Maine

Lowen, A., Haley, M. R., & Burnett, N. J. (2010). To consolidate or not to consolidate, that is the question: Optimal school size and teacher incentive contracts. *Academy of Educational*

Leadership Journal, 14(3), 1–14. Retrieved from https://une.idm.oclc.org/login?url =https://search-proquest-com.une.idm.oclc.org/docview/747986245?accountid=12756

Macri, D. M., Tagliaventi, M. R., & Bertolotti, F. (2002). A grounded theory for resistance to change in a small organization. *Journal of Organizational Change Management, 15*(3), 292–310. Retrieved from https://doi.org/10.1108/09534810210429327

Maine Department of Education (2017). *October 2017 data*. Retrieved from www.maine.gov

Maine Department of Education (2018). *Fund for the efficient delivery of educational systems*. Retrieved from https://www.maine.gov/doe/schools/embrace/fund-efficient-delivery -educational-services

Malhoit, G., & Black, D. (2003). The power of small schools: Achieving equal educational opportunity through academic success and democratic citizenship. *Nebraska Law Review, 82*(1). Retrieved from http://digitalcommons.unl.edu/cgi/viewcontent .cgi?article=1302&context=nlr

Marshall, C. (2004). Social justice challenges to educational administration: Introduction to a special issue. *Educational Administration Quarterly, 40*(1), 3–13. Retrieved from https://doi.org/10.1177/0013161X03258139

Masumoto, M., & Brown-Welty, S. (2009). Case study of leadership practices and school-community interrelationships in high-performing, high-poverty, rural California high schools. *Journal of Research in Rural Education, 24*(9). Retrieved [date] from http://jrre.psu.edu/ articles/24-1.pdf

Nitta, K. A., Holley, M. J., & Wrobel, S. L. (2010). A phenomenological study of rural school consolidation. *Journal of Research in Rural Education* (online), *25*(2), 1–19. Retrieved

from https://une.idm.oclc.org/login?url=https://search-proquest-com.une.idm.oclc.org/docview/89302001?accountid=12756

North, C. E. (2006). More than words? Delving into the substantive meaning(s) of "social justice" in education. *Review of Educational Research, 76*(4), 507–535. Retrieved from https://doi.org/10.3102/00346543076004507

Potila, J. (2018). *Valley collaborative remains at top of list for regional high school funding.* Retrieved from https://thecounty.me/2018/06/17/news/education/valley-collaborative-remains-at-top-of-list-for-regional-high-school-funding

Scribner, C. (2016). *The fight for local control: Schools, suburbs, and American democracy* (1st ed.). Ithaca, NY: Cornell University Press.

Shapiro, J., & Gross, S. (2013). *Ethical educational leadership in turbulent times: (Re)Solving moral dilemmas* [2nd ed.]. New York, NY: Routledge.

Smarick, A. (2017). Don't forget rural schools: Look outside cities for today's neediest classrooms. *The Philanthropy Roundtable*. Retrieved from http://www.aei.org/publication/dont-forget-rural-schools

Stephens, R. (1998). *Expanding the vision: New roles for educational service agencies in rural school district improvement.* Retrieved from https://files.eric.ed.gov/fulltext/ED418822.pdf

Strange, M. (2013). The importance of being Emily: Lessons from legislative battles over forced school consolidation. *Great Plains Research, 23*(2). Retrieved from https://search-proquest-com.une.idm.oclc.org/docview/1449204018?pq-origsite=summon

U.S. Department of Education (2004). *Individuals with Disabilities Education Act*. Retrieved from https://sites.ed.gov/idea/topic-areas/#LRE

Warner, W., & Lindle, J. (2009). Hard choices in school consolidation: Providing education in the best interests of students or preserving community identify. *Journal of Cases in Educational Leadership, 12*(1). Retrieved from http://journals.sagepub.com.une.idm.oclc.org/doi/abs/10.1177/1555458908329776

Williams, S. (2013). Micropolitics and rural school consolidation: The quest for equal educational opportunity in Webster Parish. *Peabody Journal of Education, 88*(1), 127–138. Retrieved from http://dx.doi.org.une.idm.oclc.org/10.1080/0161956X.2013.752637

APPENDIX

ADMINISTRATOR/SERVICE PROVIDER INTERVIEW QUESTIONS

(Interview to be Semistructured in Format)

1. How often do you participate in professional development focused on education or service provision for low-incidence students?
    1. Are these professional development opportunities predominantly offered in your district? Regionally? Other? Please describe.
2. What barriers impact participation in professional development for service provision for low-incidence students?
3. Explain to what extent you feel the following factors impact the provision of appropriate educational programming for low-incidence students in your district:
    1. Geography
    2. Flexibility to adjust service provision given the changing needs of students.
    3. Financial
4. Describe the depth of collaborative educational programming in your district.
5. Describe your knowledge of specialized educational programming for low-incidence students, in your district and across northern Maine.
6. Explain how turnover in service providers impacts specialized service provision for low-incidence students.
    1. In what ways does turnover in administration impact?
7. Describe your district's challenges in serving students in low-incidence populations.
    1. (Explain the process you use to identify these areas as the most challenging.)
    2. (Explain what dynamics have contributed to these areas being more challenging than other areas.)
    3. (What stakeholder groups are often the most involved in developing solutions to address identified challenges?)

    *Items in parentheses are notes for the interviewer to probe further for.
8. Describe areas of strength in your district for serving students in low-incidence populations and why you believe they are such.

    1. (Follow Up) What evidence would you use to distinguish these as areas of strength?

    2. (Follow Up) What are some of the ways you can leverage the dynamics that led to these strengths into addressing areas that are more challenging?

9. Have you found any sort of correlation between advancement in the areas for which specialized services are provided and academic achievement?

10. Describe strategies you use to address the following areas, specific to low-incidence population students:

    1. Parent communication
    2. Document and maintenance
    3. Data reporting

11. Explain what lessons you have learned from working with low-incidence student populations.