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Facilitators and Barriers to Interprofessional Practice in Rural Schools: A Survey of SLPs

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Facilitators and Barriers to Interprofessional Practice in Rural Schools: A Survey of SLPs

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Thesis Abstract

The purpose of this study was to gather information about interprofessional education and practice (IPE/IPP) between speech-language pathologists (SLPs) and classroom teachers in rural school settings. It focused on the current situations and practices of rural school-based SLPs as well as the perceived facilitators and barriers to effective collaboration. The study also sought SLPs' perspectives on the unique benefits and challenges associated with collaborating in the rural school setting. A 28-item survey consisting of questions with multiple choice, multiple-select, and numerical entry along with open-ended questions requesting narrative responses was completed by 78 SLPs. Descriptive analysis was used to evaluate the quantitative responses. Qualitative responses were analyzed for codes and themes to further understand the participant's perceived barriers and facilitators to IPP. The participants' responses revealed similarities to the limited published literature on IPP with classroom teachers. Unique differences regarding IPP in the experiences of rural school-based SLPs were also discovered. The survey participants' quantitative and qualitative responses are compared and contrasted and provide directions for future research.

Keywords: interprofessional practice, rural, school, teacher, speech-language pathologist, survey

Acknowledgements

This work represents both a culmination and a commencement in my professional life. It also serves as a reminder that “Within your heart you can make plans for your future, but the Lord chooses the steps you take to get there” (Proverbs 16:9 The Passion Translation).

Sincere gratitude is extended to my family, friends, and colleagues who provided much-needed support throughout this process, many times in the form of a phone call or Zoom meeting but occasionally in the form of chocolate. Special thanks goes to my writing supervisor, Dr. Mehrhoff, for her endless patience and guidance; and to my parents and aunties for being my biggest cheerleaders- without their enthusiasm and encouragement, this would not have been possible.

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Chapter I

Introduction

Speech-language pathologists (SLPs) are professionals who provide services to individuals with a variety of differences, disorders, and severity levels in the areas of communication and swallowing (ASHA, 2016). Service delivery areas in speech-language pathology are constantly evolving and include fluency (stuttering), speech production, language (spoken, written, social), cognition, voice, resonance, feeding and swallowing, and hearing (ASHA, 2016). SLPs also provide screening, assessment, and treatment for communication and swallowing disorders across a variety of settings, typically divided into healthcare and educational settings.

SLPs in Schools

In the school setting, federal legislation such as the Individuals with Disabilities Education Act (IDEA) and the Every Student Succeeds Act (ESSA) include provisions for eligible children, birth through age 21, with disabilities to receive services through early intervention or special education to ensure students' success (U.S. Department of Education, n.d.a, n.d.b). School-based SLPs are part of special education services and are therefore accountable to federal, state, and local special education policies. According to a position statement from the American Speech-Language-Hearing Association (ASHA), SLPs play a "critical and direct role in the development of literacy for children with communication disorders, including those with severe or multiple disabilities" (ASHA, 2001, para. 2). Obvious components of that role include identifying children at risk, conducting assessments, and providing treatment. Other aspects include classroom teacher collaborations for literacy instruction (ASHA, 2001).

Literacy is not the only speech-language pathology service area, as SLPs often have a larger number of students identified for speech and language impairments and serve students in virtually all other disability categories. In a study conducted by ASHA (2018), school-based SLPs identified 15 service intervention areas including acquired brain injury, auditory processing disorder, autism spectrum disorder, childhood apraxia of speech, cognitive communication disorders, dysphagia (swallowing and feeding), fluency disorders, hearing loss, language disorders (pragmatics and social communication), language (semantics, morphology, and syntax), augmentative and alternative communication (AAC), reading and writing, selective mutism, speech sound disorders, and voice or resonance disorders. While an SLP's scope of practice includes aspects that are highly specialized, it often overlaps with other professionals. Consequently, interdisciplinary collaboration is an important component in education-based SLP service delivery.

Collaboration

IDEA requires the interdisciplinary team to plan and implement special education services (Ludwig & Kerins, 2019). ASHA also identifies collaboration as one of the eight domains of SLP service delivery and states that it is necessary to improve functional outcomes for the individuals served (ASHA, 2016).

In the field of SLP, interdisciplinary collaboration is referred to as interprofessional practice (IPP) or interprofessional collaborative practice (IPCP; ASHA, n.d.; Interprofessional Education Collaborative [IPEC], 2016). ASHA adapted the World Health Organization (WHO) definition of IPP to state that "IPP occurs when multiple service providers from different professional backgrounds provide comprehensive healthcare or educational services by working with individuals and their families, caregivers, and communities- to deliver the highest quality of

care across settings" (ASHA, n.d., para. 1). In addition to collaborative practice, ASHA endorses a foundation of interprofessional education (IPE) for interdisciplinary collaboration, again adapting the WHO definition to outline IPE as "an activity that occurs when two or more professionals learn about, from, and with each other to enable effective collaboration and improve outcomes for individuals and families whom we serve" (ASHA, n.d., para. 1).

In the educational realm, interdisciplinary collaboration has been presented in multiple forms, including professional learning communities (PLCs), response to intervention (RTI), multi-tiered systems of support (MTSS), and universal design for learning (UDL). Each model centers on improving student outcomes while having a slightly different approach. For example, PLCs highlight the process of educators working "collaboratively in recurring cycles of collective inquiry and action research", while RTI and MTSS focus on tiered levels of instruction and intervention to meet student needs (DuFour, DuFour, Eaker, & Many, 2006, para. 1; National Center for Learning Disabilities, n.d.). Slightly different still, the UDL framework emphasizes adapting the design of the learning environment (i.e., goals, assessments, methods, and materials) to support learners (Center for Applied Special Technology, 2018).

The Interprofessional Education Collaborative (IPEC) Core Competencies for Interprofessional Collaborative Practice is a framework that has been widely used in healthcare settings to establish common language around collaborative practice. The document outlines four main competencies in the areas of values/ethics, roles/responsibilities, interprofessional communication, and teams & teamwork, with more specific sub-competencies listed in each area (IPEC, 2016). The core competencies include:

- Work with individuals of other professions to maintain a climate of mutual respect and shared values.

- Use the knowledge of one's own role and those of other professions to appropriately assess and address the health care needs of patients and to promote and advance the health of populations.
- Communicate with patients, families, communities, and professionals in health and other fields in a responsive and responsible manner that supports a team approach to the promotion and maintenance of health and the prevention and treatment of disease.
- Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate patient/population-centered care and population health programs and policies that are safe, timely, efficient, effective and equitable (IPEC, 2016, pp. 1-2).

Although the fields of speech-language pathology and education both identify collaborative practice as essential in serving students well, Ludwig and Kerins (2019) shared that even with heightened awareness of the role of collaboration among school-based professionals, interprofessional practice has remained inconsistent in the school setting. As a result of this shortfall, this study sought information from public school-based SLPs with regard to their current practices and perspectives of engaging in IPP with classroom teachers. It focused on SLPs serving rural schools as the rural setting has the potential to provide unique benefits and challenges.

Chapter II

Literature Review

Interprofessional Education and Practice

Interprofessional education and practice are promoted as best practice in all settings for speech-language pathologists (SLPs). While interprofessional education and practice (IPE/IPP) has become commonplace in medical settings, it has been slower to emerge in K-12 professional practice (Ludwig & Kerins, 2019). Collaboration across disciplines in schools is not a new concept, evidenced by professional development initiatives for meeting the needs of all learners such as professional learning communities (PLCs), response to intervention (RTI), multi-tiered systems of support (MTSS), and universal design for learning (UDL; Center for Applied Special Technology, 2018; DuFour, DuFour, Eaker, & Many, 2006; National Center for Learning Disabilities, n.d.). While these initiatives certainly foster collaboration, IPEC (2016) called for more comprehensive IPP/IPE collaborations.

In Giess and Serianni's (2018) article on interprofessional practice in schools, the authors examined the development of IPP and how it differs from interdisciplinary approaches and collaboration. A brief informal survey of SLPs found the perceived weaknesses of IPP include time to plan and collaborate, inadequate communication, lack of willingness to collaborate, and perceived lack of knowledge about others' roles (Giess & Serianni, 2018). The identified strengths were the benefit to the student and knowledge learned when working with other professionals leading to comprehensive and effective treatment (Giess & Serianni, 2018).

Ludwig and Kerins (2019) discussed the IPEC core competencies that are used mainly in healthcare. The IPEC core competencies have been widely adopted in the healthcare field, with their origins based on the WHO's healthcare-focused definition of IPE/IPP (Ludwig & Kerins,

2019). The core competencies are used as a common language among professionals to build collaboration and improve patient outcomes. To address the finding that collaborative "practice within school settings remains inconsistent" (p. 270), Ludwig and Kerins (2019) went so far as to reword the framework to include references to school-based professionals, students, and individualized education plans (IEPs). The adapted framework expanded the guidelines to accommodate the aspects in the school setting that differ from the healthcare setting, namely participation in the general education classroom, parent participation, and development and implementation of IEPs (Ludwig & Kerins, 2019).

Related Studies

Perhaps due to the inconsistent practice within school settings, there is a limited amount of research on the subject IPP. There are, however, several somewhat dated studies addressing collaboration, with a larger amount of research from outside the United States. The current research surrounding collaboration between SLPs and teachers primarily focuses on service delivery models but also addresses the barriers and facilitators to collaboration.

Green, Chance, and Stockholm (2019) reviewed surveys created between 1994 and 2003 that studied classroom-based models, including factors contributing to effective service delivery, positive elements, disadvantages, and reported stumbling blocks. The current trends towards IPP and IPE were shared, along with the fact that while theoretical and clinical support of inclusion has been available for 20 years, it is not prevalent (Green, Chance, & Stockholm, 2019). As also noted by Ludwig and Kerins (2019), implementation seems to be the challenge, as IPE/IPP in the healthcare setting has not generalized to the school setting.

Green, et al. (2019) found that teacher collaboration was the most frequently reported facilitator to inclusion success, along with good administrative support. Caseload size and

training were not found to be significant predictors of inclusion model use (i.e., providing services within the classroom; Green et al., 2019). It was also reported that SLPs working in elementary schools felt the inclusion model was not effective and was disliked by teachers (Green et al., 2019). Green et al. (2019) provided suggestions for improved IPP implementation. These included ongoing professional development opportunities, increased teacher awareness, additional planning time, and increased administrative support (Green et al., 2019).

Collectively, the review of these surveys revealed that although SLPs were incorporating collaborative practice in their service delivery, they were still facing the same challenges and barriers SLPs had experienced over 20 years prior (Green et al., 2019). Other researchers have investigated the timing of SLP and classroom teacher collaborations during the assessment, planning, and intervention processes.

Studies from Abroad

Two studies from the United Kingdom looked at collaboration between SLPs, also referred to as speech-language therapists (SLTs), and teachers. Both found there was greater collaboration between SLTs and teachers when providing intervention than during the assessment and planning stages (Kersner, 1996; Wright & Graham, 1997). These studies further explored the change in service delivery model and the level of collaboration between SLTs and teachers.

Kersner (1996) discussed the evolution of models where SLTs were seen as experts for consultation to that of a more egalitarian relationship with teachers. The sharing of specialized knowledge between professions was noted as important for collaboration (Kersner, 1996). Kersner (1996) also found that when both the SLT and teacher were involved in planning and intervention, it resulted in more meaningful therapy and greater generalization.

Extending the understanding of classroom teacher and SLT collaborations, Wright and Graham (1997) compared the amount of collaboration between teachers and SLTs. Collaboration was compared between two settings, health center- or school-based. Collaboration between the teacher and the school-based SLTs was higher when compared to health center-based SLTs for both assessment and planning (Wright & Graham, 1997). Overall, collaboration for intervention was nearly identical between the two settings but was significantly higher than collaboration for assessment and planning (Wright & Graham, 1997). The authors noted that the school-based collaboration primarily addressed the needs of students receiving services in exclusively special education facilities rather than mainstream schools (Wright & Graham, 1997).

Glover, McCormack, & Smith-Tamary (2015) also conducted a study of SLTs and teachers using two online questionnaires and focus groups. They found an increased need for collaboration, particularly in early intervention for children with speech, language, and communication needs (Glover, McCormack, & Smith-Tamary, 2015). Glover et al. (2015) also noted a need for interprofessional education, such as an understanding of each professional's roles and providing knowledge and resources. Both teachers and SLTs reported a lack of time to communicate, provide therapy or assistance in the classroom, and build relationships (Glover et al., 2015). The forementioned researchers have collectively revealed that although there has been progress over time in the collaborative role of the SLP in the school setting, interprofessional education and practice are still lacking. While many of these studies were dated, the same challenges and barriers that emerged across the United Kingdom studies were also echoed in a more recent survey conducted in the United States.

ASHA Study

In 2019, the American Speech-Language-Hearing Association (ASHA) published a national survey of SLPs' engagement in interprofessional collaborative practice (IPCP) in schools (Pfeiffer, Pavelko, Hahs-Vaugn, & Dudding, 2019). The survey was completed by SLPs in suburban (44%), urban (23%), and rural (22%) schools (Pfeiffer et al., 2019). The purpose of this study was to examine the models of collaboration used by SLPs in the school setting along with the predictive factors and barriers to collaboration. The authors used this data to further the understanding of facilitators toward IPCP within the educational setting.

The predictive factors for engagement in IPCP were identified as prior training in collaboration, years of experience, and educational setting (i.e., elementary vs. secondary), while barriers to engagement were time constraints (48%), resistance from other professionals (23%), lack of support from employers/administration (11%), teamwork not a priority in workplace (10%), not having enough training to work collaboratively on teams (5%), and resistance from other SLPs (2%) (Pfeiffer et al., 2019). Participants of the study also indicated that they would be more likely to increase their engagement in collaborative practices if they had smaller caseloads (Pfeiffer et al., 2019). While the study reported on the perspectives of school-based SLPs, it did not use regression analysis to delineate the predictive factors and barriers reported by those who worked in rural, suburban, or urban settings. What is known is that rural school-based SLPs do report differences when compared to suburban or urban school-based SLPs.

SLPs in Rural Schools

Job satisfaction studies of school-based SLPs revealed unique challenges in rural settings when compared to suburban and urban settings. Blood, Ridenour, Thomas, Qualls, and Hammer (2002) found that rural-based SLPs reported scheduling complexities and professional isolation among other unique challenges associated with working in a rural setting. Another study found

significant differences among rural, suburban, and urban participants regarding professional support, with rural SLPs reporting less professional support in the form of not feeling like a member of the school, not feeling like others understand or value their work, lacking opportunities to consult with others, or lacking sufficient resources (Blood, Thomas, Ridenour, Qualls, & Hammer, 2002). The authors also found the frequency of interaction with peers or supervisors was approximately one or two times per month, as opposed to one or two times per week as indicated by suburban and urban SLPs (Blood, Thomas, et al., 2002).

While the focus of those studies was on SLPs' job satisfaction as it affected recruitment and retention, those aspects can also impact the quality of services provided to students. The National Center for Education Statistics (2013) reported that in the 2010-2011 school year, over half (57%) of all operating regular districts were in rural areas and nearly one-quarter (24%) of all public-school students attend rural schools. A significant number of students are served by SLPs working in rural schools.

IPE and IPP are recommended by ASHA (n.d.) in order to best provide services. However, effective implementation of IPE/IPP requires time and professional support, two things that SLPs report are lacking, particularly in the rural setting, and therefore may prevent effective collaboration with classroom teachers. Nevertheless, by nature of their profession, SLPs are problem-solvers, and those working in a rural setting may have adapted and developed unique ways of implementing collaborative practice into their workload. This study aims to answer the questions: *What are the facilitators and barriers to interprofessional practice between SLPs and classroom teachers in the rural school setting?* and *What are the unique benefits and challenges associated with collaborating in the rural school setting?*

Chapter III

Methodology

The purpose of this study was to gather information about interprofessional education and practice between SLPs and classroom teachers in rural school settings. It focused on the current situations and practices of rural school-based SLPs as well as the perceived facilitators and barriers to effective SLP and classroom teacher collaboration. The study also sought SLPs' perspectives on the unique benefits and challenges associated with collaborating in the rural school setting.

Study design

The study was nonexperimental as time and logistical constraints prevented the manipulation of an independent variable as done in experimental studies (Maxwell & Satake, 2006). A cross-sectional survey was utilized to collect data regarding practices and perceptions at a particular point in time. This singular point was chosen because it allowed the survey to be economical and completed quickly (Maxwell & Satake, 2006). Questions were primarily quantitative with multiple choice, multiple-select, and numerical entry. Open-ended questions were used to further define the study variables through participants' qualitative comments. The informed consent form is included in Appendix A.

Procedures

Survey. After reviewing the related literature, a questionnaire was developed seeking data related to:

- years of experience in a rural school setting,
- caseload and workload size,
- education or training in working on collaborative teams with classroom teachers,

- current level of collaboration and service delivery type utilization,
- perceived facilitators and barriers to collaboration with classroom teachers,
- perceived benefits and challenges unique to collaborating with classroom teachers in a rural setting, and
- participant demographic information.

Both quantitative and qualitative data was sought, with a combination of multiple-choice, select-all-that-apply, and numerical entries, along with open-ended questions to allow for narrative responses.

Participant recruitment. Purposive sampling was utilized to recruit rural public school SLPs. Participants were recruited by emailing the directors of rural special education cooperatives, units, or related agencies (see recruitment email in Appendix A). The special education cooperatives, units, or similar agencies were located in the states of North Dakota, South Dakota, and Minnesota. Contact information for special education directors was accessed from Department of Education websites for each state. Identified special education directors were provided information regarding the purpose of the study along with a link to the online survey. Directors were asked to share the link with any SLPs employed in rural public schools in their area. Snowball sampling was also utilized, requesting any SLP who took the survey to forward the link on to any other rural school-based SLPs. Rural school-based SLPs were identified by the special education directors when they forwarded on the email as well as through forced-answer questions within the survey asking participants to self-identify as an SLP working in a rural school along with the estimated population of the rural town in which they provide services.

Data collection

A Qualtrics survey link was included in the recruitment email sent to the directors of the special education cooperatives, units, or similar agencies for forwarding to interested rural school-based SLPs. Recruitment emails were sent to the special education directors in North Dakota and South Dakota with a follow-up email one month later to further encourage participation. Recruitment emails were sent to the special education directors in Minnesota with a follow-up email sent two weeks later. Informed consent was embedded within the survey, and completion of the survey was considered consent.

Data collection was carried out through the Qualtrics system. The researcher was able to view the status of the participants' completion of the survey and use the filter features in Qualtrics to compile the survey results of the participants who met the study's criteria. The de-identified data was collated within the Qualtrics system and exported to Microsoft Excel for analysis.

Data Analysis

The researcher compiled the quantitative information and analyzed the data using features of the Qualtrics program and Microsoft Excel (Maxwell & Satake, 2006). Demographics of the participants were collated into a table format. Descriptive analysis was used to display the results of the quantitative survey questions in a graph format.

Qualitative analysis. Qualitative methods were used to analyze the participants' narrative responses (Creswell & Poth, 2018). After a preliminary exploratory analysis, open coding was used to begin to categorize responses and discover the most salient themes. As the responses were reviewed and re-reviewed, the initial codes were expanded to best capture the sentiments of the participants before being categorized and reduced to accurately reflect the prevalence of a few themes and subthemes.

The researcher was able to use the themes that emerged from SLPs' responses regarding the differences between rural and urban/suburban school settings as initial codes in the analysis of responses for subsequent open-ended questions. That is, the most prevalent positive differences identified became the initial codes for analyzing what SLPs stated were the unique benefits of rural settings. Conversely, the unique challenges were initially coded according to the most prevalent negative differences identified by participants. The same process of expanding and then reducing the codes was utilized to build themes to describe participants' responses.

Reliability. Triangulation was utilized in an effort to improve the trustworthiness of the interpretation of participants' open-ended responses (Maxwell & Satake, 2006). To reduce the potential bias of the researcher working alone, analyst triangulation was employed at multiple stages of the coding process (Maxwell & Satake, 2006). The investigators separately coded the responses from each open-ended question during the initial read-through. They then discussed and compared how they coded the themes they observed. As the themes were developed through expanding the initial codes and then categorizing and reducing to the final themes, the investigators discussed the developments to ensure inter-coder reliability (Creswell & Poth, 2018; Weaver-Hightower, 2019).

Reflexivity Statement

My personal and professional experience with the research topic is worth noting (Weaver-Hightower, 2019). Before pursuing graduate study in speech-language pathology, I was a classroom teacher for 13 years, the final 10 in a rural school. During that time, I observed the importance of collaboration both within and across professions and its impact on student success. I observed and experienced facilitators and barriers to effective collaboration, along with the comparative differences in such between rural and more urban schools.

Throughout my course of study in speech-language pathology, collaboration or interprofessional practice and education have been highlighted as an integral component in the profession. Emphasis and experience in collaborating with other professionals in healthcare and private practice settings were incorporated into the course of study, but unfortunately following the pattern of research, collaboration in the school setting was not emphasized. Consequently, the impetus for this study was to integrate both of my perspectives. This is to not only gain a greater understanding of the current experiences and successes of rural school-based SLPs, but also to provide insight and encouragement to current and future graduate students regarding collaboration within the school setting.

Chapter IV

Results

Recruitment emails were sent to a total of 221 special education directors in North Dakota, South Dakota, and Minnesota. The special education directors were asked to forward the survey information to speech-language pathologists (SLPs) who provided services in rural schools. Ninety-eight survey responses were collected. The first two survey questions were forced-answer to filter out responses from speech-language pathology assistants, other professionals, or those who did not provide services in rural schools. The result was 78 usable responses where the participant met the criteria and answered questions beyond the initial two questions. Participants had the option of answering none, some, or all of the remaining survey questions. For the purpose of interpreting results, it should be assumed that n=78 unless otherwise noted.

Demographic Information

Participants were asked to provide information regarding their age, gender, and race/ethnicity. Of the 68 participants who responded to demographic questions, ages ranged from 24 to 63, with an average age of 40.13. Sixty-six of 70 participants identified their gender as female, 2 male, and 2 preferred not to answer. When asked to indicate race/ethnicity, the majority of participants chose White (94.29%; n=70), 1.43% chose Asian, and 4.29% preferred not to answer. Table 2 in Appendix C provides more complete demographic information.

Professional Characteristics

Information regarding SLPs' professional characteristics was also collected, including type of certification, highest degree attained, employment status, and number of years working in

rural schools and other settings (i.e., urban/suburban schools, private practice, healthcare settings). Information is provided in Table 1.

Table 1
Participants' Professional Characteristics

Certification	
ASHA Certification (CCC-SLP)	67 (85.90%)
State License Only, Not ASHA-Certified	9 (11.54%)
Clinical Fellow (CF-SLP)	2 (2.56%)
Level of Education (Highest Degree)	n=70
Doctorate	1 (1.43%)
Master's	67 (95.71%)
Bachelor's	2 (2.86%)
Less than Bachelor's	0
Employment	
Full-time	66 (84.62%)
Part-time	12 (15.38%)
Years Working in a Rural School	
Average	11.23
Median	8
Mode	4
Range	1-36
Years Working in Other Settings	
Average	4.72
Median	1
Mode	0
Range	0-32

Professional Environment

Speech-language pathologists responded to survey questions regarding their service areas including population of the town(s), number of schools, amount of telepractice provided, the state(s) where they provide services, along with caseload and workload information. Estimated town populations ranged from 200 to 27,000 with an average population of 5393.41 and median population of 2550. The majority of SLPs (82.05%) provided services in either one or two schools (57.69% and 24.36%, respectively), with 8.97% each serving 3 or 4 or more schools. Of the 34 participants who provided telepractice services, 22 SLPs indicated that less than 10% of

their caseload was served via telepractice and only 4 SLPs indicated that 85-100% of their caseload was served via telepractice.

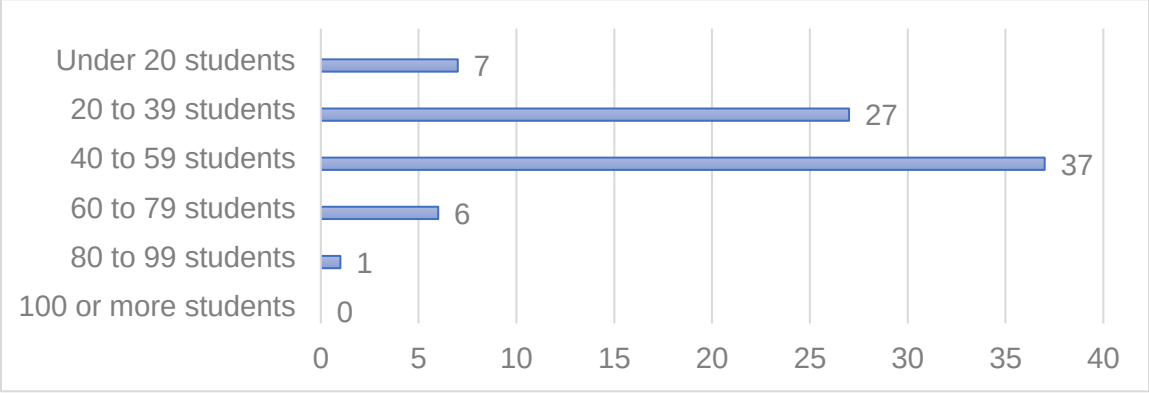
States of Service

When asked to indicate the state(s) in which they provided services, 62.50% provided services in Minnesota, 36.11% provided services in North Dakota, and zero of 72 responding participants indicated they provided services in South Dakota. One participant indicated that they also provided services in Tennessee and California.

Caseload Information

Figures 1 and 2 provide SLPs' reported caseload information regarding caseload size and age of students served. Of the 78 total participants, 82.06% had caseloads between 20 and 59 students with nearly half (47.44%) having caseloads between 40 and 59 students. For those SLPs who worked full-time, 50.00% (34 of 68) had caseload sizes between 40 and 59 students. For those working part-time, 50.00% (6 of 12) had caseload sizes less than 20 students.

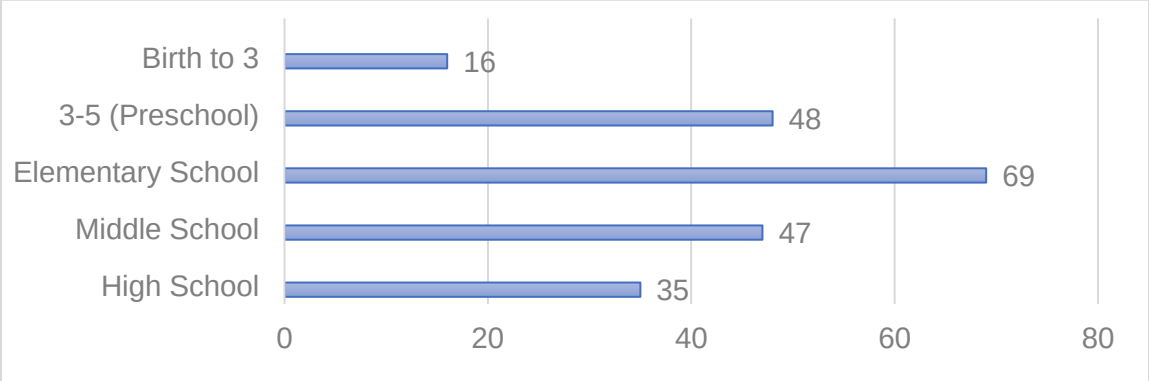
Figure 1
Caseload Size



Participants selected all age groups that they served on their caseload, given the options of birth to three years old, three to five years old (preschool), elementary, middle school, and

high school. A majority of participants (73.08%) served at least two age groups. Of that majority, 44.87% served at least three age groups, particularly preschool through middle school.

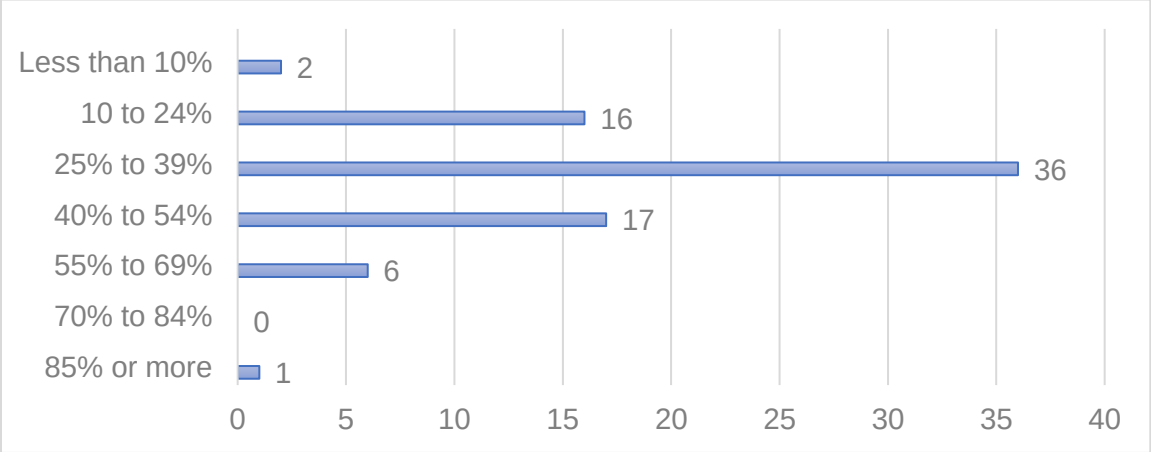
Figure 2
Age Ranges of Students Served



Workload Information

Participating SLPs also indicated what percentage of their workload involved tasks outside of providing direct services. Figure 3 provides information regarding reported percentage of participants' workload that could include, but were not limited to, individualized education plans (IEPs), supervision, paperwork, or meetings. Sixty of 78 participants (76.91%) reported that at least a quarter of their workload involved those types of tasks.

Figure 3
Percentage of Workload Beyond Providing Direct Services to Students



Professional Practices

Participants responded to questions regarding their current practices relating to collaborating with classroom teachers. Speech-language pathologists shared information about their employed types of service delivery models, level of collaboration, and education or training received on collaboration with classroom teachers.

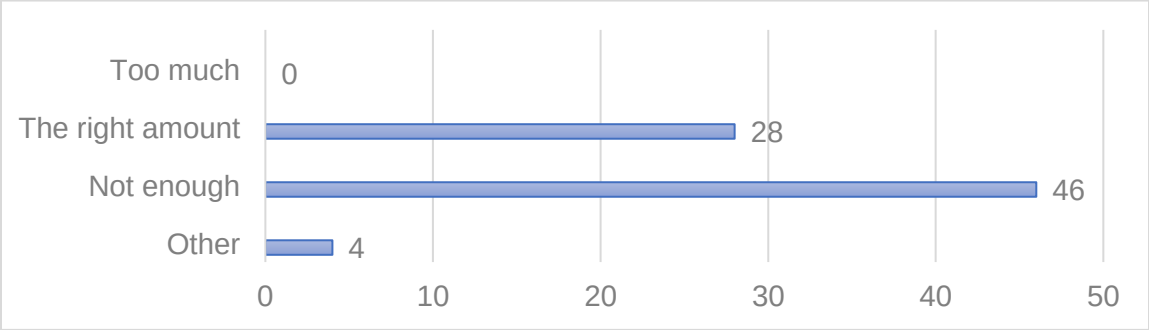
Types of Service Delivery

Participants were presented with service delivery models including inclusion, classroom-based, "push-in" individual sessions; inclusion, classroom-based, "push-in" group sessions; traditional, "pull-out" individual sessions; and traditional, "pull-out" group sessions. When requested to select all models that apply, 64.09% selected traditional, "pull-out" sessions (34.09% individual, 30.00% group) and 30.91% selected inclusion, classroom-based, "push-in" sessions (18.64% individual, 12.27% group). Five percent of participants also indicated that they also occasionally co-treat with occupational therapy, physical therapy, or special education teachers or provide home-based therapy during home visits.

Current Level of Collaboration

Participants rated their current level of collaboration with classroom teachers through three options: too much, the right amount, or not enough. Figure 4 summarizes the participant SLP responses. A few participants also indicated that their rating varied depending on collaborating versus co-teaching, working with an early childhood special education teacher on the team, or the student being served.

Figure 4
Current Level of Collaboration with Classroom Teachers



Education on Working Collaboratively

Of the 78 participants in the study, only 28 (35%) had received education or training related to working on collaborative teams with classroom teachers. Most had received this training via on-the-job experience (44.00%) or during school in-services or professional development days (40.00%). Twelve percent of SLPs had graduate coursework in collaborating with classroom teachers and no participants reported undergraduate coursework in collaborating with classroom teachers. Four percent of participants received education or training from other sources such as professional conferences, personal internet searches, or professional articles.

Only 6% of the 28 SLPs who had received training or education on working in collaborative teams with classroom teachers were trained specifically on the topic of interprofessional education and practice (IPE/IPP). More frequent topics of training related to other models of collaboration including professional learning communities (PLCs; 30.00%),

response to intervention (RTI; 25.00%), multi-tiered systems of support (MTSS;16.67%), and universal design for learning (UDL; 11.67%). Participants also reported taking part in training on various shared learning topics, different activities that could be done as a group, and the Classroom Engagement Model (CEM).

Perspectives on Collaboration

To gain insight into their personal experiences in collaborating with classroom teachers, SLPs were asked to select facilitators and barriers to effective collaboration. They were invited to select all that applied from a list of 11 facilitators and 10 barriers with additional options to provide factors that were not included in the survey question. Seventy participants shared what factors were facilitators in their personal experience and 69 participants shared barriers to effective collaboration. Summaries of participants' selections are provided in Figures 5 and 6. Participants also shared that time as well as respect for colleagues' knowledge and skill sets were facilitators for collaboration. Additional barriers to collaboration listed by the participants included being in a contracted position, only being in the building a few days per week, the perception of services being "just speech", and lack of face-to-face communication to establish trust with teachers.

Figure 5
Facilitators to Effective Collaboration

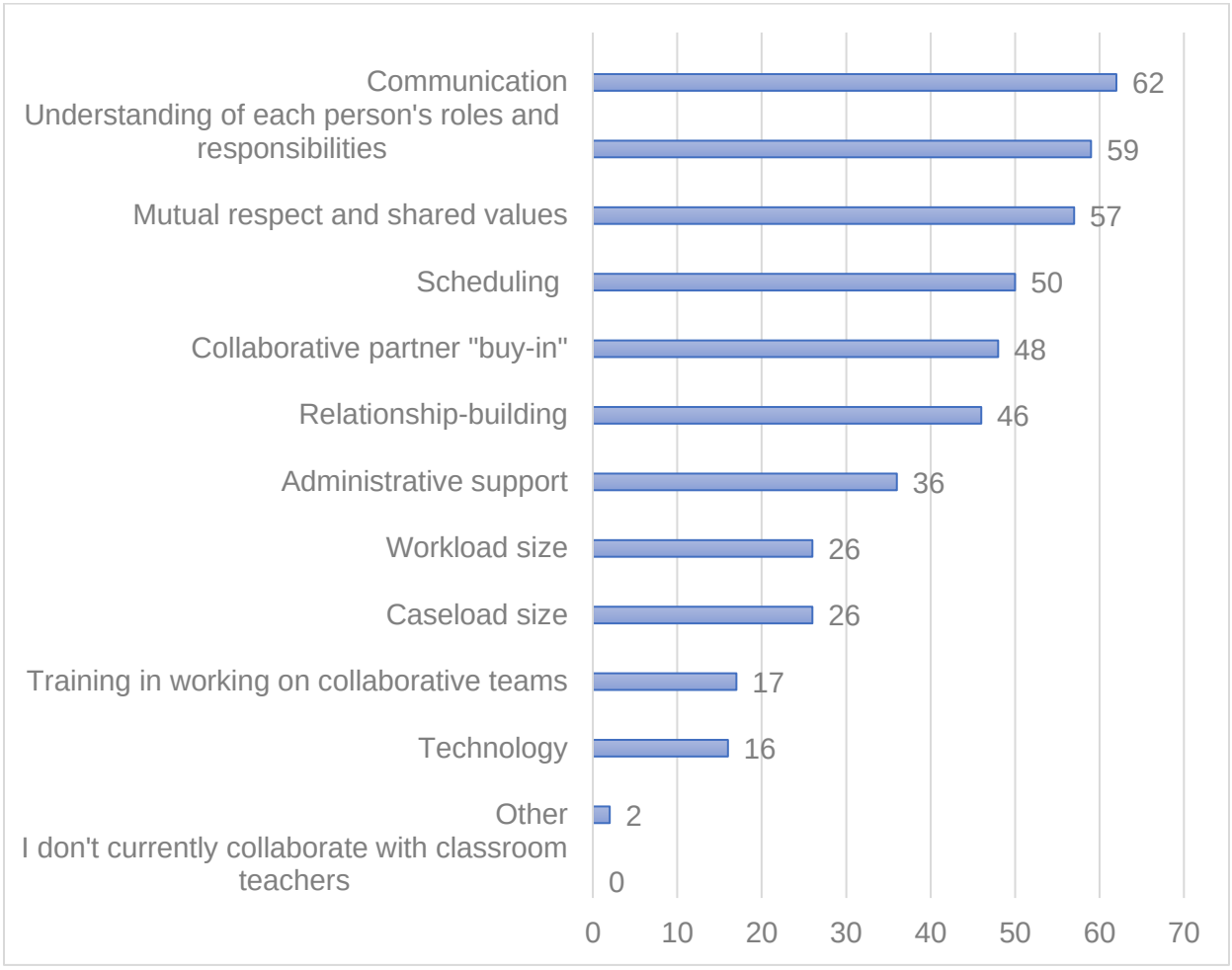
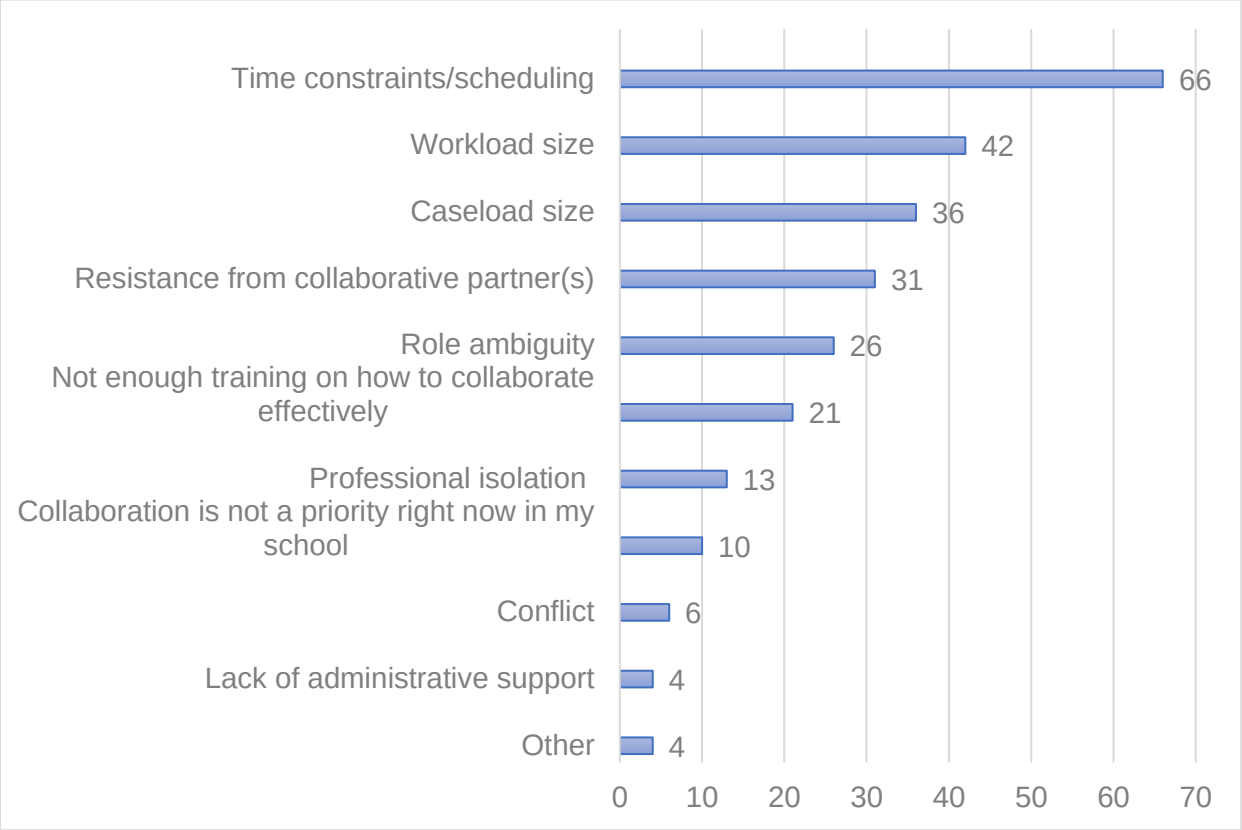


Figure 6
Barriers to Effective Collaboration



In Their Own Words

To further elaborate on their perspectives on collaboration specifically in the rural school setting, participants responded to open-ended questions presented in the survey. These questions were directed at the differences between collaboration in rural versus urban or suburban school settings as well as the unique benefits and challenges of collaborating in a rural school setting.

Differences between Rural and Urban/Suburban

When asked how they perceived SLPs' collaboration with classroom teachers in the rural setting to be different than collaboration in urban or suburban settings, nearly half (47%) of participants either chose not to answer or answered with an unsure response. Of those who provided specific responses, many shared about what factors made collaboration easier or more

challenging in the rural school setting. Differences that SLPs felt made rural school collaboration easier included closer relationships, a strong sense of community, smaller caseload or staff sizes, and less turnover of staff themes. Other differences were seen to make collaboration more challenging. These responses included themes such as having to wear "multiple hats", having more diverse caseloads requiring multiple specialty areas, and reduced physical presence due to scheduling, travel, and serving multiple locations. These themes were expounded upon in subsequent questions relating to the unique rural school collaboration benefits and challenges.

Unique Benefits

Two major themes emerged from the SLPs' resposes to the unique benefits of classroom teacher collaborations in rural settings. The identified themes were (1) community and (2) small size. These major themes were echoed from the previous responses as they were listed among the positive differences between rural and urban or suburban settings.

The first major theme, community, highlights the small-town community feel in many rural school settings. Thirty-four of the 58 responding participants included reasons such as a sense of community, building relationships, or familiarity with colleagues, students, and families.

The second major theme, small size, highlighted the benefit of the smaller populations that often define rural school settings. Twenty-one participants shared that smaller numbers of people in the rural setting resulted in smaller caseloads, smaller classroom sizes, and fewer staff to collaborate with; thus, promoting collaboration.

The SLPs' responses often intertwined these two themes as is perfectly reflected in one participant's statement, "In our smaller district, we are able to build some pretty strong relationships with our students and with each other as staff because there are fewer of us."

Another participant's response expressed the same link between themes, emphasizing the importance of relationship building:

> I believe it is easier to collaborate with teachers in a small town school because there are less teachers to collaborate with and I know the teachers better. Relationship building is a huge part of collaboration and all of the staff knows each other well at my school and I don't think I would know other teachers as well in a bigger school.

A third SLP's response captured the important connection between a sense of community and collaboration:

> Community is key in our rural school ... staff and families know each other from the community and the families are very involved in school activities. Education seems more personal in my rural school and providers pulling together to benefit students is part of that.

Overall, participants readily shared their perspectives on the unique benefits that working in a rural school has on collaboration. They expressed that collaboration with classroom teachers is facilitated by building relationships and having a smaller number of people to collaborate with and about. In the same way that participants elaborated on the benefits of collaborating in a rural school, they readily shared the aspects of rural settings that make collaboration more challenging.

Unique Challenges

When compared to unique benefits, the 53 responses regarding the unique challenges of collaboration in rural settings contained a wider array of reasons and examples. Although there were a variety of explanations and personal experiences reported by SLPs, four common themes emerged.

Professional responsibilities. The most prevalent theme related to the professional responsibilities faced by SLPs in rural settings. These responsibilities included caseload challenges, both in terms of size and "extreme diversity" as one participant stated, as well as serving multiple locations, traveling between sites, and wearing "multiple hats". These challenges were mentioned by 31 of the 53 SLPs who provided responses. One participant's response summarized the result of having additional responsibilities that preclude SLPs from having time to collaborate, stating "Because there is…less staff/professionals, we have other duties and therefore time limitations on the ability to collaborate."

Other professional responsibilities are related to the diverse caseload a rural school-based SLP might have. This participant shared her personal experience with a larger variety of ages, disorders, and severities:

> SLPs at smaller schools are given caseloads that include students across all ages (I see kids 2-21), of various levels and disabilities. This causes me to have to make a variety of materials and be thinking about all of the different skills and I knowledge I have across language, articulation, social skills, etc. vs. specializing in elementary, middle school, high school, self-contained, etc. Therefore most of my time is spent making sure I am up to date on best practices for all of these areas instead of just one, which gives me less time to collaborate with teachers.

Restrictive factors. Twenty-three SLPs also identified other challenges, such as factors that restrict them from collaboration opportunities. Some participants' examples included a lack of time, multiple schedules, and lack of physical presence in each site they serve. The following response shares one SLP's specific situation:

> My situation is probably more unique than other rural providers as I spend one day per week at each of my [multiple] rural schools. I have to know [many] different building schedules, including Headstart schedules, elementary and high school schedules. I have to know when the teacher is free so I can visit about a student, as that teacher may be coaching volleyball after school, or driving the school bus on a 60 mile round trip route. I travel sometimes [greater than an hour] to reach some of my schools so am not always available before school begins for the day.

Another participant echoed that having to travel to multiple sites restricts SLPs from engaging in rich collaboration but also brought up another valid challenge seen in rural schools:

> I think SLPs are running around districts … that makes it difficult to have time to meet with each grade level team to discuss students in-depth. I also think that some rural schools have a hard time keeping SLPs so the high turnover rate makes the collaboration difficult as well.

High turnover rates for SLPs in rural school districts may also be related to the professional issues that some participants mentioned in their responses.

Professional issues. Professional issues identified by participants that make collaboration more challenging in rural settings were noted in 15 responses. Those issues included professional isolation, misunderstanding of professional roles, lack of resources, and shortages. Some of these professional issues are combined, as expressed in one SLP's experience:

> No one in my field to collaborate with on a daily basis. SLP's [sic] feel like an island in their schools. We are not "classroom teachers", not "special education teachers", not paraprofessionals and not administrators. In the eyes of some, we don't belong anywhere

> and typically get omitted from group or department meetings. On PD [professional development] days, we have no one.

Professional isolation can also be the result of separate employment entities, as one participate stated, “Being employed through a special education unit can be a barrier in regards to being ‘separate’ when compared to classroom teachers employed through the school district.”

One SLP succinctly shared the challenge that “Many teachers view SLPs [sic] jobs as primarily pull-out,” highlighting the importance of IPE. Several particpants also expressed that their role is misunderstood as separate from the general education classroom or that they are the only professional who can address speech and language issues. In addition to the misunderstanding of their role, there is resistance or few opportunities to educate their colleagues in the way that IPE suggests.

Familiarity. The final theme unique challenges theme was seen across 10 participants’ responses. Although familiarity among colleagues, students, and families was emphasized by many participants as a unique benefit to collaboration in the rural setting, it was also viewed as a challenge to effective collaboration. Other factors that may be influenced by personal bias such as resistance to change and lack of buy-in were also noted as challenges. One SLP shared their perspective of the challenge that familiarity in a small community raises:

> In a small town, it seems that many people that work here also have students here or personally know students here. That can be a challenge when collaborating about specific students and not brining [sic] any personal bias into the situation.

Another participant encountered the challenge of not having collaborative partner buy-in and stated, “From my own experience, teachers are not likely to want to stray from what they are familiar with. They have less experience with collaborative teaching.”

As a group, the survey participants shared a wide variety of specific challenges that hinder effective collaboration with classroom teachers. With deeper analysis, their responses collectively relate back to missing components of all four IPE/IPP competencies (IPEC, 2016).

Conclusion

The 78 SLPs who participated in the survey reported diverse professional experiences and perspectives regarding collaborative practice with classroom teachers in the rural school setting. While there was variety in the number of schools served, size of caseloads and workloads, amount of telepractice services, types of service delivery models, levels of collaboration, and amount and types of education regarding collaboration with classroom teachers, the participants identified similar facilitators and barriers to collaboration.

The top three facilitators included communication, understanding of each person's roles and responsibilities, and mutual respect and shared values. By far, the most frequently selected barrier to collaboration was time constraints/scheduling, followed by workload size, caseload size, and resistance from collaborative partner(s).

Although not all participants chose or were able to articulate the differences between collaboration in rural schools versus urban or suburban schools, clear themes emerged when SLPs shared about the unique benefits and challenges that come with collaborating in a rural setting. The most frequently mentioned benefits were a sense of community and smaller numbers of students and staff. Professional responsibilities, restricted opportunities, and professional issues were the main challenges to collaboration. Interestingly, the familiarity that accompanies working in a small community was also identified by some SLPs as a challenge to effective collaboration.

Further meaning-making of the survey results, including comparison to the published literature as well as exploration of the connections between participants' quantitative and qualitative responses, continues in the next chapter.

Chapter V

Discussion

The purpose of this study was to gain insight into rural school-based speech-language pathologists' (SLPs) current practices and perspectives on interprofessional education and practice (IPE/IPP). The participant responses guided the understanding of the research questions *What are the facilitators and barriers to interprofessional practice between SLPs and classroom teachers in the rural school setting?* and *What are the unique benefits and challenges associated with collaborating in the rural school setting?* using the quantitative and qualitative information provided by the survey participants. The following discussion will address the quantitative responses provided by SLPs regarding facilitators and barriers to collaboration followed by a discussion of the connections between those responses and the qualitative responses gleaned from the open-ended survey questions.

Facilitators

When asked to consider their personal experiences in collaborating with classroom teachers a large majority of SLPs selected communication as a facilitator to effective collaboration. This seems to follow logic, as communication is a significant part of SLPs' scope of practice and therefore a central focus in their professional practice. It is also an essential component in several other facilitators that were included on the list, notably the next two most frequently chosen facilitators as indicated by survey participants- understanding of each person's roles and responsibilities, and mutual respect and shared values.

Communication. In the context of the published literature, the participants' responses echoed the important factors that assist and improve collaboration with classroom teachers, although previous studies had not asked SLPs to directly indicate factors that facilitated

collaboration. Recommendations from Glover et al. (2015) included a need for professionals to understand each other's roles in order to provide knowledge and resources. Green et al. (2019) also suggested that teacher education be integrated to build understanding of each professional's roles and facilitate collaboration. Geiss and Serianni (2018) found a strength of collaboration was the knowledge learned that ultimately lead to more comprehensive and effective treatment. These authors' findings all support the guiding principle of IPE laying the foundation for IPP and highlight the importance of IPP communication.

Workload and caseload size. An interesting finding from these rural SLP participants was that the majority did not indicate workload and caseload size to be facilitators to collaboration with classroom teachers. Green et al. (2019) also found that caseload size was not a significant predictor of collaboration, though the authors did not specifically consider the rural setting. One reason the findings could be similar is the fact that although the populations of the schools served by rural SLPs are smaller, serving multiple schools or having shortages of SLPs in rural areas contributes to larger caseloads and workloads. Such could be the case in the rural SLP participants, as over half of SLPs surveyed had caseload sizes of 40 students or greater.

Training in collaboration. Green et al. (2019) also indicated that training in collaboration was not a significant predictor in collaboration, which was contrasted by the findings of the study conducted by the American Speech-Language-Hearing Association (ASHA) where Pfeiffer et al. (2019) found that prior training in collaborative practices was a strong predictive factor for engaging in IPP. The collective responses from the SLPs in the current study found that training in working on collaborative teams was one of the least selected facilitators to collaboration. This could be explained by the additional findings that only about one-third of participants had received training related to working on collaborative teams, and of

those participants only a few had received training specific to IPE/IPP. Participants more often had received training for specific models of collaboration (e.g., PLCs, RTI, MTSS, etc.).

While each survey participant chose several facilitators to effective collaboration, when asked to indicate the barriers to collaboration, survey participants made fewer selections with one barrier clearly standing out.

Barriers

Time and scheduling. The most frequently indicated barrier to effective collaboration with classroom teachers was time constraints or scheduling. This is unsurprising, particularly for SLPs in rural schools, as travel to multiple sites or serving students in grades preK-12 impacts the amount of time available for collaboration. The ability to coordinate schedules to have opportunities to collaborate is also a challenge for SLPs serving multiple sites. In light of the published literature, however, this issue is not specific only to SLPs serving rural schools. Pfeiffer et al. (2019) also found time constraints to be the most prominent barrier experienced by SLPs. Glover et al. (2015) identified the lack of time to communicate, provide therapy or assistance in the classroom, and build relationships prevented SLPs from collaborating effectively.

Professional isolation. Professional isolation was one barrier that may have been expected to be more frequently chosen by rural school-based SLPs. In their studies, Blood, Ridenour et al. (2002) and Blood, Thomas, et al. (2002) found that professional isolation was experienced more so by rural SLPs than by urban or suburban SLPs. It then follows that the resulting isolation impacts the SLPs ability or even willingness to engage in collaboration. On the other hand, perhaps the majority of participants did not experience professional isolation and therefore did not see it as a barrier to collaboration.

It is difficult to fully understand the survey participants' experiences or reasons for their selections with merely quantitative data. And so, through their open-ended responses, survey participants were able to shed more light on what they perceived to be facilitators and barriers in the context of the unique benefits and challenges of collaborating with classroom teachers in a rural school.

Open-Ended Responses

Nearly all survey participants who provided answers to the quantitative questions regarding facilitators and barriers to collaboration also supplied responses to the qualitative questions. Many participants gave specific examples that spoke to their personal experiences and provided additional information to their selections from the qualitative questions. Nearly half of all SLPs who responded stated that they were unsure or acknowledged that their experiences may not be all that different from SLPs who provide services in urban or suburban schools. This might explain the disparity between the quantitative and qualitative responses, since the qualitative questions were directed at the unique differences of the rural school setting with regard to collaboration while the quantitative questions made no such distinction.

One example of this disparity was that although caseload size was not chosen by the majority of participants as a facilitator to collaboration- in fact, it was towards the bottom of the list in terms of frequency- small caseloads were mentioned numerous times throughout the open-ended responses as a unique benefit to collaboration in the rural setting. Additionally, relationship-building was a large part of the sense of community experienced by SLPs in rural schools and thus one of the most prominent benefits according to participant SLPs. In spite of this, relationship-building fell towards the middle of the list of facilitators to collaboration.

Likewise, there were differences between participants' responses to what they have experienced as barriers to collaboration and their responses to what they perceived to be the challenges of collaborating specifically in the rural setting. For example, as mentioned above, professional isolation was not frequently indicated as a barrier to collaboration. However, when describing the challenges they faced, nearly one-third of SLPs indicated that professional isolation made collaborating in rural schools challenging. The same type of difference was also noted with role ambiguity and resistance from collaborative partners. Meaning, more SLPs described how those aspects were a unique challenge to collaboration in the rural setting than selected those aspects from the list of barriers to collaboration.

On the other hand, the foremost barriers to collaboration from the quantitative question- time constraints/scheduling, workload size, and caseload size- were all clearly evident in the participant's qualitative responses. The survey participants' open-ended responses provided clearer context to their experienced challenges and these three barriers to collaboration. This is in stark contrast to the primary facilitators not receiving much elaboration in the responses regarding the unique benefits of collaborating in rural schools.

These interesting differences might be attributed to the type and focus of the survey questions. When participants were asked to select the factors that were facilitators and barriers to collaboration, the nature of the questions' multiple-select format may have led them to select options from the list that were more universal and less personal. In contrast, when asked about their perceptions of the unique benefits and challenges to collaboration in a rural school, participants were obliged to supply their own answers. Since there were no suggested answer choices, SLPs shared about the personal experiences that were most notable or most important to

them. This provided greater insight into their current practices and perceptions on collaboration but could also be considered a limitation of the study.

Limitations

While the participating SLPs' responses were successful in answering the identified research questions, there were some limitations to the study design as well as the practical implications of the results. One such limitation was the participant sample. Since the participant recruitment relied on special education directors to forward on the survey information to the appropriate SLPs and the survey participants to then self-identify as meeting the criteria for the study, there is no way to know if the SLPs who participated in the study were a representative sample of the broader group of SLPs who serve rural schools.

Secondly, there was a large difference between the smallest and largest populations identified by the survey participants which may result in those participants having had vastly different experiences regarding collaboration with classroom teachers. This, along with the relatively small sample size and uncertainty of the sample being representative, limits the ability for generalization of results. Finally, the information on SLPs' collaborative practice was self-reported, not directly observed, and thus could not be verified.

Future Directions

A paucity of research on SLPs' collaboration experiences and practices still remains, as the review of the current literature noted. More research is warranted as there are multiple articles and position statements outlining the components and importance of IPE/IPP in schools, but few that provide evidence on how it is effectively implemented.

Further research into education and training regarding IPE/IPP is also warranted. Reiterating a finding discussed above, the majority of participants had not participated in

collaborative team trainings. One participant also mentioned the differing definitions of collaboration, perhaps due to information being inconsistent across related professions. Professionals such as classroom teachers, special education teachers, speech-language pathologists, occupational therapists, physical therapists, and school psychologists may have had differing education on collaborative practices resulting from a either a medical or educational foundation.

All in all, the research remains quite limited on IPE/IPP in the school setting- whether it be rural, suburban, or urban. The concerns regarding the implementation of collaborative practices in schools lagging behind those in medical settings also warrant a look into the preparation of preservice professionals across disciplines as well as the continuing education utilized by those currently practicing.

Conclusion

This study looked into the practices and perspectives of rural school-based SLPs when collaborating with classroom teachers. The information outlined in this study provides insight into the facilitators and barriers to IPP as well as the unique benefits and challenges of collaborating in the rural school setting.

It can be surmised from this study that SLPs who serve rural schools experience similar facilitators to collaboration, such as communication and understanding one another's roles, as well as similar barriers to collaboration, such as time constraints and workload size. They also encounter unique aspects of working in a rural setting that provide both benefits and challenges, including a sense of community and caseload variety.

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Appendix A

Recruitment Letter and Informed Consent

Hello Director of Special Education,

My name is Sarah Kastner and I am a second-year graduate student studying Speech-Language Pathology at Minnesota State University Moorhead (MSUM). As a former teacher and future speech-language pathologist, I have a particular interest in the collaboration between SLPs and classroom teachers and have created a study to investigate the facilitators and barriers to effective collaboration. This study also focuses on the unique benefits and challenges of collaborating in the rural school setting. This research was approved by the Institutional Review Board at MSUM.

Below you will find an information letter and link to the survey. ***I am kindly asking you to forward the following information to each of your current SLPs who provide services in rural schools.*** The survey is submitted via Qualtrics, so any responses will be completely confidential.

I sincerely appreciate your assistance and support. It is my hope that this study will provide insight to current and future SLPs regarding effective collaboration with classroom teachers in the rural school setting.

Please feel free to contact me (sarah.kastner@go.mnstate.edu) or reach out to my research committee chair, Joni Mehrhoff, CCC-SLP (joni.mehrhoff@mnstate.edu) with any questions regarding this study.

Thank you!

Sarah Kastner
Graduate Assistant/Student Clinician
Minnesota State University Moorhead
Speech-Language Pathology
sarah.kastner@go.mnstate.edu

Hello Speech-Language Pathologist,

You are invited to participate in a study of interprofessional practice between SLPs and classroom teachers. I hope to learn what factors help or hinder effective collaboration between SLPs and teachers as well as the unique benefits and challenges of doing so in a rural school setting. You were selected as a possible participant in this study because you provide speech and language services in a rural school, either in-person or through telepractice.

If you decide to participate, please complete the survey linked below.

Informed Consent: Your completion of this survey is implied consent. The survey is designed to obtain quantitative and qualitative information regarding your experiences and perspectives. It will take about 10-15 minutes to complete. No benefits accrue to you for answering the survey, but your responses will be used to provide insight to current and future SLPs regarding the facilitators and barriers to collaboration with classroom teachers in the rural school setting. Any discomfort or inconvenience to you derives only from the amount of time taken to complete the survey.

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and wil l not be disclosed.

Your decision whether or not to participate will not affect your future relationships with Minnesota State University Moorhead (MSUM). If you decide to participate, you are free to discontinue participation at any time.

Follow this link to the Survey:
Take the Survey

Or copy and paste the URL below into your internet browser:
https://mnstate.co1.qualtrics.com/jfe/form/SV_3qrmdDNCGPujQIl

If you are interested in the outcomes of this study, please email me at the email address listed below and I will add your name to the list of those interested in reading the results. The results will be available late next spring.

Thank you!

Sarah Kastner
Graduate Assistant/Student Clinician
Minnesota State University Moorhead
Speech-Language Pathology
sarah.kastner@go.mnstate.edu

Appendix B

Survey

Thank you for considering participating in this study of interprofessional practice between SLPs and classroom teachers. You were selected as a possible participant in this study because you provide speech and language services in a rural school, either in-person or through telepractice.

If you decide to participate, please complete the following survey. It will take about 10-15 minutes to complete. Your completion of this survey is implied consent and you are free to discontinue participation at any time. Your responses are anonymous and will remain confidential.

SPECIAL NOTE: While the COVID-19 pandemic has undoubtedly affected your professional experience, please answer the following questions based on your experiences ***prior to*** the transition from typical delivery of services.

1. Which of the following titles do you hold in your current position? (ASHA, 2019)
   a. Speech-Language Pathologist with ASHA certification (CCC-SLP)
   b. Speech-Language Pathologist (state license only, not ASHA-certified)
   c. Clinical Fellow (CF-SLP)
   d. Speech-Language Pathology Assistant (SLPA)
   e. Other, please specify

2. Do you work as an SLP in a rural school or provide telepractice services to a rural school?
   a. Yes
   b. No
      2A. What is the approximate population of the rural town in which you provide services? (enter number, round to the nearest thousand)

3. How many schools do you provide services in?
   a. 1
   b. 2
   c. 3
   d. 4 or more

4. Do you provide telepractice services?
   a. Yes
   b. No
      4A. What percentage of your caseload is served through telepractice?
         a. Less than 10%
         b. 10% to 24%
         c. 25% to 39%
         d. 40% to 54%
         e. 55% to 69%
         f. 70% to 84%

g. 85% or more

5. What is your caseload size? (ASHA, 2019)
   a. Under 20 students
   b. 20 to 39 students
   c. 40 to 59 students
   d. 60 to 79 students
   e. 80 to 99 students
   f. 100 or more students

6. What is the age of the students on your caseload? (Select all that apply) (ASHA, 2019)
   a. Birth to 3
   b. 3-5 (Preschool)
   c. Elementary school
   d. Middle school
   e. High school

7. Are you employed in the school setting full-time or part-time?
   a. Full-time
   b. Part-time

8. What percentage of your workload involves tasks such as IEPs, supervision, paperwork, meetings, etc. (i.e., not directly providing services to students)?
   a. Less than 10%
   b. 10% to 24%
   c. 25% to 39%
   d. 40% to 54%
   e. 55% to 69%
   f. 70% to 84%
   g. 85% or more

9. How many years have you worked as a speech-language pathologist in a rural school setting? (ASHA, 2019) (enter number)

10. How many years have you worked as a speech-language pathologist in another setting (suburban or urban school, private practice, hospital, skilled nursing facility, rehabilitation, home health)?
    (enter number)

11. What types of service delivery models to you use? (Select all that apply) (Dohan & Schulz, 1998; Elksnin & Capilouto, 1994)
    a. Inclusion, classroom-based, “push-in” individual sessions
    b. Inclusion, classroom-based, “push-in” group sessions
    c. Traditional, “pull-out” individual sessions
    d. Traditional, “pull-out” group sessions
    e. Other, please specify

12. How would you rate your current level of collaboration with classroom teachers?
    a. Too much
    b. The right amount
    c. Not enough
    d. Other, please specify

13. Have you ever received education or training related to working on collaborative teams with classroom teachers? (ASHA, 2019)
    a. Yes
    b. No

    13A. What type(s) of collaborative teaming with classroom teachers did you receive education or training on? (Select all that apply)
        a. Interprofessional Education and Interprofessional Practice (IPE/IPP)
        b. Professional Learning Communities (PLCs)
        c. Response to Intervention (RTI)
        d. Multi-Tiered Systems of Support (MTSS)
        e. Universal Design for Learning (UDL)
        f. Other, please specify

    13B. When did you receive education or training related to working on collaborative teams with classroom teachers? (Select all that apply)
        a. Undergraduate coursework
        b. Graduate coursework
        c. School in-services or professional development days
        d. On-the-job experience
        e. Other, please specify

14. From your personal experience collaborating with classroom teachers, what are the ***facilitators*** to effective collaboration? (Select all that apply)
    a. Administrative support
    b. Scheduling
    c. Technology
    d. Collaborative partner "buy-in"
    e. Mutual respect and shared values
    f. Understanding of each person's roles and responsibilities
    g. Communication
    h. Relationship-building
    i. Caseload size
    j. Workload size
    k. Training in working on collaborative teams
    l. I don't currently collaborate with classroom teachers
    m. Other(s), please specify

15. From your personal experience collaborating with classroom teachers, what are the ***barriers*** to collaborating effectively? (Select all that apply) (ASHA, 2019; Blood, Thomas, et al., 2002)

a. Collaboration is not a priority right now in my school
b. Time constraints/scheduling
c. Not enough training on how to collaborate effectively
d. Lack of administrative support
e. Resistance from collaborative partner(s)
f. Role ambiguity
g. Conflict
h. Professional isolation
i. Caseload size
j. Workload size
k. Other(s), please specify

16. In what ways do you think speech-language pathologists' collaboration with classroom teachers in rural settings differs from that in suburban or urban settings?

17. What do you think are the unique ***benefits*** of a rural setting in regard to speech-language pathologists' collaboration with classroom teachers?

18. What do you think are the unique ***challenges*** of a rural setting in regard to speech-language pathologists' collaboration with classroom teachers?

19. What impact has the COVID-19 pandemic had on your collaboration with classroom teachers?

20. In which state do you provide services? (ASHA, 2018)
    a. North Dakota
    b. South Dakota
    c. Nebraska
    d. Kansas
    e. Minnesota
    f. Iowa
    g. Missouri
    h. Other, please specify

21. What is your age?
    (enter number)

22. What is your gender?
    a. Female
    b. Male
    c. Other
    d. Prefer not to answer

23. What is your race/ethnicity?
    a. White
    b. Hispanic, Latino, or Spanish origin

c. Black or African-American
d. Asian
e. American Indian or Alaska Native
f. Middle Eastern or North African
g. Native Hawaiian or other Pacific Islander
h. From multiple races
i. Some other race, ethnicity, or origin
j. Prefer not to answer

24. What is the highest degree you have received?
a. Doctorate degree
b. Master's degree
c. Bachelor's degree
d. Less than Bachelor's degree

Appendix C

Additional Demographic Information

Table 2
Participant Characteristics

Age	n=68
Average	40.13
Median	37.5
Mode	31
Range	24-63
Gender	n=70
Female	66 (94.29%)
Male	2 (2.86%)
Other	0
Prefer not to answer	2 (2.86%)
Race/Ethnicity	n=70
White	66 (94.29%)
Hispanic, Latino, or Spanish origin	0
Black or African-American	0
Asian	1 (1.43%)
American Indian or Alaska Native	0
Middle Eastern or North African	0
Native Hawaiian or other Pacific Islander	0
From multiple races	0
Some other race, ethnicity, or origin	0
Prefer not to answer	3 (4.29%)
Certification	
ASHA Certification (CCC-SLP)	67 (85.90%)
State License Only, Not ASHA-Certified	9 (11.54%)
Clinical Fellow (CF-SLP)	2 (2.56%)
Level of Education (Highest Degree)	n=70
Doctorate	1 (1.43%)
Master's	67 (95.71%)
Bachelor's	2 (2.86%)
Less than Bachelor's	0
State Where Providing Services	n=72
North Dakota	26 (36.11%)
South Dakota	0
Minnesota	45 (62.50%)
Other (Tennessee, California)	1 (1.39%)

Approximate Population of Rural Town Where Providing Services	
Average	5393.41
Median	2550
Range	200-27,000
Number of Schools Where Providing Services	
1	45 (57.69%)
2	19 (24. 36%)
3	7 (8.97%)
4 or more	7 (8.97%)
Employment	
Full-time	66 (84.62%)
Part-time	12 (15.38%)
Years Working in a Rural School	
Average	11.23
Median	8
Mode	4
Range	1-36
Years Working in Other Settings	
Average	4.72
Median	1
Mode	0
Range	0-32