THE "QUILT" OF RURAL EDUCATION: SEWING SEAMS

IN RURAL SPECIAL EDUCATION

by

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ABSTRACT

In rural and isolated communities, Learning Assistance / Resource Teachers (LARTs) are the front-line advocates for students with exceptionalities and their families. Thus, it is imperative that LARTs are provided with the necessary training and access to resources needed to meet the needs of the various students on their case files. In this thesis, I set out to explore what the specific needs of LARTs in rural or isolated areas are and how they can best be supported. By using action research and autoethnography, I place my personal experiences as an LART under the lens. I use the processes involved in quilting to illustrate what may happen when appropriate supports are not in place. The old adage "many hands make light work" holds true -- through access to time, specialized training, mentorship, access to resources, and time to collaborate, rural LARTs have the power to make a positive impact on the life of a child. My hope is that what I have learned will then become a “pattern” to be used and refined by other LARTs as a future catalyst for change in the area of rural/isolated Special Education.
This thesis is dedicated to my parents and sister for their endless love, support and encouragement throughout this journey and to NK for inspiring me to learn more about Special Education.
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CHAPTER 1: Reflecting before “quilting”

In quilting, there are intricate patterns that have been passed down through time by seamstresses who specialized in these specific patterns. All quilters possess the ability to sew basic seams and follow a pattern; however, it is their chosen pattern that determines the time and effort that their quilt will take. Many patterns are family “heirlooms” that have been passed down through generations. While quilters have the ability to tackle a myriad of projects, they are most proficient in the patterns that they are familiar with. As a teacher who began teaching high school and gradually moved into the field of Special Education, I have had to broaden my knowledge to learn the patterns of Special Education. As when I learned to quilt, I have found Special Education to be an ever-evolving field. Thus, by using a quilting metaphor, this study will examine the needs of Special Education teachers and the supports that they require in order to stitch the various blocks of learning together in order to provide a program for exceptional learners.

Background

Special Education programs are geared to serve a wide range of exceptionalities; this can be problematic as Special Education teachers are expected to have a wide range of expertise and to develop programs that service the needs of all students. On paper this appears to be “doable”; however, in reality there are many issues that need to be examined. Special Education teachers, known as Learning Assistance/Resource Teachers (LARTs), in general, have many responsibilities that fall under their job descriptions. Responsibilities may include: heading the team that develops, writes and maintains an Individual Education Plan (IEP) - the action plan for students with exceptionalities,
scheduling Special Education Assistants (SEAs) so that appropriate support coverage is available in a variety of classes, collaborating with individual classroom teachers to develop and encourage programs which foster the integration of students with exceptionalities with their typically developing peer groups, and hosting a variety of meetings throughout the year to communicate a student’s learning requirements with parents and teachers. In rural and isolated areas, LARTs likely shoulder more responsibilities than their counterparts in urban centers because often they may be seen as the “disposable” staff member because they are considered a “non-enrolling” teacher. This means that often LARTs may be asked to run a resource program and provide preparation time to all other teachers in a small school. As well, LARTs in rural areas may get called upon to be chaperones on field trips, even though they might not involve students with exceptionalities that would benefit from additional time with a LART.

Additionally, LARTs in rural areas of British Columbia (BC) are frequently required to meet with outside agencies which may include: Provincial Integration Support Program (PISP), Sunny Hill Children’s Hospital, and Queen Alexandra Center for Children’s Health. Often these meetings must be done over the telephone or via e-mail and can be time consuming because again they take away from the programming for the students. When outside agencies suggest new technologies or resources that are not readily available in a rural district and require additional funds for purchase, the LART may then have to try to get funds from the principal. As such, there is a definite need to support LARTs and ensure that appropriate resources, training and technology are available so that they will be able to develop and facilitate Special Education programs that serve the students. To neglect this would be like asking a quilter to dye all of her own fabrics and
shear a sheep to make the batting, rather than simply going to a store to select the materials required for her craft.

**Personal context**

**School experience.** When I compare my own student school experiences to my teaching experiences in the present I am amazed at just how much change has occurred in the field of Special Education. Changes in the structure of present day Special Education programs have raised issues in LARTs having enough time and support to work with students in an inclusive environment. Within the past forty years, the field of Special Education has grown and programs dedicated to an inclusive education system for individuals with exceptionalities has been the focus. Prior to this time period, individuals with exceptionalities were either educated in segregated classes away from their typically developing peers, or they were not seen as worthy of an education (Bricker, 2000). As a student in elementary school, during the 1980s, the only time I recall seeing someone who was part of the Special Education program at my school was usually from a distance. No individuals with special needs attended my school in a regular program; instead, there were a handful of students and their teacher who worked out of an old modular trailer in behind the school. Occasionally, the students, who were chronologically much older than me and my peers, along with their teacher joined my grade three classroom for art. I also vaguely remember working with the Special Education teacher after school in a small group to learn some basic sign language so that we could have a few basic items we could say to one of the students and earn a badge for our Brownie group. In retrospect, the teacher was attempting to integrate her students as much as possible in the system of the time; however, as an eight year old, I did not see it as such. To me, it was a way to get a badge, which leads me to now wonder how the "included" student felt.
High school during the late 1980s and early 1990s was not much different. There was no one with any type of special needs, at least whom I was aware of, in any of my classes. However, there was a room in the school where students with special needs worked with their support workers. It was always a place of mystery because there was no interaction with the individuals housed in the room.

Nowadays, the situation is different. Students with special needs are entitled to equitable access to education and may be integrated into school with their typically developing peers. There are a variety of new technologies and adaptations available to assist students with their learning and whole departments have emerged to assist with this. This presents whole new issues because time is required to collaborate with others and to learn new programs; however, time is often a luxury. The luxury of time in Special Education can be juxtaposed to quilting a quilt. For example, a quilter may have the ability to assemble a quilt top and bottom independently; however, if it is a large quilt, the quilter runs into difficulty trying to machine quilt it due to the sheer volume of the project. The quilter is then left with limited choices: persevere, hand quilt and take forever or try using a long arm quilting machine. If the quilter opts for the use of a long arm machine, she is faced with finding a loaner machine or paying the price to have it done for her. If she does it herself, then she has to make the time to learn something new to complete her project. While technological advancements in quilting and education are considered to be phenomenal, their worth is only as great as the supports.

**Teaching experiences.** I have been a classroom teacher, in high school primarily, for the past decade. I began to take an interest in Special Education during my first year of teaching when I had students with Individual Education Plans (IEPs) in my
classes. It was at that time that I recognized that I had to do more to educate myself about learning disabilities and various special needs that exist within modern-day public school systems.

I began to give more thought to the manner to which service is provided to students with special needs as I entered further into my teaching career. When I worked briefly in Saskatchewan, there was high school curriculum specifically generated for students who were in the Special Education classes. For instance, rather than studying Chaucer, these students would focus on functional reading and writing skills in English class. In BC there is no set curriculum for students with special learning needs; it gets left to classroom teachers, LARTs and SEAs. Thus, it is particularly important that all professionals work together as a team to provide a quality education to a child with special needs, though issues of power and responsibility sometimes interfere with this ideal. In a sense, it is much like the idea of a “quilting bee”; through collaboration, a group is capable of completing projects in a more efficient manner, than if attempted by an individual. If this collaboration occurs, then the program retains a student focus rather than an organizational or resource focus.

The further I get into the field, the more my eyes are opened to the world of Special Education. I have observed the importance of directing the available resources into a more cohesive program so that as many needs as possible are met. In particular, up-to-date technology is a necessary need in a rural district.

**Change and technology**

Changes that I imagine might be possible for students are the introduction of technology that works. In my own practice, I have worked with individuals who would benefit from the use of a laptop in order to get around fine and/or gross motor difficulties;
however, the technology that I had available to supply to the student only frustrated them further because of how slow and ancient it was. With the availability of Smartboards, laptops, and various software programs, students can learn the technology of now and apply it to their current work so that they are able to learn and grow with the technology.

Students may benefit from technology, but there is a disparity in usable resources and technologies between regions across BC. Some schools do have better access to all sorts of technologies and programs. In rural districts, those located in areas with populations of fewer than 5000 people and/or requiring travel by plane or boat or ferry to access outlying schools, set funding is received to put towards various programs within a district; however, the funding is frequently inadequate. Often, costs are higher for rural districts due to higher costs of shipping equipment to their location. As well, there may be increased costs of fuel or air travel for staff to access Professional Development, either sending personnel out of district or flying in guest speakers. Thus, rural districts may rely very heavily on groups such as Parent Advisory Councils (PAC) to fundraise, make up for shortfalls, and to purchase new technologies for classrooms. Even with new technologies, rural districts struggle with maintaining Internet connections that are reliable enough to utilize the technologies.

In rural and isolated communities, LARTs are the front-line advocates for students with exceptionalities and their families. Thus, it is imperative that LARTs are provided with the necessary training and access to resources needed to meet the needs of the various students on their case files.

LARTS and their needs

LARTs in rural or isolated communities have specific needs that need to be met if they are to best apply their skills to serving students with exceptionalities. Due to
location, LARTs in rural or isolated communities often do not have easy access to some of the training programs that are offered in larger centers. Instead, LARTs must try to take in information as best they can during limited appointment times with travelling professionals from provincial resource programs such as Special Education Technology-BC (SET-BC), Provincial Outreach Program for Autism Related Disorders (POPARD), and Provincial Integration Support Program (PISP). If LARTs have further questions, they must use e-mail or telephone communication to further their knowledge in particular areas. Therefore, it is clear that there are specific needs for LARTs in rural or isolated communities and that these needs need to be addressed so that LARTs are able to continue to provide the best possible programming to service the needs of students with exceptionalities within these rural or isolated community schools.

In order to explore this topic further, I ask, "What are the needs of Learning Assistance / Resource Teachers in rural or isolated communities and what supports are required in order to build Special Education programs that provide a high quality level of service to students with exceptionalities?" I inquire by reflecting on my own experiences as a rural LART and consider them in light of current research. My hope is that what I learn will then become a “pattern” to be used and refined by other LARTs as a future catalyst for change in the area of rural/isolated Special Education. I do this by placing my personal experiences as an LART under the lens and using the processes involved in quilting to illustrate what may happen when appropriate supports are not in place.
CHAPTER 2: A trip to the “fabric store”

Before a major quilting project is started, it involves a trip to the local fabric store to secure supplies. Sometimes, it might even call for trips to several shops to ensure that the quilter has all the necessary items for her craft. This is similar to Special Education in the sense that before an Individual Education Plan (IEP), the project instructions, can be filled out, a LART needs to “shop” for information about a student and then work on crafting a program for that student based on the student’s individual needs. The "shopping" portion of an IEP involves the LART seeking input from various parties (parents, teachers, SEAs, student) and then "stitching" these pieces together to form an IEP that is tailored towards the specific goals of the student. Essentially, each IEP becomes the action plan that guides how the quilt of education will be created for each student.

Special Education has gone through many phases, particularly in the last 20-30 years. It has moved from an area of segregated programs to mainstream program. However, the question still remains: who exactly are the Special Education programs of today serving? Some research suggests that rather than serving students, Special Education as realized today actually serves the organization (McQuat, 2007). As such, this is an important area when pondering the job descriptions of Special Education teachers because it implies that although programs are in place to serve the needs of individuals with exceptionalities; these programs may in fact be missing their mark and serving the organization instead. Perhaps, more importantly, is to ask what are the needs of individuals charged with delivering Special Education programs and how can they best be supported so that Special Education teachers can concentrate their efforts on making
positive impacts in the lives of their students with exceptionalities. In this chapter, I examine the existing research that documents the changes necessitated by modern day Special Education programs.

**Inclusion / Integration**

**History.** The ideas of inclusion and integration are concepts that have been gaining momentum since their initial appearances in the early 1970s. In North America, inclusion and integration were sometimes referred to as mainstream; however, nowadays the terms are separate. Inclusion is the overarching principle that all students are entitled to an accessible education; however, it does not state that all students must be placed in the same learning environment (BC Ministry of Education, March 2011). Inclusion is concerned with the ability of individuals with exceptionalities to interact and participate with typically developing peers in a meaningful manner (BC Ministry of Education, March 2011). In contrast, integration is a strategy used to attain inclusion (BC Ministry of Education, March 2011). Within an integrated setting, students with special needs are provided with necessary accommodations to include them as much as possible with their typically developing peers - sometimes this is not possible and students are assigned to alternative placements in order to provide them with an access to an education that is applicable to them (BC Ministry of Education, March 2011).

Prior to the early 1970s, individuals with special needs, disabilities, or exceptionalities were segregated into special schools. In 1974, Peabody College, in the United States, began a child care that blended children with exceptionalities with their typically developing peers (Bricker, 2000). Initially, there was not a lot of interest by parents of typically developing children to have their children attending a child care center that welcomed children with exceptionalities. Gradually, this stigma lessened
when Peabody College faculty required child care for their typically developing children and began placing their children in the facility (Bricker, 2000). The result was not what anyone initially anticipated. Researchers found that typically developing peers became peer role models to children with disabilities (Bricker, 2000). Little did anyone know at the time that such an experiment would lead to a movement that eventually touched most corners of the Earth. The 1980s and 1990s saw more public schools including children with disabilities (Bricker, 2000). Eventually, integration came to be seen as a human right, but this created a host of other issues for all parties involved. The social experiment at Peabody College led to the need for teachers trained in working with individual disabilities. Perhaps the largest issue created was recruiting and retaining skilled teachers to teach in an inclusive environment.

**Recruitment and retention of specialists.** There are still many barriers that exist to integration in today’s schools. A key barrier is the lack of trained personnel to provide integrated services to students with exceptionalities (Buell, Hallam & Gamel-McCormick, 1999). In such a specialized area, it has become increasingly difficult to maintain a qualified and stable teaching force in Special Education (Billingsley, 2004; Irinaga-Bistolas, Shalock, Marvin & Beck, 2007; Kitchenham & Chasteauneuf, 2010; Laczko-Kerr & Berliner, 2003;). The needs for Special Education teachers are on the rise, yet the number of qualified Special Education teachers is decreasing (Canter, Voytecki & Rodriquez, 2007). In some areas, particularly in the United States, there are such shortages of Special Education teachers that uncertified or unqualified individuals are filling the role of Special Education teacher (Billingsley, 2004; Laczko-Kerr & Berliner, 2003; Smith, Robb, West & Tyler, 2010). This phenomenon of employing
novices in expert roles is alarming and the impact is best illustrated through the idea of an individual with no experience attempting to make a quilt for the first time. If the individual does not have prior sewing experience, it is likely that the seams will not be even and there is a greater possibility that the seams might even give way. The finished quilt would clearly show the individual’s lack of experience or expertise; this is not the sort of thing we want to see replicated in Special Education.

As the trend, to include more students with disabilities in general education classrooms for much of the school day, continues, so too does the need for highly qualified teachers to work with students with exceptionalities. In order to be successful, there must be collaboration between general and Special Education teachers (Buell, Hallam & Gamel-McCormick, 1999). Collaboration is often difficult to achieve.

A number of teachers find themselves in inclusionary classrooms without the general skill set to successfully teach a group of students with varying needs. As Bandura indicated in his theory of self-efficacy (Pajares, 1996), individuals need to feel that they are having a positive effect on someone else, in order to feel successful. In his model of social learning theory, “Bandura noted that unrealized expectations have a significant impact on human performance and organizational commitment” (Wisniewski & Gargiulo, 1997, p. 327). If success is felt, then there is a greater motivation to persevere and continue working to make changes – in this case, in the field of Special Education (Buell, Hallam, & Gamel-McCormick, 1999).

Boyer and Bandy (1997) conducted a Canadian study that examined rural teachers’ perception of the current state of inclusion. They found that predominantly, teachers felt that although they were meeting the social and emotional needs of students
with exceptionalities, they were not necessarily meeting their academic needs. One key finding of their study was that the success of inclusion is reliant on the active participation of all stakeholders (Boyer & Bandy, 1997). Due to geographic isolation, there is often a lack of alternative settings and programs for students with exceptionalities; as a result, rural area schools often include a higher number of students with exceptionalities. As such, the general classroom teacher is often at the helm of ensuring that these students receive an inclusive education through integration. In order to do this though, there are a number of items that are required if full integration is to work effectively.

Multiple studies have shown that some of the common items that arose, related to needs of Special Education and general teachers, are: the need for specialized training, mentorship, access to resources, and time to collaborate with other teachers. Specialized training is an important element for educators involved with Special Education because there are so many facets involved in a the field of Special Education. One such example is found in a study by Mukherjee, Lightfoot and Sloper (2000) about including students with chronic health conditions. In this instance, teachers were a major source of support for students; thus, the teachers' sense of self-efficacy was necessary in meeting the needs of the students (Mukherjee, Lightfoot & Sloper, 2000). In addition, teachers shared that they were eager to participate in inclusive practice; however, they felt they did not have the required training or necessary classroom support to include a student with chronic health impairments in the regular classroom. Another study that looked at teacher supply and demand in northern Canada found that a detriment to professional development was the lengthy distances and high costs incurred to travel to an urban center (Kitchenham &
Chasteauneuf, 2010). Hence, high costs often deter individuals from attending professional development events in areas of need or interest. This may lead to a lack of specialist teachers in rural schools or attrition of the current personnel, owing to the inability to further their careers due to obstacles of distance and higher costs. In order to retain teachers willing to work in rural areas, mentorship is important.

While mentorships might be easily accessed in an urban area with a larger number of specialist teachers to mentor, this is often an issue in rural remote settings where there might be a limited number of specialists (Billingsley, Israel, & Smith, 2011). In numerous studies, teachers indicated that they needed further programming in areas such as: program modification, managing students’ behaviour, developing IEPs, adapting curriculum, and using assistive technology (Billingsley, Israel & Smith, 2011; Buell, Hallam, & Gamel-McCormick, 1999; Gessler Werts, Wolery, Snyder, Caldwell & Salisbury, 1996; Mukherjee, Lightfoot & Sloper, 2000). The use of information sharing platforms using Web 2.0 technologies such as wikis and blogs for mentorship of rural teachers is attainable; however, “…the delivery models are often designed for urban centres with state-of-the-art facilities or a strong infrastructure to support such endeavours” (Kitchenham & Chasteauneuf, 2010, p. 876). Nevertheless, mentorship programs would likely assist teachers in feeling a sense of self-efficacy and in turn may lead to lower attrition rates. In brief, a quilt stands a better chance of being completed correctly if the quilter is supported by a “seasoned” quilter, just as a Special Education program fairs better when the correct personnel are involved and mentored.

Whether quilting or teaching, it is important to have access to the necessary supplies. Access to resource materials is an item that continues to plague teachers trying
to implement inclusionary classrooms. Often, resource materials can be found in urban areas that have teachers supply stores; however, in a rural setting, it is often difficult to find up-to-date resources and when they are found quite often they are expensive (Billingsley, Israel & Smith, 2011). Thus, lack of materials and resources in rural areas may also contribute to teacher attrition over time.

A final area of need in promoting an inclusionary environment was the need for time. Time was needed to prepare materials and time was also necessary to collaborate with other teachers (Vannest & Hagan-Burke, 2010). Opportunities for learning were only limited by the time invested in planning activities (Vannest & Hagan-Burke, 2010). Teachers needed time to collaborate in a team-based approach in order to make inclusion work. One such example is the study of inclusion and prereferral in Knollwood, an elementary school (Mamlin & Harris, 1998). The school was very involved and used a team-based approach related to prereferrals and referrals for Special Education. Prereferrals were the interventions made prior to referring a student for Special Education services. These interventions included: behaviour management, academic modification, and help from others (Mamlin & Harris, 1998). In rural schools, the number of teachers is substantially lower than in urban areas, yet the same tasks must be done; thus, while this team based approach is the goal of inclusive settings teachers are likely to become burnt out as a result of not having enough personnel to meet the needs of an inclusive, team modelled school (Mamlin & Harris, 1998). In their empirical study about building teacher support programs, Cooper-Duffy, Prohn, Ray and Herzog (2005) noted that the necessary items in an inclusive practice include: support from all areas of the education system, relevant professional development, mentoring and meaningful collaboration.
With these elements in place, researchers have suggested that they will decrease the stress and burnout felt by individuals working in the Special Education field. Essentially, inclusion will only occur if all of the necessary supports and resources are available (Killoran, Tymon & Frempong, 2007). For this to happen, supports and increased professional development opportunities for Special Education as well as general education teachers are required.

Educating the Special Education teachers

Specific supports need to be in place in order to maintain inclusive schools. For instance, although rural schools have less financial supports and fewer resources than their urban counterparts, they are still expected to perform at the same caliber (Pankratz, 1975). Though this sentiment comes from an article written almost thirty years ago, it is still relevant to today’s rural schools. The need for time to prepare and collaborate with others, mentorship, access to resources, and specialized training are timeless.

Another key point indicated by studies was that changes are needed to how we educate and define teachers, particularly in rural areas (Boyer & Bandy, 1997; Pankratz, 1975; Schmertzing, 2007). In British Columbia, all teachers must complete a mandatory program of studies before they can be certified to teach in the province; however, the teachable areas that teachers choose do not necessarily mean that they are equipped with an appropriate skill set to teach in an area outside their realm of expertise. In rural settings, with fewer specialist teachers, this is often very clear as teachers find themselves in roles that their training did not prepare them for. A mismatch between teaching assignment and teaching qualifications has two consequences: lack of quality instruction and teacher retention.
If they do not already do so, school districts should examine teachers’ teaching area qualifications and decide how to allocate their specialist teachers so that their knowledge base is shared equally throughout the district. To do so, administrators may need to consider specialist teacher time allocations – both in the classroom working with teachers, and time spent collaborating with others. According to Ring and Travers (2005), in rural Ireland a child with severe learning disabilities spent a large portion of his day in a regular classroom without any type of support because the specialist teacher had to travel throughout the district; thus, his education was left up to the classroom teacher who did not have the necessary skill set to serve his needs. The same may be true of rural schools in the United States and Canada.

Similarly, in order to promote inclusion and to really understand the various “best practices” that are continually being passed on to teachers from individuals not involved with Special Education, teachers need to conduct their own research. Schmertzing (2007) noted that teachers need to assume more control in their workspace in order to be effective in the classroom. To do this, teachers must become involved in the process of examining what is best practice for their students and classrooms because often times, those who advocate for inclusive schools are not directly involved with education; thus, they do not possess the understanding of the challenges and barriers that parents, teachers, and especially children face in inclusive settings (Bricker, 2000). To do this, teachers need to be aware of current research into best practices so that they are better prepared to understand what works well and is effective.

Finally, in order to enhance retention of all Special Education teachers and particularly those in rural areas, numerous studies reiterate the teachers’ needs for:
mentorship, collaboration time, professional development, and access to working technology (Billingsley, 2004; Cooper-Duffy, Prohn, Ray & Herzog, 2005; Kitchenham & Chasteauneuf, 2010; Pankratz, 1975; Ring & Travers, 2005). It is important that changes are made because failing to do so opens the doorway for young, inexperienced or unqualified individuals to move into specialist roles in rural settings for the sole purpose of gaining experience so that they can then apply to a more desirable location and job; this does the students, whom they are teaching, a grave disservice (Wisniewski & Gargiulo, 1997). As such, it is important to take into account the needs of individuals on the front lines of Special Education and to make every possible attempt to ensure that they are fulfilled. In summary, a review of the literature pointed out the significance of ensuring that appropriate supports are put in place for LARTs in rural districts to ensure that they will remain in their posts and provide quality education for students with special needs for years to come.
CHAPTER 3: Selecting a “pattern”

In rural BC, it is very rare to find a quilt shop or a sewing centre. Most times, the basic requirements of sewing are located in a small craft section in the local hardware store. Similarly, there are not many available Canadian studies related to the needs of Special Education teachers in rural or remote areas and the supports required to build programs that provide a high quality level of service to students with exceptionalities. My hope is that my study will help to fill that gap by shedding light on current Special Education practices and needs in rural Canada. Thus, this will help to broaden the selection that is currently available in today's marketplace.

Research: in search of an appropriate "pattern"

When I am preparing to make a quilt, I often contemplate a variety of different patterns before deciding on the one that I believe will best showcase my fabric choices. Hence, in order to ascertain what the needs of LARTs in a rural or isolated environment are and how best to support them, I employed a combination of two qualitative methods, action research and autoethnography. Action research compliments autoethnography because it provides the framework from which to narrate my experiences. I chose these methods because I had a particular question I wished to explore and I used these methods in order to develop my own practice by causing me to examine my current practices and how I could change or adapt what I am currently doing.

Action research supports the qualitative aspect of my topic. Like quilting, action research follows a set format. First, a problem must be identified. Second, data are collected and organized. Third, the data is interpreted and a solution is derived. Fourth, the evidence is acted upon. Finally, the results are evaluated (McNiff & Whitehead, 2010). The cycle may then be started anew. This process is similar to creating a quilt
block - each piece must be cut with precision and sewn to the next; once the block is complete, the process is repeated until enough blocks are created to form a quilt top. As in action research, the quilter must monitor the data. Sometimes, the blocks form perfectly and other times, they require closer analysis and a solution, such as increasing or decreasing the seam in order to make the blocks meet. In autoethnography, the reader plays a key role because she will construct lessons for her own scope of practice based on what she reads from the autoethnographer’s perspective (McIlveen, 2008). Thus, autoethnography is a vital way to reflect on one’s own journey and share it with others in the hopes of creating positive change. I acted as my own data gathering instrument; the data I gathered came in the form of words and objects - conversations and data checklists - and observations.

**Data collection, recording, and analysis**

By using action research and autoethnography as methods in which to collect data and evaluate the evidence, I identified the most prominent needs of Learning Assistance / Resource Teachers in rural / isolated environments and formed solutions of how to provide the needed supports.

My data are observations and reflections on my work. I have collected my data through field observations made during encounters with a variety of students and colleagues throughout my district involving exchanges over augmentative communication tools, Picture Exchange Communication Systems (PECS) and Kurzweil 3000. Following encounters, student progress records, team meeting notes, IEPs, and other commonly produced school artifacts prompted reflection on what I had done, what I had not done, what I should have done, and what I would do next time instead.
I also relied on the data collected from my colleagues insofar as their feedback about what students were doing, their progress, and what as teachers their needs were. To ensure greater reliability, I made an effort to check in regularly to ensure that appropriate practices were being followed. Their feedback informed my future planning and actions and I made changes when necessary. A daybook and e-mail correspondence recorded time spent at various schools, the needs I observed and how I addressed them.

Once I compiled all of my data, I examined them through the McNiff and Whitehead’s (2010) lens of: “Why am I concerned? What values do I hold around this issue? … What can I do about it? What will I do about it?” (p. 180). Initially, I identified and explored themes and issues that arose from the data. Then, I used these themes and issues as a guide to further collaborate with colleagues on ways to use tools such as PECS and Kurzweil 3000 in an effective manner with other students.

**Reporting**

In my qualitative study, I narrate my observations and experiences as a rural Learning Assistance Resource Teacher (LART) and as a district based Low Incidence Support Teacher (LIST). I draw upon my experiences in rural schools and the journey that I made while trying to find appropriate programming for students with exceptionalities in my rural district. Prior to beginning my journey, I hypothesized what the needs of LARTs in rural and isolated areas were based on my own personal experiences. My hypotheses were validated by the various studies I found citing that the key needs of LARTS in rural and isolated areas are: mentorship, collaboration time, professional development, and access to working technology (Billingsley, 2004; Cooper-Duffy, Prohn, Ray & Herzog, 2005; Kitchenham & Chasteauneuf, 2010; Pankratz, 1975;
and Ring & Travers, 2005). As my writing is done through my personal lens of experience, my representation is limited by context, bias, and subjectivity.

**Limitations**

There are several limitations that exist for my study; these include: location, subjectivity and financial aspects. The research is not necessarily “generalizable” beyond my study because it is specific to the location of the particular community and participants involved in the study. The community I am working in is made up of a collection of rural and isolated communities, some of which are only accessible via ferry. Each individual community has its own challenges related to Special Education - some of the schools in the larger communities have more than one LART, while other smaller schools with ten students or less do not have a LART and must rely on district based support personnel. As such, it must be noted that diverse communities may work differently depending on the readily available access to funds and resources. Secondly, subjectivity will be a limitation within my study as the study is based on my research and interpretations; thus, it is influenced by my beliefs and biases. Finally, there is the financial aspect. Rural schools receive an allocation of Special Education funds each year to purchase materials and programs. This money varies depending on the size of the school and the number of students that have been claimed as a student with exceptionalities. Thus, while a program might be suggested, schools are not always able to provide the monetary or technological means to support it.
CHAPTER 4: Stitching all the “pieces” together

The needs of LART and General Education teachers can be paralleled to those of an individual assembling their first quilt. Before any progress on a project or task can be made, all of the “pieces” must be assembled. While quilting requires that an individual has specialized training in how to operate a sewing machine and make precise cuts in fabric, a LART or General Education teacher requires specialized training in areas of student need. This training is not always readily available in the community and requires additional time, access to resources and mentorship. Although I have formerly worked as a LART, my recent employment has been as a Low Incidence Support Teacher (LIST) in a rural school district. My role as a LIST was to support the LARTs in their case management of K-12 students with low incidence needs. I had 100 students on my caseload that were spread out amongst eight elementary schools and two high schools. My territory included six different communities; two communities are accessed by ferry. I was able to do this because I had the flexibility to design my own schedule and I was not an enrolling teacher. As such, I constantly sought new resources for areas of perceived need for students with low incidence needs in my district. As a non-enrolling, itinerant staff member, I was able to utilize the various “pieces” available to me more freely than my LART or General Education colleagues who are attached to classrooms and school duties. As such, I worked on a series of initiatives this year that have allowed me to explore just how much the factors of time, specialized training, mentorship, access to resources, and time to collaborate are needed by LARTs and to ponder what additional supports are necessary to build Special Education programs with high quality levels of services to meet the needs of students with various exceptionalities.
In British Columbia, students with exceptionalities in Kindergarten to grade 12 (K-12) are categorized into low incidence and high incidence needs. High incidence exceptionalities, such as learning disabilities and behaviour disabilities occur with more frequency in the general population and are not visible. Low incidence exceptionalities, such as deafness, Autism and physical disabilities, do not occur as frequently within the general population and are more visible exceptionalities. Low incidence exceptionalities are categorized into eight sections: Dependent Handicapped, Deaf/Blind, Moderate to Profound Intellectual Disability, Physical Disability/Chronic Health Impairment, Visual Impairment, Deaf and Hard of Hearing, and Autism (BC Ministry of Education, February 2007). In this chapter, I narrate my experiences, throughout the past school year. Through the lenses of action research and autoethnography, I focus on three key areas that were especially problematic in my work: Functional Communication, text-to-speech software use, and technology.

**Picture Exchange Communication System (PECS)**

**Identification of need.** While working with special needs students with exceptionalities in my district, I found that a particular area of need was Functional Communication; the ability to acquire some form of functional language is key to social outcomes, acceptable behaviours and it can also affect academic outcomes (Kaiser & Roberts, 2011). For some students, the use of alternative methods of communication or augmented modes of communication (AAC) can actually improve their immediate functional communication and foster further development of spoken communication (Kaiser & Roberts, 2011).

This past school year, I had the opportunity to work with students in the primary, intermediate and secondary divisions. I noted that at the elementary level, there were
students with various exceptionalities, including Down syndrome, Autism, and undiagnosed exceptionalities, who did not have a functional form of communication. The students with whom I worked ranged from totally non-verbal to those with a small bank of words that were not functional. I was concerned about the lack of functional communication because I knew that the lack of functional communication skills could potentially create behavioural issues later on. The students were not able to make their most basic wants and needs understood, not to mention the social barriers the lack of communication presented with their peers. If a sewing machine was not stitching straight, I would take it to a shop to be repaired; however, with people this is not an option. I knew that something had to be done; however, initially I was unsure of where to start. In the beginning, I made some inquiries within my district and when I did not come up with any solutions, I turned to the Internet. What I found was a six phase, evidence-based program called Picture Exchange Communication System (PECS) (Bondy and Frost, 2002).

In the first phase, the student learns how to communicate by exchanging single pictures for highly desired items. Second, the student learns distance and persistence; it is during this phase that the student is taught to generalize by working with different people, working in different places and working at greater distances from her communication book. Third, the student works on picture discrimination; the individual must select from an array of three of her favourite items. Fourth, the student works on constructing simple sentences on a detachable strip. The fifth phase focuses on answering the question, "What do you want?" The sixth and final phase is commenting;
it is here that students learn to make up sentences to respond to a variety of questions (Bondy & Frost, 2002).

In their training manual for PECS, Bondy and Frost (2002) built upon Skinner’s study on the functional analysis of verbal behavior. Bondy and Frost (2001) noted that within Skinner’s idea of the function of verbal behavior, the act is considered communicative if the individual makes a request for a desired object from the listener and the listener then provides reinforcement for the request. Thus, the verbal behavior, whether it is in the form of words, sounds, signs or pictures, has a function. The idea is that this process can be generalized across various communicative partners (Bondy & Frost, 2001). The generalization process is what truly gives the child Functional Communication (Bauer, Garfinkle, & Schwartz, 1998). Thus, PECS was an appropriate choice to use with students with exceptionalities as it teaches spontaneous requesting which can be generalized throughout a child's day; the only questions were how I could implement it and whom I would turn to, to support the program.

**Collection and organization of data.** As the LARTs and General Education teachers did not have the liberty of time to learn about PECS I had to ask myself what I could do about the situation. As a result, I became the “PECS mentor”. I began my journey into this mentorship role by attaining some specialized training. In October 2011, I attended a two day workshop taught by the founders of PECS, Lori Frost and Andy Bondy. The workshop was an eye-opener for me as I was surrounded by Speech Language Pathologists. I questioned whether I should actually be present, but my uncertainty was soon abolished as I spent two amazing days accessing resources. Equipped with my newfound knowledge of PECS, I approached the Speech Language
Pathologist (SLP) and the District Principal of Special Services (DPSS) in my district. From there, I went out to school and presented the idea to the LARTs. With everyone on board, I began to examine what would be needed in order to implement PECS.

When I quilt, my projects stand a higher chance of completion if I have all of the necessary pieces. I took this same attitude with PECS. I went through the training manual and created a package from the handy data sheets and IEP goals that are included at the end of the manual. Next, I went to the school and met with the LARTs and SEAs to determine what items were strong reinforcements for the students with special needs. This was a key part of the data collection because in order for phase one to work, I had to entice the students with highly desirable items. I received permission to use my LIST budget to purchase items for the initial start-up of the PECs program. Equipped with the lists of reinforcers, I went to the local grocery store and dollar store to make my purchases of: Smarties, crackers, chocolate chips, a Slinky, bubbles, gummie bears and a light up Koosh ball.

Once all the elements were ready, I went out to the school, in a mentorship role, in early November 2011 and showed the SEAs and LART how to incorporate the PECS program. I went over the IEP goals and objective sheet with the LARTs; the data collected during PECS was used in the students’ IEPs. I also went over the data collection sheets. I demonstrated the roles of the communicative partner (CP) and the prompting partner (PP) that are required in the first two phases of PECS (Bondy & Frost, 2002) and then demonstrated with the students.

Initially, I used the "Reinforcer Worksheet" (Bondy & Frost, 2002) that is provided in the training manual. Essentially, this sheet documented what was considered
reinforcers for the students. Once strong reinforcers were identified, I began the process of teaching students how to communicate by using picture symbols.

In the initial phase, PECS is done with a communicative partner (CP), a prompting partner (PP) and the student. The CP and PP are crucial in the first two phases because there cannot be any verbal interaction with the student - the student must initiate (Bondy & Frost, 2002). The goal is to have the CP entice the student with a desirable object. Ideally, the student will then pick up the picture symbol, that represents the object, from the table and hand it to the CP. The CP would then respond with a scripted response, such as: "Smartie. Good job, ---. Smartie" and pass the Smartie to the child. It is necessary to do this within thirty seconds of the student placing the picture in the CP's hand. If the student does not reach for the picture, it is the job of the PP to guide the student to the picture and assist in the initial pickup and release. The interaction is then recorded and the trials continue.

In order for PECS to work, it is necessary to generalize and this was done from the inception of the program. The LARTs became involved in transactions, as did the classroom teacher, principal and other school personnel, such as the student's special needs lunch hour supervisor. I was confident that the LARTs and SEAs had a good understanding of the program and left them to document and facilitate phase one of PECS with the student with special needs. The understanding was that I would stop by at least once or twice a week to check in and that they could e-mail me or call me to check in if they had any questions or concerns.
Interpreting the data and imagining a solution. As promised, I stopped by the school frequently to check on progress with PECS. From the data that were collected, it was clear that PECS was an acceptable intervention. Although I was not present daily for the PECS sessions, I was able to interpret the data from the clear notes kept by the SEAs. In one instance, I looked over the data and found that the student was picking up, reaching and releasing over 95% of the time independently. This was significant progress as it showed that the student with special needs had grasped the concept of phase one and understood the how of communication. Clearly, the student was ready to progress to the next phase. I suggested that it was time to remove the CP's open hand prompt - the former landing pad for the picture symbol. Two weeks later, I was presented with data sheets that showed a disinterest in some of the original reinforcers. At this point, I wondered what reinforcers they were using with the student and if perhaps the student had lost interest in those reinforcers due to overuse. I wondered why that might be and I went back to my training manual for answers. Within the training manual my hunch was confirmed. On my next visit, I encouraged the team to do a reinforcer checklist again as reinforcers change over time.

After about a month and half from the initiation of PECS, we moved into phase two; however, I also noticed that the PECS protocol was not being followed in its entirety. I noted that the data sheet indicated that the SEAs used two cards during a session; they also shared this information with me. I was concerned when I heard this. At the time, I thought that since we were all new to the process perhaps a review of the protocols again with them was warranted. At the same time, I also introduced phase two. After departing from the classroom, I felt that there was still some uncertainty on behalf
of the school personnel on the protocols of PECS and felt that although the personnel were very eager they were not fully comfortable. I pondered what I could do to alleviate some of that uncertainty and felt that perhaps there was a need for an inservice that would include everyone involved with students who used PECS: SEAs, LART, classroom teacher, noon hour supervisor, and parents. I approached the principal who indicated an interest and then I spoke with the SLP.

**Acting on evidence.** The SLP stopped by to see our progress after a couple of weeks because I could not stop talking about student progress. In turn, the SLP opted to attend a workshop in the winter. Upon her return, the SLP and I worked collaboratively to support students and the school team. We held a workshop in January 2012 during a school-based Professional Development day. While we were hoping to have children’s parents attend - so that the program could be started up in the home too - we were happy to have all of the school team and also some other SEAs and individuals who work at the local daycare where some students attend for after school care. During the workshop, we detailed the various phases of PECS, shared videos from YouTube and provided time for small group practice so that the workshop attendees had an opportunity to experience and practice the various aspects of the phases. Each participant was given handouts of the phases and a data collection package.

For the most part, people were very excited about PECS and the potential it had for students at the school. As such, it gave me the encouragement to continue with my quest to implement and expand the program for students with special needs who require a functional means of communication.
Evaluating results. Overall, PECS has been a very successful program for students with special needs. I was impressed with the growth that I saw in these initial trials. As such, there are some things that I could change in the future, if I used the PECS program again; however, there are still external factors for which I have no control.

One possible alternative is that I would schedule myself to be at the school for a particular period of time on a consistent basis in order to support the program in its beginning stages. My reason for this is because LARTs are already busy with their own caseloads and do not have the time to closely monitor the implementation of PECS, which is necessary in order for it to be a success. I would also approach the District Principal of Special Services to request some mentorship and training time for the team involved. This is necessary because having all parties with the same training and united in the task of assisting a student to obtain Functional Communication is a tremendous undertaking. As well, I would only introduce one phase at a time, rather than providing an overview of the program and handouts on all phases - this ended up causing some initial confusion. I would make sure to encourage the school team to celebrate verbal utterances of words - PECS is not designed to further verbal speech; however, this is often an added bonus for individuals who have the ability to speak verbally.

Action plan. While I have observed the successes of PECS being implemented with students with special needs, I have also observed the challenges that have been involved in the implementation process. The implementation of PECS did not come without initial startup costs, both monetary and personnel time.

The success of PECS and any program for that matter is heavily reliant on the participation of all team members. My hope is that the students will continue to gain
functional communication skills with the continued use of PECS; however, the success of
the program is dependent upon the immediate team that works with the students because
our district is very spread out in terms of terrain and the SLP and I are not able to attend
the school daily to work with the students and their teams. Thus, we provide support and
guidance when we are at the school, but we have had to download the responsibility of
closely monitoring the progress of the program to the LART and the delivery to the
SEAs. This is a tough situation and unfortunately adds more to the LART’s already full
plate. I hope to focus on this in September 2012 and work with a team who continues to
be committed to the goal. The timeline for this is dependent upon how quickly the
students are able to master the phases of the PECS program and the support form and
willingness of the students’ classroom teachers. My hope is to continue to use PECS with
the students in the hope that their knowledge of PECS will be transferable, in future, to a
high tech verbal output program such as TouchChat or Proloquo2Go on an iPad.

Kurzweil 3000

From cell phones to computers, e-book readers to mp3 players, society has gone
through numerous technological changes. This was made very clear to me when I was
visiting one of the schools I work with. I was in the Resource Room speaking with a
student and an SEA. The student was working on an older model sewing machine and
learning how to sew straight lines by practicing on a paper template. I mentioned to the
student that I had sewn on a similar machine during my foray into grade 8 Home
Economics. The SEA working with the student laughed and said that when she was in
Home Economics, her first exposure to a sewing machine was a treadle machine. I
believe that the dichotomy between the SEA’s first experience with a sewing machine
versus that of the student she was working with provides a very clear example of how far
technology movement has come in such a short time. While we are inundated daily
with advertisements for tools that will help us to complete tasks more efficiently, we
must also be wary. All the latest technologies are of no use if the people using them do
not have the necessary knowledge to utilize them (Gerber, Ochoa, & Vasquez, 1999;
Lahm, 2003). The Kurzweil 3000 software program is a prime example.

Identification of need. Kurzweil 3000 is a program that contains text to speech
capabilities, as well as, scanning software with optical character recognition (OCR),
writing support, graphic organizers, and note making supports (Barbetta & Spears-
Bunton, 2007; Chiang & Liu, 2011). Kurzweil 3000 allows students to be more
independent in their learning, which in turn promotes self-efficacy. Bandura's idea of
self-efficacy notes that individuals have a self-system that enables them to govern their
thoughts, feelings and actions; the greater confidence that individuals have in their
abilities, the more apt they are to work towards completion of a project or task (Eccles &
Wigfield, 2002; Pajares, 1996). Hence, an individual may have the skills to complete a
task, but if she is not confident in herself, then that will impede the completion of the
task. Self-efficacy is not just restricted to the students. The effective use of technology is
reliant on the fact that the teachers and support personnel implementing the students'
training are comfortable using the technology themselves (Holden & Rada, 2011; Pajares,
1996). While Kurzweil 3000 is capable of executing a myriad of tasks that support
individuals with learning challenges in written output tasks and access to text, it is of no
use if there are not proper mechanisms in place to implement the program in a school
district. Kurzweil 3000 requires time and training in order to be utilized in an effective manner -- one that promotes self-efficacy.

**Collection and organization of data.** Before people begin to quilt, they must first learn the preliminary steps: various stitches, how to measure the amount of fabric required and cut pieces, choosing appropriate colour combinations, and a pattern. If people do not complete these steps they may end up with a quilt that falls apart after the first wash, or they may not have enough fabric to complete their project. If this is their first foray into quilting they may never quilt again because they have not had a positive outcome to the energy they expended. This is why time and training are necessary.

This year in my role as LIST, I have been travelling to the various elementary and secondary schools within my rural district. My district has some Kurzweil licenses that are resident to certain schools only; as well, some students within the district have technology provided by Special Education Technology-BC (SET-BC). These systems have a "stand alone" license that is accessible to the student whenever he or she requires it. In my previous roles as a classroom teacher and as a LART, I used Kurzweil to support some of my students who had written output or comprehension impairments. I found that the program was not very widely used and those who had the knowledge and some training were the SEAs. At the time, I wondered if this would change and if teachers would have more knowledge of a tool that would make life easier for a number of students in their classrooms. In my role as LIST, I found that this situation had not changed.

**Interpreting the data and imagining a solution.** Chiang and Jacobs (2010) noted that the main factors preventing teachers from utilizing computer based instruction
in their classrooms were: time constraints, limited accessibility to the technology, and difficulties managing their classes. I did not find this to be particularly surprising because technology is ever changing and some districts, particularly rural districts do not have the budget or funding to keep up. As I supported students in my district this year, I noticed the same factors that Chiang and Jacobs (2010) found.

Due to lack of time to collaborate with LARTs and classroom teachers, in my support role, I have mainly worked with SEAs and students to support them in how to use Kurzweil 3000. Some of the students have their own SET-BC equipment; thus, we have been able to take advantage of some of the specialized training that is available through the SET-BC consultant. While consultants are available via telephone and e-mail, unfortunately, their visits to rural areas are limited -- approximately three trips in a school year. These visits are spread out amongst all schools in the district where there are students with SET-BC equipment. On one of the consultant’s visits, I queried the possibility of having a Kurzweil camp where teachers, SEAs and students who use Kurzweil, or should be using Kurzweil regularly could get together for a session on a Professional Development day. I had heard of this being done in an urban district. The consultant was very excited about the prospect; however, we noted that it would likely need to be held during a regular school day to ensure the attendance of the students; this would then require release time of teachers and LARTs as well as the necessary infrastructure in the district – enough computers or laptops equipped with Kurzweil to hold a camp. I questioned whether we could use the free 30 day trial licenses that are available to hold such a session and was told that this would be possible. This did not come to fruition this year due to job action and Professional Development time that was
already planned within the district; however, it is something that I will be pursuing again in the Fall.

**Acting on evidence.** In my role as a "mentor" of sorts, I have found that often it is the students who embrace the technology but the hesitation comes from their support circle. The use of technology is exploding and some individuals working in rural schools do not have the technology skills to support students with the equipment and programs. I am baffled by the fact that this occurs; however, I see it as relating back to the idea of self-efficacy. While there are individuals who make use of workshops that are offered within the district and are open to working collaboratively with others, there are others that are not comfortable using it and shy away from it. For some individuals, the pen and paper avenue is similar to a standard sewing machine. They are capable of using the basic features; however, if they are asked to sit down at the latest model quilting machine with a myriad of "bells and whistles" they are hesitant because they do not feel comfortable. This affects their self-efficacy and in turn they tend to be the individuals who want their students to do things the "old way". Because I have witnessed this behaviour in family members using technology, I wondered if I could invoke any type of change by gently persisting in working with these individuals.

Initially, I sent out links to online Kurzweil 3000 handbooks for the various versions that are found within our district. I also printed off a copy and hand delivered it to each school's LART. Upon doing this, I wondered if the information would make it into the correct hands – the SEAs, so I made a point of speaking directly to the SEAs who were working with students for whom Kurzweil 3000 would be an applicable program. This process took a great amount of time because I had to visit every school in my
district. Eventually, I was able to foster enough trust in a few SEAs so that I began to get requests to come out to the schools and work with them. As Barbetta and Spears-Bunton (2007) pointed out, in order for this type of inservice time to occur, administrators must be able to plan for release time. I questioned some administrators and thankfully, some elementary administrators within my district recognized the value in Kurzweil 3000 and were supportive in releasing personnel to work with me when I visited the school. This is not always a possibility at rural schools due to staffing and accessibility of teachers on-call.

I wondered what other ways I could find to reach more individuals with Kurzweil training and decided on a workshop format. I held a workshop, on a school-based Professional Development day in May 2012, with a focus on Kurzweil 3000 and other assistive technology items to use with students. I sent out e-mails to all teachers, LARTs and SEAs in the district. I was perplexed by the limited response I received. While I had hoped to have a few teachers in the workshop, most of the nine people present were SEAs, with the exception of two LARTs. I was pleasantly surprised to see one of the SEAs who had struggled in the beginning and had not wanted to have the student's computer in the classroom at the session. She commented at the end of the session that she had found it worthwhile and was beginning to feel more comfortable with the program herself. I was pleased to see that her increased sense of self-efficacy with Kurzweil led to a positive experience for the student she was supporting. I wondered if this would transfer to the classroom and was pleased to see that, the next time I was out to the school, the laptop was being used in the classroom.
**Evaluating results.** For the most part, I have found the students to be quite receptive to using Kurzweil 3000. The students have grown up with technology; thus, they have the advantage over the adults supporting them. At the high school level, I have supported a few students with Kurzweil on laptops that they are able to take to their classes. A few teachers who also embrace technology have supported this endeavor and have even gone so far as to provide the LART with tests and quizzes on a data stick that the students can load onto their laptop and open in Kurzweil. By enabling students to use Kurzweil to write tests and quizzes, the teacher has helped to promote greater self-efficacy in the students. I am curious to see what happens as more teachers see this; I hope that they too will embrace this shift in paradigm. Change is hard, but with perseverance the payoff can be amazing.

**Action plan.** As I worked with teachers, SEAs and students around the topic of Kurzweil 3000 this year, I gradually gained support for the program from classroom teachers and some administrators. I was baffled about the fact that while my district has a limited number of Kurzweil licenses they are not being used to their full potential. I was flabbergasted to learn that because they were not networked the licenses were only available to students during school hours; this left the students with no means to use the program for homework. I worked closely with the Information Technology support team in my district and together we approached the District Principal of Special Services (DPSS) about the possibility of combining the various school licenses so that schools would have access to more copies of Kurzweil when they needed them. This is an expensive endeavor and the DPSS had to approach each administrator individually to broach the subject.
In the end, our district has now upgraded our 28 Kurzweil licenses to version 13. This is significant because now the district has the newest version of Kurzweil. Now, when future workshops are held, the focus can be on one version only. In the Fall, there will be a calendar that the Software Information Technologist creates and attaches to Outlook Express. Teachers will be able to electronically book the Kurzweil licenses when they need them for their students.

Initially, I am anticipating there will be problems because the calendar will only be as useful as though who are filling it in. Teachers will find that they will need to plan ahead and that they will not be able to assume that a Kurzweil district license will available whenever they wish. Another issue that might arise is the fact that if students do not log off of Kurzweil properly; other students will not be able to access the program. Eventually, I hope to see the usefulness of Kurzweil 3000 eclipse all of these potential problems. My hope is that the use of the calendar will serve as an informal data record that I can share with the DPSS to show that it would be worthwhile to purchase additional district licenses. In the meantime, individuals with SET-BC equipment will continue to have their own standalone licenses.

**Tablets and iPads**

Vygotsky's theory of zone of proximal development (ZPD) (Huang & Liu, 2009) applies to the use of technology in today's schools. In ZPD, the teacher becomes the link to assisting learners to access information that they might not have otherwise been able to when left to their own devices; this is done by providing the learners with a support network. Essentially, if learners are able to interact within the ZPD then they are more likely to learn the use of advanced tools and continue using them (Huang & Liu, 2009).
This is evident when the observer sits back and watches the interactions that go on in schools that use technology. If best practice technology applications are being fully implemented, students become engaged and are able to develop independent skills; however, if there is limited teacher technology training, the experience is not as positive (Robinson & Smith, 2003). With expert assistance, learners can be led to new tasks and are able to reach greater potentials with the use of technology then they might have otherwise (Bullock-Rest, Hansen & Hourcade, 2012; Huang & Liu, 2009). That being said, I wondered what was needed in order for this to occur.

**Identification of need.** An individual may have the top of the line sewing machine, but if she is not equipped with the knowledge of how to use it and effectively utilize all of its many applications, then it becomes an expensive dust collector. The same is happening with the race to embrace a variety of technologies in rural districts. The acquisition of these technologies becomes two-fold. On the one hand, it is useful for a rural district to have access to state of the art learning tools; however, on the other hand, it becomes one more task for individuals to learn. If teachers do not have self-efficacy towards using the newer technologies available in K-12 schools, then there is less likelihood these technologies will be used; thus, the technologies become "use-less" and just another item to keep track of (Lahm, 2003).

As technology use grows world-wide, there is more infiltration of the technologies into the K-12 classrooms. This is positive in the sense that technologies such as iPads and tablets become "equalizers". They open doors for individuals with a variety of disabilities. The technology gives people a "voice" through such programs as Proloquo2Go and TouchChat. For others, the tablet or iPad becomes a writing device
that allows individuals with writing disabilities to type their papers. Yet again, individuals with visual impairments are able to download entire textbooks from ARC-BC and through the use of tablets or iPads, students can now enlarge the text on the screen to whatever size is most comfortable for them to read. In my district, I have observed several Primary classrooms that utilize iPads. While watching the students interact with the technology, I was curious as to how much knowledge they had and how much time was required by the teacher to prepare the students to utilize the technology. Although there are many positives related to the use of tablets and iPads, there are also cons. Some of the cons include availability of resources, lack of training (student and teacher) and lack of professional knowledge (Hardin & Hung, 2011).

One particular example is the use of multitouch tablets with children on the Autism spectrum (ASD). Children with ASD vary in their social capabilities and for some accessing of ZPD is almost impossible. Through the use of computer-supported activities, children with ASD are able to work on skills that emphasize engagement in social activities (Bullock-Rest, Hansen & Hourcade, 2012). There are specific applications dedicated to enhancing social skills in individuals with Autism. While all of this sounds fantastic, I am curious about the implications this has and what the reality is in the life of a rural LART. Technology is expensive and it requires some degree of specialized knowledge.

**Collection and organization of data.** For rural LARTs, the addition of technology to their programs can be perceived as a welcome tool or it can create further frustration as it requires time to sit down and learn something new -- time that is at a premium. Some rural districts are not even able to afford to outfit their schools with
newer technologies; however, other rural districts find creative ways to supply the technology.

Nowadays, a decent laptop or generic tablet can be purchased for around $400; iPads are significantly higher, thus they are seldom seen in ready supply. There are a number of free applications and low priced applications that can be put on these devices that will make life at school a lot easier for individuals with written output or visual impairments. Sadly, I am still amazed at how many LARTs are not always aware of these tools or are just not able to find the time to implement them properly with students. Hence, the devices lose their role as tools and become mere toys. Perhaps, this may not only be an issue in all rural areas; however, in rural areas that I have worked in, I have often heard the mantra "if you get your work done you can have free time on the computer". I am concerned by this because it is supposed to be the positive reinforcement for someone to grab their pencil and painstakingly write out for the LART those last five sentences that the classroom teacher sent down because after an hour the student still had not completed them. I have questioned, "Why not let them type them out?" and received a variety of mixed reviews. I have given thought as to how I can work to change this situation and have worked on such items as holding workshops and forwarding educational websites to all teachers, LARTs and SEAs when I find suitable sites. Eventually, I would like to compile this information into a webpage that can be accessed from the school district’s main web page.

If a person was to acquire a new sewing machine, she would need to inquire as to how to use it effectively. If the individual lived in an urban area, her choices for that knowledge might be found in a variety of locations, such as: fabric stores, sewing and
quilt shops, or a community college. Unfortunately, these choices are not usually available in a rural location. The individual in the rural location would be reliant on books, perhaps some YouTube footage (provided she is proficient in the use of the computer) or reliant on the knowledge of someone in the community. In order to access the knowledge from a fellow community member, the individuals would need to arrange a mutually agreeable time to meet. The same is true for computer technology in rural school districts.

Most rural districts just do not have the budgets to retain a full time assistive technologist. Instead, LARTs and teachers must rely upon trying to learn on the go. This is not an effective means of acquiring a new skill and often individuals become frustrated and the new tablet gets pushed to a corner and the students are back to using photocopies and pencils again. In urban districts, there are often dedicated assistive technology (AT) teachers whose job it is to consult with teachers regarding assistive technology. They also assess students to identify specific needs and then follow up with teaching teachers, parents and SEAs how to use the technologies (Lahm, 2003). Rural districts typically do not have these types of specialty trained individuals because their budget goes to other areas.

**Interpreting the data and imagining a solution.** In rural districts I have worked in, it has often become the job of the LART to sit down with a visiting AT consultant, who might only make three visits a year, to determine what types of equipment a child could benefit from. This is a hard call for the LART to make as she is not specialized in the field; it is also hard for the AT consultant because even though she is trained, she does not specifically know the individual the equipment will be for. Again, I wonder if
this would be easier if LARTs had more time available to receive mentorship from visiting AT consultants, rather than seeing organizations such as SET-BC as a means to get another computer in a classroom. Sadly, without dedicated support time being allocated to LARTs and teachers to learn the skills necessary to implement the technologies, often the technologies are not used to their full potential.

Acting on evidence. In my role as LIST, I have observed the hole that exists in the use of AT and questioned how it could be filled. I have attempted to fill it as much as I am able to by providing workshops and mentorship on an as needed basis. As a result, I have made frequent visits to schools and I have taken back old laptops from some schools and had them upgraded and then reissued to schools that were willing to embrace the technology. My purpose for removing the laptops was that they were sitting gathering dust in some backrooms and I had students at other schools whom I felt would benefit from the use of AT. I was curious to see if there would be a positive turn of events for these students by having access to necessary AT.

I worked with the Information Technologist who kindly updated the systems. I then delivered the laptops out to schools. I checked in with LARTs and administrators via telephone calls and e-mails, in between school visits, to monitor how they were progressing with the technology. On the whole, the laptops were well received and they were all put to use. I was excited to see that some individuals who had frequently become disengaged with lessons were finally embracing lessons and enjoying the alternate ways that they were able to show their learning – PowerPoints, using speech-to-text, and having access to a keyboard to write their thoughts versus using a pen and paper.
I wanted to know how I could further the situation; however, I did not have any funds at my disposal to purchase equipment. I approached the IT department in my district and explained what the needs were that I was hoping to support. Upon their suggestion, I approached the DPSS about the possibility of purchasing some Android powered tablets to test out. The DPSS purchased two Toshiba Android powered tablets per elementary school. Due to the job action, the tablets were not given to LARTs until April 2012. Initially, I was also supposed to receive a tablet so that I could support the LARTs with this endeavor; however, this was not the case. As such, these tools have not been utilized to their full capacity - due to lack of time and in some cases knowledge. As the year has gone by I have questioned how I could support LARTs with the new technology. It was difficult but I collected a number of resources that include: websites, interactive whiteboard programs, and names of various apps and programs. As I found the resources, I sent the links out to teachers, SEAs, and Teachers-on-Call (TOCs). My plan for the Fall is to work with the Information Technologist to create a Wikispace. Within the Wikispace, I would like to set up sections for elementary and secondary schools; within these sections, my hope is to organize the links into categories related to subject areas and learning goals. From my experiences working with my colleagues, the various conversations I have had with them, and the observations I have made around technology use in my district, I believe that this will be a valuable resource. The teachers, SEAs and LARTs will not have to spend time searching for materials; instead, they can use that time to become more comfortable with the technology.
CHAPTER 5: "Binding" the quilt

From a professionally completed quilt to one compiled by a beginner, a quilt is not considered complete until the binding has been attached. The binding is what brings all of the pieces together into a unified project, much like the role of the LART. In the "olden days" quilt tops were constructed and then a quilting bee was held to stipple and bind the quilt. However, with today's new technologies, the social aspect of quilting is a little different as it only takes a sole individual to complete the quilt on a machine. Perhaps, rural districts need to step back to a "quilting bee" state, before "going it alone".

Rural LARTs are often called upon to wear many hats and be many things throughout the course of their day. They are educators, program planners, assistive technologists, personal care givers, and so much more. Through it all, it becomes evident that some very key needs of rural LARTs and General Education teachers are: time, specialized training, mentorship, access to resources, and collaboration with colleagues. The question is how to address these issues. The answers are likely varied.

Outcomes

For the purpose of my study, I maintained data around three key areas in my district that directly related to the involvement of LARTs: PECS, Kurzweil 3000, and Tablets/iPads. My assumption, based on my previous experiences as an LART, was that I would find that the successes of PECS, Kurzweil 3000, and Tablets/iPads use in the district would be dependent upon the needs of the LARTs. I hypothesized those needs would be: time, specialized training, mentorship, access to resources, and collaboration with colleagues. Because I anticipated these when I entered my study, I was not surprised to see that my observations done throughout the study supported the
identification of these needs. However, I also noted that the needs did not necessary pertain only to LARTs - the needs also affected General Education teachers.

Throughout the study, I had a variety of successful moments; however, I also had some difficulties. I believe one of my successful moments was the progression that a student made in PECS. I do not take the credit for this as I was not responsible for the daily work that was done with the student. My role was as a mentor. As a non-enrolling teacher, I had: the time to research a program and attend training, the specialized training to implement the program, ready access to the Boardmaker program and a colour printer to create the resources, and a willingness to go out to the school to collaborate with the school team. The difficulty that I found was trying to mesh my support role with the school-based LARTs and teachers as we did not have any release time to sit down and go over programs. This is definitely an area that I would pursue with the District Principal of Student Services in future.

Conclusion

As LARTs, rural or otherwise, we need to ensure that we have all of the tools that we require to work on our various "quilts". The "patterns" (i.e. PECS, Kurzweil, tablets, iPads) that we choose to use one year are not the ones that we might use in the future due to the continuing advancements and changes in our field. We owe it to ourselves and our students to make sure that we have all of the tools necessary to make the best "quilt" we can. If we stumble or struggle along the way, we need to ask for the necessary supports. In a rural district, the best support we have is each other and perhaps we need to take time to go back to the idea of a quilting bee. The old adage "many hands make light work" holds true -- through access to time, specialized training, mentorship, access to resources,
and time to collaborate, rural LARTs have the power to make a positive impact on the life of a child. When that child goes out into the world, she will be equipped with a "quilt" of many skills that will allow her to work towards whatever goals she sets.

**Implications**

For the purpose of this study, I examined the needs of LARTs and what supports were necessary to produce an Learning Assistance / Resource Program model that would serve the students it was designed for. My study was somewhat limited as it took place within one rural district; however, I believe that the observations I made may be similar in other rural districts.

I would recommend that for future study, the examination of the needs of LARTs and the supports that are necessary for them in a rural/isolated district should be expanded to include other rural/isolated districts. Through the course of my study, I noted that even within my own district, the various LARTs ran very different programs based on school culture and staffing. As such, in a future study, I would like to examine the efficacy of Learning Assistance / Resource programs in rural and/or isolated districts. I would do this to determine what effect, if any, the programs have on the learning of students with exceptionalities. To do this would require the collection of quantitative and qualitative data throughout a longitudinal study.
References


Mamlin, N., & Harris, K. R. (1998). Elementary teachers' referral to special education in light of inclusion and prereferral: "every child is here to learn…but some of these children are in real trouble.". *Journal of Educational Psychology, 90*(3), 385-396. doi:10.1037/0022-0663.90.3.385


