

2015

Implementing Assistive Technology through Program Planning

Shaune LaSheane McKinney
Walden University

Follow this and additional works at: <https://scholarworks.waldenu.edu/dissertations>

 Part of the [Special Education Administration Commons](#), [Special Education and Teaching Commons](#), and the [Teacher Education and Professional Development Commons](#)

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact ScholarWorks@waldenu.edu.

Walden University

COLLEGE OF EDUCATION

This is to certify that the doctoral study by

Shaune McKinney

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee

Dr. Mohamed Tazari, Committee Chairperson, Education Faculty

Dr. Michael Tappler, Committee Member, Education Faculty

Dr. Anja Zwingenberger, University Reviewer, Education Faculty

Chief Academic Officer

Eric Riedel, Ph.D.

Walden University
2015

Abstract

Implementing Assistive Technology Through Program Planning

by

Shaune L. McKinney

MS, California State University Northridge, 2004

BS, California State University Northridge, 1998

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

August 2015

Abstract

Special education (SPED) service providers in the military are often underprepared to use the needed assistive technology (AT) in the classroom. This concurrent mixed-method study sought to explore the attitudes, skills, and quality indicators of assistive technology (QIAT) among 19 currently employed military SPED certified multidisciplinary team members. The conceptual framework of this study was based on the professional learning community model, which holds that the team members work collaboratively to educate the families it serves. All team members completed a quantitative QIAT survey and open-ended questionnaire, and individual qualitative interviews were conducted with a subsample of 8 volunteer staff. QIAT survey data were descriptively analyzed, while questionnaire data were transcribed, open coded, and thematically analyzed. All data were triangulated and member checking and peer debriefing were used to strengthen validity and credibility of the findings. Survey data revealed teachers' willingness to utilize AT in the classroom, although qualitative data suggested that the multidisciplinary team lacked the knowledge to consistently and confidently utilize AT within their classes daily. Additional emergent themes included collaboration, viable resources, unifying guidelines, AT support, training, and guidance. Administrators at the local site can use these findings as guidance in the development of in-service and district AT trainings and support. Through consistent usage of these interventions, the military community can impact positive change in the lived experiences of SPED service providers and the families that it serves.

Implementing Assistive Technology Through Program Planning

by

Shaune L. McKinney

MS, California State University Northridge, 2004

BS, California State University Northridge, 1998

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

August 2015

Dedication

I want to dedicate this dissertation to my grandmother Doris Marie Jennings. You were my example and you taught me to believe in myself, not my circumstance. My education was dedicated to you because I saw you educating the world and I too want to educate others about the power of Faithful Determination: being determined to look beyond their circumstance and have faith that you can change the outlook of your future with education. I have also dedicated this study to all the meaningful people in my life: my amazing son, DiJhai Corban Tru McKinney-Thomas; my nieces, Da Shaune and Dorian; my sisters: Leticia, Tayler, Brittany, and Norell; my brothers: Duane, Frankie, Navarr, Reggie and James; my two beautiful godchildren, Trenton Alexander and Charli Rose; my aunts, Janice and Pat; my mommie, Jackee; my grandmother, Ella; and my faithful friends. I love you and thank you for blessing my life with your presence. I pray that you always remember that you don't choose the life you are born into, but you do get to choose the kind of life you want to live....SO LIVE LIFE TO THE FULLEST.

Acknowledgments

I would like to thank Dr. Tazari for your unwavering support and guidance. Your encouragement has helped me throughout this journey. Thank you for the late night calls, early morning reviews, and off-hours support during my overseas travel. Thank you, Dr. Tappler, for your insight and guidance when I thought I was ready to throw my hands up. Your feedback and suggestions helped me to accomplish my dreams and see my goals clearer.

My sincerest thanks to my son, DiJhai Corban Tru McKinney-Thomas, for your patience and understanding when I had to complete so much research work and write countless pages of research during the weekend, holidays, and during some of your school activities. Thank you for being that beacon of light in my life when I forgot my purpose and my way. You are my joy and my purpose for being. I love you with all my heart and I am grateful for your precious hugs and kisses along this journey. Thank you to my amazing friends for loving me and supporting me while I pursued my dreams. Mr. and Mrs. Furman, you are truly family to me and without your support overseas, this would not have been possible. A special thank you to my dad, Duane Davis, for being my hero and vision of strength. I love you. Thank you, Thomas Swann Holden (Papa), for believing in me. You are my anchor. I love you. RIP.

Table of Contents

List of Tables	viii
List of Figures.....	x
Section 1: The Problem.....	1
Introduction.....	1
Problem Statement.....	3
Rationale.....	5
Definition of Terms.....	6
Significance of Study.....	12
Research Questions.....	14
Quantitative Research Questions.....	14
Qualitative Research Questions.....	14
Review of the Literature.....	15
Theoretical Foundation.....	15
Laws: Rights and Responsibilities.....	16
Adult Learning Theory.....	23
Attitudes/Perceptions.....	25
Conceptual Framework.....	29
QIAT	31
AT Barriers.....	34
Implications.....	36
Summary.....	36

Section 2: The Methodology.....	39
Introduction.....	39
Literature Related to Methods	41
Design of Study.....	46
Population	49
Participants.....	50
Instrumentation and Design Overview	52
Data Collection Strategies.....	53
Method A: Demographic Profile	53
Method B: Formal QIAT Self-Assessment Survey	55
Method C: Formal WATI Likert Survey Scale.....	57
Method D: Staff Interviews	60
Validity and Reliability.....	63
Role of the Researcher	64
Limitations	65
Protection of Human Rights.....	66
Findings.....	66
Quantitative Research Questions	68
Qualitative Research Questions	68
Demographic Data	69
Culminating Question	70
Summative Response	71

WATI Follow-up Questionnaire	72
Interview	73
Interview Question 1: Describe your lived experiences working with special needs students who required AT, placement, decision making service and/or devices..	74
Emerging Themes: Devices	75
Interview Question 2: Reflect on what your professional training or educational experience. What type of professional AT training or education have you received that prepared you to work with students who require AT support services?	76
Emerging Theme: Lack of Knowledge and Training	78
Interview Question 3: What resources have you used within the XYZ school district to support students with AT needs and how did you obtain these resources?	79
Emerging Theme: Need for Viable Resources	80
Interview Question 4: If you have AT needs or supports for AT questions or guidance, where would you go to get those supports and who would you contact to obtain the supports you need to support the students AT needs?	81
Emerging Theme: Need for AT Supports	82
Interview Question 5: Can you share your opinion or perspective of your role and responsibilities within AT and in what way would clearly understanding your roles and responsibilities within AT help you to work more effectively with your students?	83
Emerging Theme: Roles and Responsibilities	84

Interview Question 6: What needs do you have or how would you rate yourself as it relates to the QIAT survey?	85
Emerging Theme: AT Devices	86
Interview Question 7: Express in detail what AT guidelines that are in place within the XYZ school district that you follow consistently to ensure that all your students are receiving the newest and the most effective support services available.	87
Emerging Theme: AT Guidelines.....	88
Interview Question 8: As an AT service provider and decision maker for students who have special needs, what do you think would help better prepare you to service students with diverse learning needs within AT?	89
Emerging Theme: Training.....	90
Conclusion	91
Section 3: The Project.....	92
Introduction.....	93
Purpose.....	95
Description and Goals.....	96
Scope and Sequence.....	98
Timeline	105
Desired Outcomes.....	107
Program Outcomes.....	108
Learning Objectives	108
Rationale	109

Review of Literature	110
Professional Learning Communities.....	111
Discussion of the Project	111
Potential Resources and Existing Supports.....	112
Monitoring Process	112
Resources	113
Fiscal	113
Space	114
Potential Barriers	114
Proposal for Implementing Timetable	115
Roles and Responsibilities	115
Transferable Skills	116
Contributors to Transfer.....	117
Project Evaluation.....	118
Formative Evaluation.....	119
Summative Evaluation.....	120
Implications Including Social Change	120
Local	121
Far Reaching	122
Conclusion	123
Section 4: Reflections and Conclusions.....	124
Introduction.....	124

Project Strengths	125
Recommendations for Remediation of Limitations	126
Scholarship.....	127
Leadership and Change.....	127
Analysis of Self as Scholar	128
Analysis of Self as Practitioner.....	129
Analysis of Self as Project Developer	129
The Project’s Potential on Social Change	130
Implications, Applications, and Directions for Future Research.....	131
Conclusion	132
References.....	133
Appendix A: The Project	134
Appendix B: Demographic Profile w/Attached Link	135
Appendix C: Cumulating Question/Summative Response w/Attached Link.....	136
Appendix D: Participant Consent Form.....	137
Appendix E: Wisconsin Assistive Technology Questionnaire w/Attached Link	138
Appendix F: QIAT Self-Assessment Survey Letter & Link.....	139
Appendix G: Survey Reminder.....	140
Appendix H: Request Usage of QIAT Self-Assessment Matrices	141
Appendix I: Response to Instrumentation Request.....	142
Appendix J: Participant Follow-up Letter.....	143
Appendix K: Staff Interview Sample.....	146

Appendix L: Professional Development Participant Evaluation	147
Appendix M: Culminating Question and Summative Response Example	150

List of Tables

Table 1

QIAT Standard 1: Consideration of AT Needs.....	viii
---	------

Table 2

QIAT Standard 2: Assessment of AT Needs	x
---	---

Table 3

QIAT Standard 3: Documentation in the IEP	1
---	---

Table 4

QIAT Standard 4: AT Implementation	1
--	---

Table 5

QIAT Standard 5: Evaluation of Effectiveness	3
--	---

Table 6

QIAT Standard 6: AT Transition	5
--------------------------------------	---

Table 7

QIAT Standard7: Administrative Support 6

Table 8

QIAT Standard8: Professional Development and Training for AT 12

Table 9

Eight Respondents' Perceptions of Their Role, Responsibilities, and Attitudes
about AT, Supports, and Resources within the SPED Learning Community 14

List of Figures

Figure 1. Participant responses to Q1.	viii
Figure 2. Participant responses to Q2.	x
Figure 3. Participant responses to Q3.	1
Figure 4. Participant responses to Q4.	1
Figure 5. Participant responses to Q5.	3
Figure 6. Participant responses to Q6.	5
Figure 7. Participant responses to Q7.	6
Figure 8. Results of participants' consideration of AT needs among the XYZ staff.	12
Figure 9. Assessment of AT needs among the XYZ staff.	14
Figure 10. IEP among the XYZ staff.	14
Figure 11. AT implementation among the XYZ staff.	14
Figure 12. Evaluation of effectiveness of AT among the XYZ staff.	15
Figure 13. AT transition among the XYZ staff.	15
Figure 14. Administrative support among the XYZ staff.	16
Figure 15. Professional development and training for AT among the XYZ staff.	23
Figure 16. Participants' AT knowledge.	25
Figure 17. Participants' AT knowledge application.	29

Figure 18. Participants' AT skill.	31
Figure 19. Respondents' AT application knowledge.	34
Figure 20. Participants' IEP/IFSP goals.....	36
Figure 21. Participants' abilities to select materials that are universally accessible for all students.	36
Figure 22. Participants' abilities to operate a computer/tablet/IOS device to meet the needs of their students.....	39
Figure 23. Participants' abilities to access AT.....	39
Figure 24. Participants' abilities to apply their AT knowledge to their specific programs.	41
Figure 25. Participants' abilities to utilize informal assessment techniques to determine need for AC or SGD.	46
Figure 26. Participants' appropriate use of AT as an accommodation or modification in order to participate in standardized testing.	49
Figure 27. Participants' identification and use of progression of AT solutions from low- to high-tech for difficulties in the mechanics of writing.....	50

Figure 28. Participants' abilities to operate/utilize alternative access methods or computers/tablets/IOS devices.....	52
Figure 29. Participants' abilities to identify important features of ACSG devices.....	53
Figure 30. Participants' abilities to construct/modify simple AC/SGD devices.....	53
Figure 31. Participants' abilities to select appropriate vocabulary to promote communication.....	55
Figure 32. Participants' abilities to determine the best form of vocabulary representation.	57
Figure 33. Participants' abilities to determine functional mounting for AC/SGD device.	60
Figure 34. Participants' abilities to, when appropriate, interface with the AC/SGD device with a computer, environmental control unit, or printer.....	63
Figure 35. Participants' abilities to train communication partners.	64
Figure 36. Participants' abilities to create and use pictures with text to support reading.	65
Figure 37. Participants' abilities to select and use a variety of aids to locate, highlight, and track information.....	66
Figure 38. Participants' abilities to use software/apps to manipulate and organize information.....	66

Figure 39. Participants’ abilities to select and use a variety of voice output aids for math operations.....	68
Figure 40. Participants’ abilities to select and use adapted toys, games, and recreational equipment.....	68
Figure 41. Participants’ abilities to select and utilize a variety of AT for access and interaction.	69
Figure 42. Participants’ abilities to select and utilize software/apps for a variety of recreational activities.	70
Figure 43. Participants’ abilities to identify need for and use low-to-mid tech AT for the arts.....	71
Figure 44. Participants’ abilities to identify need for and use software/apps for the arts.	72
Figure 45. Participants’ abilities to select and utilize a variety of low-tech aids to position and stabilize items.....	73
Figure 46. Participants’ abilities to select and utilize adaptive eating utensils and aids. ...	74
Figure 47. Participants’ abilities to design/implement a sequenced intervention to teach a student to operate/utilize an assisted mobility device.....	75
Figure 48. Participants’ abilities to select and utilize adaptive devices for hygiene.....	76

Figure 49. Participants' abilities to obtain adapted equipment for operating a motor vehicle.	78
Figure 50. Participants' abilities to identify a student's need for greater control of their environment.	79
Figure 51. Participants' abilities to design opportunities to use electronic aids to daily living and select appropriate AT.	80
Figure 52. Participants' abilities to operate/utilize electronic aids to daily living.	81
Figure 53. Participants' abilities to recognize the impact of seating/positioning on the student's attention, energy, and ability to access AT devices.	82
Figure 54. Participants' abilities to operate and utilize various features for computer input.	83
Figure 55. Participants' abilities to operate/utilize Braille keyboard and note-takers.	84
Figure 56. Participants' abilities to recognize need for and use AT for general vocational tasks.....	85
Figure 57. Participants' abilities to understand the roles of individual team members in the evaluation for and implementation of AT.....	86

Figure 58. Participants' abilities to utilize an effective team decision-making process to keep their teams operating collaboratively and smoothly..... 87

Figure 59. Participants' abilities to utilize appropriate AT funding sources for an individual. 88

Figure 60. Participants' abilities to adapt, fit, customize, and repair AT devices..... 89

Figure 61. Participants' abilities to work with the transition team to plan for effective transition of AT to new settings..... 90

Section 1: The Problem

Introduction

By conducting this study, I evaluated the current quality indicators of assistive technology (QIAT) among the special education department (SPED) service providers, specifically targeting the overseas Department of Defense Education Activity (DODEA) Pacific District's multidisciplinary team. To ensure the confidentiality, the facility will be referred to as XYZ school district throughout this study. This evaluation was used as a means to pinpoint assistive technology (AT) educational strengths and needs within the military's education community. The data from this project will help specify a few of the factors that are affecting SPED teachers' consistent use of AT equipment and how this inconsistency has correlated to the perceptions and knowledge of AT. This knowledge is a segue to understanding educator needs and developing a more cohesive learning community. Additionally, this research project helped identify highly qualified teachers within the XYZ Pacific District, provided data to administrators that can help establish AT unifying guidelines, helped begin specifying the AT roles and responsibilities for AT service providers, and provided some current AT data in an effort towards filling in some of the missing pieces within the XYZ school district. This project can be used as a scaffolding tool to build a stronger community strategic plan (CSP) for continuous school improvement (CSI).

There has been no research data produced within the last 5 years to validate the QIAT among the Pacific District SPED personnel, although daily work experience and direct teacher contact with SPED service providers has been the most insightful force

behind this study. Educators have developed educational resources and natural strategies to support their students' AT needs, without formal training. The need for a stronger professional learning community and readily assessable AT resources are vital to the growth and success of teacher implementation. Unfortunately, many support staff are not as experienced or exposed daily to students with AT needs and, despite the individualized education plan (IEP) requirements (Pugach & Blanton, 2009), expressed their discomfort with using equipment verbally or by minimizing AT usage within the classroom. These negative responses could be a result of many factors: attitude, training, perception, exposure, experience, or lack of knowledge surrounding their roles and responsibilities within AT (Bell, B., & Cowie, 2001; Edyburn, 2000; Zabala et al., 2000). In addition to these concerns, there is minimal SPED school support to train teachers to integrate the new and innovative technology available for their SPED students, how to properly use and chose equipment suitable for their student's needs, or how to make appropriate AT decisions. It is difficult to determine if teachers can effectively or efficiently provide the appropriate level of AT knowledge, skills, service, or application to students with disabilities when they themselves lack the QIAT, and the XYZ school district has not produced any data to prove the contrary.

Teacher preparation programs outline their course work with minimal AT requirements and no actual simulation training to support the transfer of knowledge from the text to the classroom (Harvey, Yssel, Baseman, & Merbler, 2010). The lack of teacher preparation knowledge is one of the primary reasons there has been no proven skills application for SPED teachers within state and National Assistive Technology (NAT)

guidelines. Additionally, because there is not enough information about teachers' AT knowledge within the XYZ pacific school district, it must be assumed that there would be no proven application skills to use consistently within the classroom, either (Bishop et al., 2010).

The CSC, which is comprised of SPED teachers, administrators, and SPED support personnel, lacked current data on AT knowledge within the XYZ pacific school district (DODEA, 2011a; DODEA Data Center, 2011). Consequently, the lack of data on the SPED support staff's knowledge or needs showed that the AT infrastructure was missing some vital operational components, including data to support the staff's AT needs, AT resources, AT guidelines to explain or describe the CSC teams' roles and responsibilities within the laws of AT, and current AT professional development training to strengthen the staff's AT knowledge (Blankstein, Houston, & Cole, 2010).

This study will help to begin filling in the gaps in teacher application, knowledge, and will directly address the needs of the XYZ pacific school district SPED support personnel. Currently the literature of AT primarily has focused on the laws of AT, but it has lacked the fundamental principles of the need for service providers to have a clear understanding of their roles and responsibilities within these newly revised laws or unifying guidelines to efficiently and effectively service students with disabilities.

Problem Statement

The problem addressed in this study is that the XYZ school district SPED teachers, CSC, and administrative personnel do not have current AT data, AT strategies, or formal AT trainings in place to exhibit the quality indicators of its AT decision makers

and service providers. There has been no research performed within the XYZ pacific school district within the last 5years that would provide reliable data to describe the staff needs and perception of AT laws, rules, and regulations. There were also no data to validate and/or support the multidisciplinary team's understanding of their specific roles and responsibilities within the newly mandated AT laws or correlation to the staff's lived AT experiences.

If XYZ pacific school district had a data collection system in place to monitor or assess teachers' knowledge and needs, new inclusion teachers, special educators, and service providers, confusion and frustration would not be occurring (McNaughton &Smith, 2008). The quantitative data can provide administration with an insightful quantitative picture of their staff and, furthermore, those administrators can use them to develop more efficient student placement strategies, understand teachers' knowledge, and identify SPED teachers and support staff's current training needs and skills (Nelson, 2010). The added qualitative data offer richness and clarity to the study and provide a clearer understanding of the needs and perception of the XYZ school districts SPED staff.

According to Zabala et al., (2000), complexity begins to arise when there is no unifying set of AT guidelines to aid the IEP teams and school districts in the development, provision, selection, and evaluation of AT services for students with special needs. Unfortunately, when a diverse set of professionals from various fields of study, specializations, and knowledge come together with one common goal—the student—but lack the knowledge of their primary objective—AT—the community infrastructure will begin to crumble. After being employed with the XYZ school district for 4years, daily

interaction with special needs students, and ongoing contact with SPED teachers throughout the district, it is troubling to see teachers and support staff work so diligently to service students with special needs without a platform of knowledge or unifying guidelines to strengthen their AT knowledge. Within these last 4 years of employment, there have been no AT training, resources, or information regarding the updated AT mandates presented to the staff. The lack of consistent knowledge among AT service providers poses an internal problem for the AT service providers and hinders the efficiency of the decisions, equipment, and service that students receive daily.

This current study contributes to addressing the problem surrounding the lack of substantial data to validate or prove the XYZ pacific school district SPED service providers are highly qualified or exhibit the QIAT. The study addressed these problems by identifying the current AT needs of the XYZ pacific school district SPED support staff. The exploration into the AT knowledge and perceptions of the XYZ pacific school district multidisciplinary team of SPED support staff determined what QIAT had been obtained and what current resources were available during the academic school year. My intent was to provide research that would informally advocate for student needs through the direct linkage of service provider knowledge. The direction of the project was driven by the exploration of SPED support staff's AT knowledge.

Rationale

The latest version of the Assistive Technology Act was reauthorized through 2010. Its original signage by the president was passed by Congress in 1988 (Boehner, 2004), when it was better known as the Technology Assistance Act. Since then, the law

has been reauthorized several times (Bell, J., & Blackhurst, 1996). The amendments to the Tech Act helped increase accountability, enhance definitions, and change program effectiveness. Zabala and Carl (as cited in Borg, Lindstrom, & Larsson, 2011) demonstrated the true impact of AT on the world:

As technology has come to play an increasingly important role in the lives of all persons in the United States, in the conduct of business, in the functioning of government, in the fostering of communication, in the conduct of commerce, and in the provision of education, its impact upon the lives of the more than 50,000,000 individuals with disabilities in the United States has been comparable to its impact upon the remainder of the citizens of the United States (p. 1864)

The primary objective for this doctoral research project was to identify, describe, and explore the current AT knowledge among the multidisciplinary team and SPED service providers, identify individual AT service skills, perceptions of their current support services, staff needs, resources, and identify what QAIT the multidisciplinary team currently possessed. It is the primary responsibility of all SPED service providers to access, evaluate, and provide AT accommodations to all students on an IEP, but there were no data to support XYZ pacific school district's shared AT responsibility, no clear AT guidelines or current knowledge of AT services from its staff. This research project unveiled the needs of XYZ pacific school district staff, and, as a result, a more cohesive multidisciplinary team may be developed.

Definition of Terms

The following are definitions of key terms used within this study.

General education (GE) teacher: A teacher who holds a teaching certification in a non-SPED classroom, with nondisabled students, and whose primary focus is teaching students without disabilities (Everhart, 2009).

Preservice teacher: One who has just graduated or is a first-time teacher in the field of SPED. He or she has taken college courses as an undergraduate requirement, but has no concrete knowledge of SPED application (Bausch & Hasselbring, 2004).

Special education (SPED) teacher: A teacher who has completed all course work and requirements to teach students with a variety of special needs. The SPED teacher is one who has experience working within the educational setting with students with disabilities and is aware of AT (Ashton, Lee, & Vega, 2005).

Assessment: A group of activities conducted to determine a child's specific needs (QIAT Consortium, 2005).

Evaluation: A group of activities conducted to determine a child's eligibility for SPED (QIAT Consortium, 2005).

Individualized education program (IEP): A written legal document that is developed and reviewed annually, triennially according to the laws of the IDEA 2004 Part B and State Standards (DODEA, 2006).

No Child Left Behind Act of 2001 (NCLB): NCLB is based on specific principals: Scientific research driven methods, accountability, greater local control, choices for parents and flexibility. The NCLB is a law that was developed to directly affect the educational needs of all students in public schools grades kindergarten thru high school. The law P.L. 107-110 was the reauthorization act of Elementary and Secondary

Education Act (ESEA) that impacted elementary and secondary school education students.

Disabilities categories: Any child who is found eligible for SPED must have qualified in one of these categories defined by the Individuals with Disabilities Education Act (IDEA) (2004). Specific learning disabled, speech and language, occupational therapy, physical therapy, other health impaired, vision impairment, hearing impaired, deaf-blindness, emotionally disturbed, traumatic brain injury, autism, and multiple disabilities (National Joint Committee on Learning Disabilities, 1998).

Accommodations: A support service provided to all students with disabilities whether on a 504 plan or an IEP. This service gives students access to curriculum standards and instruction through educational supports without modifying the instructional content (DODEA, 2006).

Least restrictive environment (LRE): A mandate that all students with special needs be placed in an environment that ensures access to the GE curriculum and to their nondisabled peers, while being educated to the maximum extent appropriate as determined by the student's IEP. The change of placement from the GE setting can only be altered or modified if the student's needs cannot be met with education supports, services, and accommodations (National Information Center for Children and Youth (NICHY, 1996).

Individuals with Disabilities Education Act (IDEA): The federal legislative law P.L.108-446 that provides educational protection for students with disabilities, and

authorizes state and local aid for public agencies, school districts, and states that provide education and services to student with special needs.

Education developmental intervention services (EDIS): A service provided by military medical staff to provide medical interventions, related services, and medical supports for military schools located oversea for ages 3 to 21. The military staff members who make up the EDIS team include audiologists, physical therapists, psychologists, and occupational therapists (DODEA, 2006).

Free and appropriate public education (FAPE): A required legislative guideline that mandated that all students with disabilities would receive FAPE in the least restrictive educational environment, at no additional cost to the parents of special needs children. It was designed as a guaranteed education for all school age children with disabilities, regardless of the severity or unique needs of the child (IDEA, 2004).

Education for All Handicapped Children's Act (EHA): A legislative law (P.L. 94-142) that became effective in 1975. This act was put in place to ensure that all children have a FAPE regardless of their disability.

Special education initiative: A plan was developed and put in place in 2002 that funded \$56.5 million to improve SPED services within the school system. A joint agreement between the armed forces was provided with this funding and supported the six-year initiative that began in 2003 (National Center for Educational Statistics (NCES), 2007).

Case study committee (CSC): A team of specialist in the field of SPED: school psychologist, educational assessors, speech and language therapist/assessors,

administration, school nurse, preschool instructors, learning impaired teachers, and EDIS. This committee gathers weekly to consider the facts pertaining the whole child, make decisions on service needs, and discuss SPED students' needs within the school, review current test results, disseminate caseloads, and determine the eligibility of each student (DODEA, 2006).

Related services: An additional SPED support service put in place to assist students with disabilities when the needs of the child cannot be met within the GE setting (QIAT Consortium, 2008).

Assistive technology (AT) device: "Any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized that is used to increase, maintain, or improve functional capabilities of a child with disability." (P. L. 105-17, Sec 602. 8. 1997. 20 U. S.C. 1400 et seq.)

Assistive technology services: Any service that directly assists a child with disabilities in the selection, acquisition, or use of an AT device. As it relates to this study, AT service application may vary depending on the service provider's knowledge, including awareness level, working knowledge level, or transformation level (Edyburn, 2003; WATI, 2003).

- Awareness Level of AT Edyburn (2003) referred to it as the lowest and most basic contextual knowledge or simple information about AT.
- Working Knowledge of AT The level of knowledge that demonstrates the service provider's awareness level and application knowledge of AT. At this

knowledge level providers are able to show their skill level and are aware of the AT devices and the responsibilities of implementation of AT services.

- Transformation Level of AT: At this level the service provider has the basic knowledge, application skills and knowledge to apply, select, and change equipment according to the needs of the students, and find solutions to unforeseen technology situations. This advanced level demonstrates the awareness and understanding of AT devices newly developed or older models that are most suitable and available for students with special needs.

Quality indicators of assistive technology (QIAT): The consortium has developed eight quality indicator areas that are used to examine and identify what level and quality of AT service is being used within the school system. The eight quality indicators are used as a standard or teacher assessment tool that guides best practices, districts, and state and preservice program needs within the area of AT. These eight areas are highlighted within the study: (a) consideration of the need for AT during the IEP meeting; (b) assessment of the need for AT; (c) including AT in the IEP; (d) implementing the use of AT; (e) evaluating the effectiveness of AT use; (f) transitioning with AT; (g) administrative support for AT services; and (h) professional development training in AT (QIAT Consortium, 2008).

Wisconsin Assistive Technology Initiative (WATI): A process-based, systematic approach to providing a functional evaluation of the student's need for AT in their customary environment (WATI Assessment Package, 2012).

Significance of Study

The main artery of AT that allows the fluent transfer of knowledge, application, and skill from abstract learning to concrete learning lies within the hands of the multidisciplinary team of special educators, regular educators, related services personnel, support staff, and the administration. The problem with the above-mentioned AT is the lack of data to support XYZ pacific school district CSC members, SPED teachers, and the administrative personnel with updated and/or continual knowledge, skills, and newly innovative resources to verify that SPED teachers are prepared and equipped to use these AT devices with students who require them, or to properly service students with AT needs. Negative repercussions occur from the lack of data. For instance, the Hawaii Department of Education has been under scrutiny at this time for the lack of data to sufficiently justify the funds obtained for the educational training and school improvements (Hefling, & Kelleher, 2011). Within the XYZ pacific school district, there is only one individual identified as the technology specialist. This alone demonstrates an inadequate amount of support services and resources for SPED service providers. What AT quality indicators does a teacher need to show or demonstrate, to properly support students with AT needs? Would it be more beneficial for all students and staff of XYZ pacific school district to have all SPED service providers be knowledgeable and prepared to use the schools AT equipment and provide proper services to students with disabilities upon arrival, instead of waiting to receive in-service training from the technology specialist? What unifying AT guidelines is currently in place to describe or explain the increased roles and responsibilities mandated by IDEA?

This study addressed these questions and provided data to unclog the educational vessels of knowledge transfer, which many adult learning theorists such as Knowles (1980) view as situated learning. The information from this study leads to understanding the staff needs, identifies what is preventing a unified knowledge of AT, provides understanding of roles and responsibilities, and offers AT guidelines that began to help strengthen the multidisciplinary team. The multidisciplinary team is also known as the CSC. It is broken down into two different committees. As named by XYZ pacific school district 2007 Procedural Guide, they are the Core CSC and the specified student CSC. For the focus of this project, I only referred to the Core CSC. Within the XYZ pacific school district procedural guide, the Core CSC is composed of school personnel who oversee the SPED program. It usually consists of the SPED service providers assigned to the school, an administrator, one or more general educators, and other specialist within the school (e.g., counselor, nurse, etc.). The Core CSC is responsible for a variety of activities that contribute to the effective functioning of the SPED program (DODEA, 2007). The significance of this research problem lies heavily on the multifaceted array of AT knowledge, staff roles and responsibilities, unified AT guidelines, resources, attitudes, and data to support the AT needs of XYZ pacific school district.

This doctoral study could lead to consistent classroom AT usage, increased support services, identifying roles and responsibilities, strengthening the supports staffs AT knowledge, producing readily assessable resources, and have a direct impact on social change for all service providers and families with special needs.

Research Questions

After identifying the problems within this doctoral research project, a few research questions were developed to help unfold and address problems related to the SPED service provider's resources, perceptions, AT needs, roles and responsibilities, service implementation, and application. The following research questions were addressed. The research questions were broken down into three quantitative and three qualitative categories to add validity to the research findings.

Quantitative Research Questions

1. What QIAT do the XYZ Pacific school district SPED service Personnel currently possess?
2. What is the XYZ Pacific school district SPED Service Personnel's perception of their roles and responsibilities within the new laws of the Tech Act?
3. What data collection process is used to determine, train, or assess the QIAT of the XYZ Pacific School District SPED service personnel?

Qualitative Research Questions

1. What AT guidelines or supports are in place for SPED personnel to follow?
2. What does the SPED staff perceive as their greatest AT need within the district?
3. How familiar is the multidisciplinary team with AT devices, AT services and AT resources?

These questions determined what AT knowledge the multidisciplinary team, administrative staff, and SPED teachers currently possess within the framework of QIAT.

More abundantly, it offers an in-depth view of the needs of the XYZ pacific school district staff participants and provides both rich informative and summative data for this study. It is important that the data from the individuals who participated in the Web-based questionnaire and the staff interviews be used as an insightful (Baggett, 2009) tool towards developing an understanding of the XYZ pacific school district staff needs that provide service or make decisions for students with special needs.

Review of the Literature

Theoretical Foundation

The theoretical framework included adult learning theories and the professional learning community model. Both of these independent theoretical frames have commonalities that directly affect XYZ Pacific school district. The pioneers of these two frameworks are Bandura (2001), Merriam, Caffarella, and Baumgartner (2007), Vygotsky (1978), DuFour, DuFour, and Eaker (2009), Reagans and McEvily (2003), and Du Four and Eaker (1998).

These researchers supported the theoretical framework of this project. The theoretical framework developed from the idea that studying adult learners within XYZ pacific school district would help me to better understand what highly qualified teachers know. It would also help all stakeholders understand the vitality and need for data to support learners' needs. The data provide a clearer picture of how XYZ Pacific district AT service providers learn in order to better support for the learning needs. Professional learning communities show how knowledge increases teacher confidence and demonstrates a more cohesiveness (Hord, 2009) within the learning community while

also altering the perspectives of the staff. Each of these components had a direct effect on all learners. The military community's resiliency is based upon the strength to serve students of all educational backgrounds and diverse learning needs. Therefore, it was critical for XYZ pacific school district staff to clearly articulate their needs through data collection, and professional learning communities' strategies, in order to better serve students individualized education needs (Vescio, Ross, & Adam, 2008).

Laws: Rights and Responsibilities

Since the end of World War II, select military bases have provided an educational system to over 87,000 military students, in eight U.S. states, two U.S. territories, and 195 schools, which equate to approximately 1.2 million of the U.S. civilian-operated military family population within the school system operated by the DODEA (White House, 2011). According to IDEA (2007), the laws, rights, and responsibilities have increased to support those students with disabilities. Although the mandates and statues of the Tech Act have increased over the years, the partnership and commitment to the community has always been vital to the success of the military children's global success (DODEA, 2012). If all stakeholders have an understanding of their roles and responsibilities within AT, the entire education community—parents, students, and staff—can overcome educational barriers. The literature review pinpoints several barriers and discuss means to overcoming these obstacles (Fuchs, 2009).

The QIAT are keys and foundational building blocks for being highly qualified to service, identify, assess, monitor, or make educational decisions regarding students with AT needs. WATI parallels the vision and mission of XYZ pacific school district. In the

Community Strategic Plan, WATI was identified as a companion with DODEA to service the needs of students who require AT services. Literature from WATI was reviewed throughout the study to provide leverage for the research (Stokes, Wirkus-Pallaske, & Reed, 2000). The adult learning theory is essential to the professional development planning and preservice preparation for all staff. Educators learn that children have diverse learning styles and modalities. Unfortunately, these learning styles do not change as children become adults. Individuals continue to learn information in various ways, and it is important to the adult learner that teachers be trained and mentored according to their learning styles as well as needs. Therefore, reviewing the components of adult learning theories provided tools for professional development training and teacher support services. Collecting data and understanding the educators' needs enhances the transference of knowledge, builds confidence and increases classroom implementation (Bandar, 1986; Knowles et al., 2011) and usage.

To the contrary, with the increased mandates to the Tech Act and highly qualified timelines, the attrition rate of SPED teachers has continued to increase (U.S. Department of Education, Office of Post-Secondary Ed., 2009). These mandates and increased teacher requirements and responsibilities with minimal, ineffective, or no training has proven to have a negative impact on the attitudes, perspectives, and confidence of SPED teachers and service providers. Consequently, the negative perspectives and attitudes matriculate into the classroom and are demonstrated within the lack of AT usage or classroom application. Throughout the literature review, all of these factors are reviewed and considered. The current literature showed how barriers play a major role in the

current state of AT usage within the military community (Wynn, 2006) and how ongoing research such as this positively effects on social change.

The Individual with Disabilities Education Act (P.L. 08-446) as sited in the QIAT Community (Revised, 2012) FAPE is defined as an educational program that is individualized to a specific child, designed to meet that child's unique needs, provides access to the general curriculum, meets the grade-level standards established by the state from which the child receives educational benefit (Parette, Petersen-Karlan, & Wojcik, 2005). IEP team participants are required by the IDEA to take into consideration the students' need for AT devices and services. A part of the provision of this law mandated that all students with special needs receive a FAPE. AT has proven to motivate children with disabilities. It empowers students to accomplish specific goals, increase their overall capacity to work, engage in more complex tasks, and participate in daily tasks that otherwise might have been difficult or impossible (Bailey, 2000).

Under Section 504, FAPE was defined as Providing regular or special education and related aids and services designed to meet the student's individual educational needs as adequately as the news of non-disabled students are met. (P.L. 110-325, (ADA), 42 U.S.C. 794)

Without consistent AT equipment usage or service application, many students may struggle to express their basic wants, needs, thoughts or ideas. The inconsistency within service providers' application limits the student's access to curriculum materials, defies the concept of No Child Left Behind, and decreases the quality of education (Cochran-Smith & Lytle, 2006).

Although the statute of the IDEA (1997) reauthorization of the Tech Act was specific with its requirements of all IEPs to consider AT for all students with special needs, it lacked the provisions of training or varied levels of AT preparedness prior to this mandate. Consequently, practice, procedures, and perceptual process of being prepared for such an intensified mandate have begun to fail and districts have fallen short of meeting the demands of this statute. Now, students, families, and service providers are intensely searching for supports to fulfill these legislative requirements. Even though districts such as XYZ pacific school district do not have any consistent unifying guidelines or training in place to support this new mandate, they have continued to provide educational interventions (Webb, 2000). If AT guidelines are not developed, barriers of AT application and knowledge will continue to increase and student success rates will begin to drop. A student's academic success may also begin to suffer, as the independent future of these youth could become dim or stagnate (Newton & Dell, 2010). The XYZ pacific school district has woven the WATI into its strategic plan and adopted its fundamental principles to better respond to the military community's family needs.

The XYZ pacific school district initiatives, directives, and professional standards are supported by the AT legislation. The umbrella of disabilities has been broadened over the years, and increasingly technologies have been developed to support the needs of these individuals that Congress could not help. Congress recognized that AT needed to be taken to a higher legislative level. The Assistance for Individuals with Disabilities Act was termed Tech Act by Congress and shined a bright light on the needs of people with disabilities. The Technology-Related Assistance for Individuals with Disabilities Act

(P.L.100-407) was derived from the U.S. Congressional findings in 1988 (Alper & Raharinirina, 2006). The Congressional findings determined that recent technological advances would be more cost effective and have greater impact on individuals with disabilities. If people with disabilities were provided with AT that helped increase their independence, performance, and interactions within their school, community, and home (Pugach & Blanton, 2009), it would be life changing. All AT devices and services are supposed to be provided to individuals with disabilities on a first come first serve, as needed, and per request (Bausch & Ault, 2006).

Individuals that work directly with students with disabilities, such as AT decision makers and service providers within the multidisciplinary teams, are indeed specialist and licensed in their respective fields, although most of their educational training does not include AT service implementation. This therefore creates confusion, builds barriers of distress, and contributes to limited device usage and ineffective AT decisions. The modification to the AT statute has been placed in the hands of school districts to distribute knowledge within the learning communities. Unfortunately, they offered no guidelines or mandates on training or teacher preparedness. Now, the CSC teams and school personnel have frustrated professionals that have increased responsibilities but no understanding of the urgency of their role within the Tech Act (McLaughlin & Talbert, 2010). According to the revisions of the QIAT (2005, 2009) school districts, school personnel, and family members can only participate in the AT decision making and planning if they are knowledgeable and aware of the complex web of interrelated issues that are shown to impact the effectiveness of AT service delivery (QIAT, 2009). In a

synthesis report by the National Center on Educational Outcomes (NCEO, 2012), researchers presented literature that supported the need for professional development for teachers.

Online training was considered as one possible solution for filling in some of the missing pieces of performance gaps and knowledge. Baggett summarized the traditional, high-quality online teacher development, recommendations, and decision making. Baggett (2009) concluded that these gaps in teacher knowledge have been linked to the lack of unifying guidelines that exists between state, national and local policies. Implementations within these sectors are inconsistently applied and AT service providers are unclear of their roles and responsibilities. In addition, this linkage is the limited teacher time and opportunity that states have to provide professional development training. The synthesis recommendation was to provide online training to teachers because of the flexibility as well as the likelihood that they have internet access at work and home (NCEO, 2011).

The Obama administration issued an agenda in 2009 that was broken down into four parts. Within this agenda, the American Recovery and Reinstatement Act (AARA): Special Education Funding Opportunities reported that 12.2 billion dollars of stimulus funding was to be used for programs that would have lasting effects on educators within a short period of time (Klotz, 2009) for purchases such as the state-of-the-art AT devices and the provision of training in the use of AT to enhance access to the general education curriculum (Darling-Hammond, 2009; House Report 109-231, 2005, p. 27). Recent studies over the last two decades has shown a substantial amount of literary work to

support the AT effectiveness for individuals with disabilities. However, a greater emphasis has been placed on school districts to provide empirical data that illustrate the effectiveness of educational interventions (Voltz and Collins, 2010). Amendments to the Tech Act were reauthorized through 2010. The revision of this law has begun to give clarification to technology terms and has become the guiding force for effective AT programs throughout the United States. Every student with an Individualized Education Plan (IEP) is mandated by this law to have AT accommodations considered or provided for them (IDEA, Amendments of 1997, 2004). FAPE is written with each of these students IEP and it allows these students the benefits of FAPE through the use of AT (Watson, Ito, Smith, and Anderson, 2010). FAPE may not be administered properly within the Department of Defense Dependent Schools system because of the shortage of data to validate service providers knowledge of AT. How can the administration be sure that military students are receiving efficient or effective AT services if the QIAT data is not present?

The laws of No Child Left Behind and the IDEA (2004) revealed results that was encouraging. Temple (2006) showed an increased accessibility and usage of AT devices among SPED service providers. To the contrary, some research findings prove otherwise. The No Child Left Behind (NCLB) laws set a goal for national educational use, that all teachers would be highly qualified by 2006 (Mistrett, Lane, & Reffino, 2005). With this law all states were mandated to report annual progress of their staff. The laws were too broad and left too much room for state interpretation of high-quality professional development. The year 2013 quickly approached and the interpretation of highly

qualified professional development continued to lack clarity, and states have been allowed to individually define their interpretation of this law (Phillips, 2010).

Consequently, this shows that the lack of unifying guidelines, which has matriculated down the educational canal and caused a rippling effect of confusion and frustration within the educational community.

Adult Learning Theory

The need for proficient classroom technology integration has increased tremendously since the turn of the century. Society has begun incorporating technology in all aspects of life. Students are more tempted to use technology, more fluent users, and are more comfortable using equipment than in previous years. This increase in technology usage has a ripple effect on teachers and increases the demand and their classroom requirements. Technology informally pushes teachers to create educationally driven technology integrated activities in which all students can participate (Scherer, 2004). Policy makers have come to understand the importance of leadership preparation programs and the emergence of programs such as Teacher Education Division (TED). School districts are federally funded to help teacher education and SPED (Reimer-Reiss and Wacker, 2000; Smith and Kelley, 2007).

AT offers leverage to these types integrated program models of educational programs, and provides students with disabilities equal access to educational materials equivalent to that of their non-disabled peers. With the No Child Left Behind law in place the largest number of students with special needs have been included in the GE setting. This educational inclusion has placed an increased educational demand and need on GE

teachers. Many of these GE teachers have never taken any SPED courses and are unprepared to service the needs of these students (Stayton et al., 2009).

Students with special needs require professionals that are knowledgeable about their disabilities as well as the AT equipment, training, resources, and services, to adequately meet their needs. More troubling are the increase of roles and responsibilities for trained personnel and the increase of the SPED attrition rate. These two findings may be correlated but minimal data can be found to corroborate the theory. Not only are the certified SPED teachers' roles and responsibilities increasing, but the requirements of the GE teachers are also increasing; however, these teachers lack the skills, and training to increase their knowledge. Consistent guidelines are needed to keep up with the changing mandates of AT (Brotherson, McCarthy, and Delgado, 2009).

When designing effective strategies to support staff needs, there should be emphasized that not all educators will have the same type of learning modalities (Vescio, Ross, and Adams, 2008). Therefore, it should be understood that regardless of how structured professional development training is designed (Perry, 2004) teachers acquire knowledge by the degree to which support services are offered and how these partnerships are fostered. Teacher's use of strategies from professional development training is dependent upon the support they receive and the accountability they feel for using new practices. Peer support and accountability mechanisms must be built into the professional development efforts so that teachers have the confidence to change and feel some accountability for changing. These changes appear to affect the strategies they chose to use (Lang and Fox, 2003).

There have been little findings to show how teacher preparation programs have adjusted their programs to incorporate the new statute for students with disabilities and AT requirements (Bain, 2010). The Department of Education acknowledges the need for GE teachers to be more educated about special needs students in inclusion and expressed the need for educational changes within the teacher preparation programs (Brown, Welsh, Hill, and Cipko, 2008). AT devices such as switch interfaces, Braille printers, FM sound-field systems, wheel chairs with mobile voice output, adaptive keyboards, decoders, touch screens, and even voice recognition software are a few of the devices that are used consistently by students with disabilities. Being able to visibly identify these devices in a textbook, is not sufficient enough knowledge for student service needs, but rather, teacher or service providers need to be trained to determine, identify, inform, implement, and educate students, teachers and families about the AT equipment and services that are provided or considered for students with special needs. Specific levels of technology integration fall within the technology specialist, but technology literature, resources, and supports are a vital component of teacher usage and equipment selection (Marino, Sameshima and Beecher, 2009).

Attitudes/Perceptions

Brownell et al. (2010) demonstrated how teachers' individual qualities—including their knowledge of teaching reading and SPED—was determined to be motivation by the interaction with contextual variables such as curriculum. The professional development was also a component that directly influenced the ways in

which they integrated new strategies into their practice. Teachers' attitudes and lack of AT classroom implementation is reflecting this increased level of frustration.

Within XYZ Pacific school district, there is no formal protocol or scales used to consider or determine if a student would benefit from AT equipment or services. The decisions are made somewhat like an assembly line. All decisions are made verbally without formal documentation of factors considered. When AT support is required, a formal request must be made and signed by the school principal prior to receiving consultation or support. This process can be long and can alter the perception and attitude of the SPED service providers who may need immediate support. This may be another reason SPED teachers and support staff minimize the use and consideration of AT classroom usage. Frey and Fisher (2004) defined attitudes as an important concept that is frequently used as a tool to gain understanding, predict individual responses to an object or change and influence behavior whether voluntarily or involuntarily. An attitude as described by Allport, (1937) is perceived by other researchers as a mental and neural state of readiness, organized through experience, by exerting a directive on dynamic influence upon the individual's response to all objects and situations to which it is related. The opinions and perceptions about AT have gained such a negative reputation among service providers, this could be due to the increased mandates of the legislative laws of the Tech Act, and the lack of state and federal guidelines to support SPED service providers, students and families. If school districts do not find a way to begin to change these negative perceptions it could prevent SPED students from achieving the same educational success as their non-disabled peers (Turnbull and Turnbull, 2001).

According to Abel and Sewell (1999) and Eisenman, Pleet, Wandry, and McGinley (2010), a successful student evolves from the teacher who has a strong work ethic, determined to help, and has patience. However, laws like NCLB put teachers in a position of overload. NCLB is a law signed by former President George W. Bush in 2002. It is a standards based reform for all states to develop a teacher accountability plan that includes students with disabilities, and is geared towards academic achievement. NCLB includes students with special needs in the GE setting and gives them equal access to the GE curriculum (Yell, Shringer, and Katsiyannis, 2006; NCLB, 2001; P.L. 107-110, 2001). It often requires teachers to support student's needs in a familiar setting, without the proper tools to support their needs. The need for increased pre-service AT knowledge for SPED teachers was never discussed in the NCLB mandates. Instead, NCLB added additional educational components for SPED and GE teachers, without including any follow-up support or guidance. Research from the US Department of Education through the NCLB Act of 2001, determined that SPED teachers are now required to diversify the GE curriculum and modify lessons to support the individual needs of each SPED student (NCLB, 2001; P.L. 107-110, 2001). Now that the reauthorization of the original Tech Act, 1988 has compiled additional demands to this statute, the increased responsibility and lack of unifying guideline or support appears to be causing SPED teachers to have negative perceptions, attitudes, and opinions about AT, which in turn has begun to matriculate into the classrooms and that consequently has a negative educational impact on the SPED students.

Increasing teacher requirements and undefined guidelines pose a problem for some SPED teachers. It appears that these increased requirements are causing a negative change in teachers' attitudes and perceptions. The problem with negative perceptions and attitudes surrounding inconsistent guidelines and increased mandates is that researchers believe it is the cause of higher attrition rates in SPED teachers who teach multiple subjects and do not have a specific subject area, but rather are taught how to support students in all academic subjects (Connelly and Graham, 2009). Changes within the educational system such as these could have a back lash for special needs students. These negative feelings could lead to many SPED teachers finding new careers, resentment, anger and frustration, which will have a direct impact on student's daily educational experience (Turnbull, Turnbull, Erwin, Soodak, and Shagren, 2010). Additionally, continuous changes in the educational system could alter the attitudes of all teachers and puts pressure on the learning community.

In 2002, teachers were required to become highly qualified within three years of the "highly qualified" federal mandate. This meant that teacher who had been teaching for over five years, and post graduates, would still have to go back and take college courses, just to meet these guidelines (Newton and Dell, 2011). In 2001, the U.S. Department of Education reported that SPED teachers had the highest shortage of teachers across the nation (Cochan-Smith and Lytle, 2006). The U.S. Department of Education also released a series of statements to clarify the requirements of NCLB. NCLB requires that all teachers of 'Core academic subjects', such as English and math, meet teachers' qualification requirements and must do so before the end of the 2005-

2006 school year. The former US Secretary of Education Ron Paige (2004) released a statement that helped give clarity for SPED teachers to become highly qualified in the area in which they teach. It was stated that “teachers must become highly qualified in at least one area” (Paige, 2004, para. 8).

Conceptual Framework

The XYZ pacific school district developed a Community Strategic Plan geared toward the alignment of both the community and the success of all students. Its’ guiding principles are to build, productive citizenship, embedded within the guiding principles and is an inherent core value of all CSP goals for all XYZ pacific school district stakeholders (DODEA, 2009). The stakeholders’ number-one priority is the students who attend XYZ pacific district schools. Important stakeholders—including the principals, assistant principals, school counselors, GE teachers, SPED teachers, hearing impaired consultative teachers, vision impaired consultative teachers, Educational and Developmental Intervention Services (EDIS), audiologists, occupational therapists, physical therapists, paraprofessionals, parents, and CSC members and administrative personnel—should understand and embody the CSP’s common goal.

The DoDEA Director (2013) shared the management Directives 715, a report submitted to the Equal Employment Opportunity Commission (EEOC) by all federally-funded agencies annually. In this report, the director placed emphasis that all components of the CSP plan was developed using the input and support of all stakeholders. The input and support of all stakeholders is vital to the survival and academic success of all students (DODEA, 2011). Internal and external communications with stakeholders

ensures that the school is working collaboratively. It also instills a sense of strength and unity amongst the school campus. By providing continuous communication with all stakeholders, the community will be able to grow and develop programs, professional development trainings, unified guidelines, and resources that will support all teachers who have direct contact with students with special needs. The collaboration among stakeholders in the XYZ pacific school district should solidify one common goal:

“Providing an Exemplary Education that inspires and Prepares All Students for Success in a Dynamic, Global Environment” (DODEA School System Special Education Procedural Guide, 2007, p. 2). According to the 2013 CSP, a portfolio of initiatives (POI) was used to maintain accountability and validate the dynamic portions of the CSP throughout the next five years. The annual review of the CSP is performed to ensure “effectiveness as well as school performances and student achievement” (CSP, 2013, p. 2).

Demonstrating positive and productive communication along with understanding among all stakeholders of our diverse community is essential to achieving the goals of education. Studies show that learning is most productive when the needs of each child are met through instruction, provided by competent teachers. In the XYZ pacific school district manual, the WATI was identified as a useful guide for making appropriate AT consideration. It also recognized that stakeholders lack AT knowledge to make appropriate AT decisions and may require formal AT assessment tools, such as a checklist to obtain a broader scope of available AT options.

QIAT

During the end of the 1990s, a consortium was developed by a group of AT advocates to bring about increased awareness of the need for quality indicators of AT (QIAT) service providers. This social awareness led to the development of descriptors that can be used by all schools (QIAT, 2009) to measure compliance, regardless of the service delivery model. The work of QIAT is an ongoing process. The most recent revisions were made in 2004 (QIAT Consortium, 2006). Despite the IDEA (2004) requirements, there have been no agreed upon descriptors of high quality AT services (QIAT, 2009) that can be used as a tool to measure the quality of AT service providers. In 1998, a consortium of highly-qualified AT specialists developed a descriptive framework of quality indicators that were to be used as broad guidelines for quality AT services. The foundation of this brilliant collaboration was to gather input into the process of identifying, disseminating and implementing a set of widely applicable quality indicators for AT services (QIAT Consortium, 2006). The focus of the QIAT Consortium was to provide resources for state, district, schools and pre-service training institutions.

Current research shows that more than eight different states are using QIAT within their school districts as a guide for acquiring and maintaining comprehensive AT services, school-wide training, and staff assessment needs (QIAT Consortium, 2008). It is important to all SPED teachers, the CSC, SPED support staff, and administrative school personnel to exhibit quality indicators that demonstrate their general common knowledge, service, skills, ability, and available resources to effectively provide or consider AT services to all students with an IEP. How can these qualities be identified without a

reliable research tool? These questions will be answered by employing the appropriate design with which to conduct this study. The five QIAT descriptors were spurred by the QIAT consortium (2009) to bring awareness to:

- School districts in the development and provision of quality AT services which are aligned to federal, state, and local mandates;
- AT service providers in the evaluation and improvement of their services;
- Consumers of AT services in the selection of adequate AT services;
- University faculty and professional development providers in the delivery of programs that develop knowledge and skills needed to offer quality AT service; and
- Leaders in the development of regulations and policies related to the use of AT in education.

Watson, Ito, Smith, and Anderson (2010) found that barriers preventing consistent implementation and service rely heavily on the notion that once the equipment is delivered, service providers are unable to maintain or repair these devices, which causes a rippling effect in equipment consideration, acquisition (Wehmeyer, Lattin, Lapp-Rincker, and Agran, 2003), and device use across multiple academic settings (Derer et al., 1996; Riemer-Reiss and Wacker, 2000). Knowledge of AT devices is not an effective measure of one's ability to support the adequate use of these devices. It is critical for both components—device knowledge and support service—to be included in the IEP (Zabala, 1996). Zabala, et al. (2000) found that a lack of evidence to support existing quality indicators for AT services for the areas of administration, consideration, assessment, IEP

development, implementation, and evaluation of effectiveness. Within these minimal finds, there have been no unifying guidelines within the state, districts, or national level of AT. Consequently, it was easy to identify one major factor contributing to this problem, “differing perspectives, attitudes, knowledge, skills and level of preparedness of the many people who have a role in the consideration, development, delivery, and evaluation of assistive technology services in school settings” (Zabala, 1995, p. 88).

The CSC team meets weekly to discuss, review, assess, evaluate, and determine if a student’s needs are adversely affecting their academic performance and what procedures should be taken to remediate or support the student’s learning needs (Parette and Murdick, 1998). Within the last three years of working as a special needs teacher in over five dozen IEP meetings, neither extensive AT equipment training or devices have yet to be a primary topic of discussion. When the AT consideration section of the IEP is discussed or reviewed, neither a list of possible resources nor websites that can be used as a reference of formal consideration has been produced. The lack of AT resources, alone, minimizes the student’s array of options that could be offered to students with special needs (Parette and Peterson-Karlan, 2007). If there are no formal AT resources to consider or offer families, then the CSC team members lack the QIAT. The XYZ pacific school district developed a SPED procedural guide as an aid for teachers, school personnel and administrators. In a letter written by the director of XYZ Pacific school district, the importance of all SPED staff becoming familiar with the new changes in the procedural guide as it reflects the new requirements in Federal law, the Individuals with Disabilities Education Act (IDEA), dated November 19, 2004, and the XYZ Instruction

1342.12 highlights were emphasized. The overview of this letter is clear in its direction for all SPED service providers, but does not address the revisions of the Tech Act or the additional roles or responsibilities of the CSC members (DODEA, 2011b). Additionally, the procedural guide gives no specifications or guidelines for the multidisciplinary team; it only identifies the importance of following the sequential approach that the CSC normally follows, including pre-referral/referral through implementation of an IEP, utilizing “flexible working documents, adaptable to changing needs, and produced in loose-leaf format to allow for future revisions and additions of clarifying instructions, directives and/or decisions” (DODEA, CSP, 2008, p. 6).

AT Barriers

Parette, Stoner, and Watts (2009) and Kent-Walsh and Light (2003) identified inadequate teacher training, undefined roles and responsibilities, and unclear guidelines as the primary reasons that policy and procedures are not consistently being followed. Without unifying guidelines, teacher attrition rates may continue to increase and students’ academic growth could be hindered (Pugach, Blanton, and Correa, 2011). There has been a disconnection between the AT policy implementation requirements and what AT services are actually being applied within the educational setting. Brzycki and Dudt (2005) noted this gap in practice and lack of equitable consistent application validates the need for a stronger foundation for AT service providers, and a standards-driven framework that can be used within the states, national, and local levels. The development of unifying guidelines will ensure all AT service providers are of one accord toward solidifying a unification policy that addresses the roles and responsibilities of all

multidisciplinary team members. Brownell et al. (2011) completed a study on teacher effectiveness; it suggested that, “one important dimension of inclusive teacher effectiveness is knowledge and skills required for professional collaboration”(Brownell, et al., 2010 p. 368). This collaboration is key within the AT development community. Individual service provider qualities may vary but, research found that educational research is said to be influenced by the context within which it is practiced (Penuel, Fisherman, Yamaguchi, and Gullagher, 2007).

Wallace, Anderson, and Bartholomay (2002) expounded on the idea that community collaboration is a key indicator of how the program delivery model will be delivered by its community providers. To ensure that students receive the educational interventions they need, the CSC team must work towards the development of unifying guidelines and effective functional communication. This dialogue in the educational setting may change as the tasks change, just as community leaders’ change as targeted goals change (Dyal, Carpenter, and Wright, 2009), but the ultimate goal remains the same: the community is the primary support system for all students who require AT, and, therefore, require the valuable input of all service providers. Over several years of research, innovative technology has been developed and more technology continues to be produced for individuals with disabilities. AT service providers knowledge and application are the missing pieces of the puzzle of AT policy implementation. AT services are not in place to provide appropriate support. Johnson, Inglebret, Jones, and Ray (2006) presented anecdotal information within their research. It illustrated inconsistency in how AT devices are being used within the educational setting. This

literature leads one to believe that this inconsistency is linked to the lack of AT roles and responsibilities, and staff needs not being identified or addressed by school personnel. Bausch et al. (2005) found the necessity for adequate training and increased awareness of AT services among teachers and other professionals working with students with special needs.

Implications

This study can be implemented immediately upon approval of this research study or within the next fiscal year. The three-day professional development training outlines the scope and sequence of the training that can be used immediately within the XYZ Pacific school district or as a professional development model for other school districts. Each school district will have to facilitate the funding, schedules and training availability. Obtaining the expertise of the district ISS technologist, and the educational technologist (ET) can be requested by the trainer or the principal of each participating school. The implementation of this AT professional development training is researched-based (DuFour, DuFour, and Eaker, 2009). Therefore, it is important to be aware that available resources and equipment available in each district. Additional supports from the district lending library should be used to make this project as effective as possible. The concluding participant evaluations will be reviewed by the trainer and the stakeholders to enhance future planning and future follow-up professional development trainings.

Summary

Teacher preparation programs have begun to provide AT exposure to new teachers (Brady, Long, Richards, and Vallin, 2008) by giving them an outline of the

possible AT tools available to SPED students. Therein lays a problem. There is limited research data to indicate whether or not pre-service programs provide adequate AT equipment usage or transition programs. —For instance, abstract to concrete workplace knowledge, opinions of available resources, application, and confidence to effectively support student needs that require AT considerations. In addition, and more importantly, identifying roles and responsibilities within the AT contextual framework were shown to have limited research data as well.

The researcher designed the following sections as a silhouette to the overall study. This section includes sub-sections, which add shape and depth to this case study (Andrews, Nonnecke, and Peece, 2003). The remaining sections of this study are organized as follows: 1) Within the first section, the researcher placed the framework and justification for selecting this research design; 2) within the next section, the researcher provides details about how the study was designed; 3) the research sampling and participant subsections follow next; this section contains two subsections, research sampling and participants, in which the researcher gives further descriptions of the target population, sample size, type of sampling, the sampling selection process, participant's eligibility requirements, and the methods used for sampling participants; 4) the following subsections include the instrumentation and design overview, with information on the data collection process, the instrumentation used for each data collection tool, participant consent, ethical considerations, and the validity and reliability of all data collected. The research questions are embedded within this section, as well. The researcher placed the QIAT self-assessment survey and summative response, the WATI questionnaire, and the

demographic profile in the appendix. These survey tools were developed to record participant responses to questions specifically designed for this study. All XYZ pacific school district SPED staff, CSC, and administrators received access to the multiple-choice survey and follow-up questionnaire with the approval of the Walden University Institutional Review Board (IRB) (IRB approval number I 02-27-14-0150378).

Section 2: The Methodology

Introduction

It was my intention that the mixed-methods research methodology study will generate useful information through the collection and analysis of data on the attitudes, knowledge, and perceptions of AT service providers (Ashton, 2005). This section includes an overview of all the components within the methodology. The use of both quantitative and qualitative research methodology selected for this project study is thoroughly explored, and literature to support the methodology selection is reviewed. The design of study can be found within this section, along with the participant sampling and sampling population. Next, the instrumentation and design overview are clearly explained, and the section is concluded with the data collection strategies and analysis, which brings all aspects of this case study into perspective. This section concludes with the scope and limitations section.

I conducted a case study to investigate the phenomenon, while, according to Yin (2009), maintaining the “holistic and meaningful characteristics of real-life events” (p. 4). As noted by Merriam (2009), a case study is most suitable when determining the effect of a treatment or intervention. Hatch (2002) and Patton (2001) approached case studies as contemporary phenomena within their natural settings and researchers should stay within specified boundaries in order to understand them without attempting to manipulate it. Additionally, Creswell (2009), Merriam (2009), and Yin (2009) viewed case study as a collection of various data tools that are gathered from documents, observations, surveys,

and interviews. Grounded theory was considered and rejected as an option for this study. Creswell (2012) explained grounded theory as an attempt to discover a theory. This study did not focus on a theory, but rather the phenomenon of the interventions that embodied the group perceptions and knowledge.

Partnership knowledge and team collaborations from the SPED teachers, CSC team members, and the administrative staff were required to identify, determine, administer, and define the AT needs of all SPED students. However, the unparalleled views and perceptions from each participant's role varied among the team (Hoover & Patton, 2008). Therefore, a QIAT web-based self-assessment was conducted as a means to unveil each CSC member's understanding of his or her role and responsibility and provide a summation of the lived experiences as the primary decision makers and viable resource to educational AT. This method involved a forced response strategy and gave participants a specific selection of choice options. The summative response at the end of the survey allowed participants to elaborate on their experiences and give clarity to the quantitative responses. A WATI follow-up questionnaire was administered to examine the personal and professional AT knowledge of all SPED support staff and AT classroom usage. The concurrent collected data from the survey and questionnaires provided a numerical sample (Johnson & Turner, 2003) of the staffs QIAT, but the unclear findings led me to implement an additional research methodology tool: staff interviews. I used these to provide clarity to the quantitative data and hone in on the unanswered research questions that were not answered thoroughly using the survey tool. The research instrument was presented to eight participants using the qualitative methodology tool of

interviews. All staff interviews were conducted, coded, and triangulated to help confirm the findings from the quantitative data (Creswell, 2003). The interviews also offered more in-depth richness and breadth to the unanswered research questions. This data collection strategy allowed participants to answer open-ended questions freely and with much less limitation on their perception and expression. Interpretative data analysis was used to analyze and coded to identify emerging themes, clarify some inconsistencies, confirm findings, and fill in missing pieces to this study (Bogdon & Biklen, 2007).

Facilitating formative and summative assessments provided the XYZ school district with data that can be used to formulate tools to enhance school improvement (Cook & Reichardt, 1979). The data obtained from these tools are ideal for the professional learning community and the entire military community as a whole. The additional component of the qualitative research links the partnerships together by cultivating the summative data that are ingrained and enhanced within the formative data (Richards, 2005). These assessments work collaboratively to support the needs of each individual service provider. The collaboration of both formative and summative data encompasses most areas of understanding, identifying, and supporting the needs of the XYZ SPED service providers (Cook & Polgar, 2008).

Literature Related to Methods

Two components of research were used within this study: quantitative methodology tools and qualitative methodology tools. The methodology tools were broken down into two stages. The quantitative stage was used to gather an understanding of what quality indicators or AT the XYZ Pacific district SPED possessed and what

support services and resources were available to support the needs of the multidisciplinary team. The data from this phase lacked the depth and richness necessary to guide the direction of the project and thoroughly answer the research questions; therefore, I developed Stage 2—the qualitative methodology—as a tool to gather a rich qualitative voice for the statistical data (Brantlinger, Jimenez, Klingner, Pugach, & Richardson, 2005).

Creswell (2009), Morgan (2012), Johnson (2007), and Greene (2006) agreed that mixed-methods have established itself within the methodological or research paradigm world. Many researchers, however, favor quantitative or qualitative research methodologies. Cook and Reichardt (1979) and Greene et al. (1989) described multi-method and multi-trait research methodology as(a) a combination of both quantitative and qualitative methodologies within the same study, (b) the underpinning of research within the pragmatism arena; and (c) a distinctive view of how quantitative and qualitative data relate to each other within the triangulation framework (Creswell & Plano Clark, 2011). By separating the two research methodologies and looking at the strengths and weaknesses of them individually, I was able to determine why the QIAT online survey, WATI follow-up questionnaire, and culminating questions were the most suitable for this project study. Verification of the survey findings was enhanced through the formal interviews and used as a tool to highlight and validate the data presented in the surveys.

Quantitative research is a means for testing objective theories by examining the relationship among variables (Jones & Rattay, 2007). Quantitative research is known as

positivism. It uses deductive reasoning and the data are represented in a numerical formula. The philosophical underpinning and deductive logic makes it ideal for survey research, criterion sampling, and descriptive and inferential statistics. Therefore, the survey research method was utilized and triangulated with the interview and summative responses; then interpretative analysis was coded as part of the descriptive branch of research. The quantitative methodology answered closed-ended questions, gave statistical support, showed frequencies, and gave measures of variability or means, which was the type of data needed for this particular study. This type of data can be used for future research as a means to gathering further knowledge. It is through this research methodology that the expansion and scope of this study broadened and the dimensions of the data are unveiled. The triangulation of the data presents itself in a pictorial and descriptive manner, while captivating the numerical component for visual support (Johnson et al., 2007).

Qualitative research is a means for exploring and understanding the meaning individual groups ascribe to a social or human problem (Glense, 2011). Qualitative research takes on a constructivism approach by using inductive logic to represent its data pictorially or textually. Often times many researchers use case studies, purposive sampling, ground theory, and ethnography within its research framework (Edyburn, 2001). This type of research derives its meaning from the interpreted data, but the downfall of this type of methodological research is its inability to identify trends and patterns within the data. Therefore, the trends and patterns were disclosed within the

QIAT survey and the interviews and culminating questions were used to add a descriptive voice and richness to the study.

In 1932, Rensis Likert developed the Likert scale (Likert, 1932). Likert developed the scale to have respondents summate their level of agreement by generally using a 5-point scale. This allows respondents to be scored and not the item being answered. This research study sought to capture the feelings that mostly reflect perceptual truth. A self-assessment questionnaire was selected because it could be self-administered.

Questionnaires play an integral role in descriptive and opinion related surveys (Cox & Cox, 2008).

The benefits of utilizing a questionnaire for this project were as follows: (a) easy to administer and analyze, (b) less intrusive, and (c) convenient and can be completed at any time. Solomon (2001) noted that respondents experienced ease when using the surveys. Challenges come from these individuals who are not computer savvy or who are not fluent computer users. I did not choose the Thurstone scale because it requires respondents to respond by choosing from only two types of answers (i.e., *true/false* or *agree/disagree*) box statements about an issue or object. This type of scale would put parameters around the responses and would not provide relevant data for this study. I also considered and rejected both a nominal scale Internet-based survey and Guttman survey. Arguably, these scales would not provide enough variation of emotions or perceptions and, therefore, were not suitable for this study.

Interviews were later incorporated into the study to provide the emotional and perceptual components to the online study that the survey did not provide. The interviews

were found to be a suitable triangulation tool for this study because it provided clarity and depth that would otherwise not be obtainable. The ability to ask open-ended questions, gave this approach more flexibility to collect rich detailed and varied perceptions from the XYZ staff, describe roles and responsibilities, and identify staff needs. Solomon (2001) also pointed out limitations that ultimately arise when the respondents' computer access is limited, which may have a negative impact on the response rates.

According to Taylor and Kroth (2009), the Likert scale has become one of the more dominant methods of measuring social and political attitudes. The interviews from this study looked at the social attitude of the staff as one of the focal point. Andrews, Nonnecke, and Peece (2003) supported internet-based surveys and described the benefits of its usage as superior to the traditional methods, which have resulted in increased response rate and speed of data collection. The combination of both methodology tools proved to offer great gains.

The researcher for this project examined all XYZ-Pacific Okinawa SPED service providers' current knowledge, experience, opinions, identify QIAT, available resources, and identify staff needs. This study is valuable to all that have a shared responsibility for providing services for SPED students. The WATI uses a self-assessment tool that was recently revised in 2012 (Reed and Lahm, 2005). The researcher used this tool as a follow-up questionnaire for this study. Particularly, the descriptive research, was a helpful tool in understanding the dynamics of AT among all of XYZ-Pacific, Okinawa SPED support staff. Robson (2007) explains quantitative research as a fixed design that

prepares and organizes all research questions, collection of data methodology tools and analysis in advance. Although, the data collected from these surveys did not give a clear depiction of the staff's AT needs or knowledge, the added summative responses and interviews helped to answer the research questions, provide clarity and understanding to the study.

Design of Study

The researcher for this study focused primarily on the multidisciplinary team members' opinions, school supports, individual QIAT, AT resources and their perceptions of their AT roles and responsibilities within the Tech Act. If the CSC team shows inconsistent understanding of their roles or responsibilities due to the lack of unifying perceptions and guidelines, then there is a strong likely-hood that the appropriate decisions, services, and needs of the students are not being adequately met (Bell, S., Cihak, & Judges, 2012). Throughout this study, both qualitative and quantitative data were presented.

Although the quantitative methodology tool was presented as an online self-rater survey, it concluded with one open-ended culminating question and then triangulated with staff interviews (see Appendix). The survey design makes this quantitative research method ideal for this study. A self-guided structured online demographic profile was selected for this project, a QIAT self-assessment was sent to all purposeful sampling participants. The follow-up questionnaire asked forced response rater questions that allowed participants the ability to elaborate on their answers. The culminating question provided rich, in-depth data that otherwise would not have been obtained without the

formal interviews. The online survey is non-intrusive and provides participants with the time flexibility and freedom to work at their own pace. The guiding interview questions were developed after the data from the surveys revealed inconsistencies within the data, minimal responses, and incomplete surveys (Cook and Reichardt, 1979).

Survey research conducted by the National Assistive Technology Research Institute (NATRI, 2012) was used as a guiding tool for the instrumentation development and validating the body of the follow-up questionnaire. The data collection tools used within this study took into account all possible ethical concerns, and was disseminated across the entire XYZ-Pacific area multidisciplinary team. Postal and email survey designs are known to take substantially longer than web-based questionnaires. Access to this survey was available for eight weeks. During these eight weeks participants received reminder emails. These emails were not used as a pressure tactic, but as a reminder to the initial participates invitations.

Each participant was given individual access to the web-based survey and questionnaire. The individual email links were in place to ensure that confidentiality was maintained for all participants. Confidentiality allows all participants to voluntarily withdraw from participating in the survey, and questionnaire without researcher bias. The interviews were individually administered in a one to one setting of the participant's choice. Consent forms were signed prior to the interview. Each of the interviews was audio-recorded using a program called Quick Voice Pro. Upon completion of the interviews, the data was then uploaded to another program called Audacity and then transcribed using the Dragon Dictation program. The QIAT self-assessment designed by

Zabala, et al. (2000) was used with permission for this project (see Appendix). It was not piloted on a small sample of Pacific district SPED staff because the data collection has been used and validated in studies within various states and is currently used within eight different states. Zabala (1995) found that the questions were clearly understood and produced great reliability and validity of measure. Participant characteristics, experiences, degree of knowledge, means, standard variations, correlations among the study variables and extent to which AT service implementation was emphasized in the formative data; the summative data from the interviews were used to validate the findings of the surveys and questionnaire and ultimately offering clarity to the research questions.

For the purpose of the study, the QIAT self-assessment (Zabala, 2005) was redacted in order to focus on the overall AT strengths and needs of XYZ's SPED personnel, and to focus on the implementation strategies supported by literature to remediate the needs of the staff and guide the direction and production of this project. The summative response and interviews were added to the end of the survey to give clarity and a voice to the quantitative responses within the study. The summative responses were categorized using interpretive analysis to determine patterns, trends, and identify consistencies or inconsistencies among the service providers. A follow-up questionnaire developed by WATI (2006) was used to cross-reference the finding results. This offered a more in-depth image of the participants individualized needs. The WATI follow-up questionnaire was used but rephrased in order to pose them from a research stand point, as opposed to an individualized assessment tool.

The interviews added an additional layer to validate the findings and provide a different angle of verification to the needs of the study, while also supporting the researcher's intentions for choosing to triangulate the data. The usage of multiple data collection tools provide a broader scope of the perspectives, opinions and views from the SPED teachers, and give rich in-depth data (Creswell, 2003). Another advantage of this type of research design is the ability to target specific questions of interest, related to the topic of focus. Additionally, it is cost efficient and makes this design optimum for this type of research project (Lodico, Spaulding, and Voegtler, 2010).

The researcher coded summative notes, which the peer de-briefer signed. All transcribed data were sent to the member checker and signatures were presented for confirmation and accuracy. In addition to the member checker, a peer de-briefer was utilized throughout the entire data collection process to manage the ethical considerations and to ensure that all IRB-approved research methods were administered as accurately as possible.

Population

XYZ requires all staff to be certified in their field of study or regulation, therefore the sampling population comes from certified professionals within the XYZ Pacific District multidisciplinary team. The team is comprised of specialists, teachers, SLPs, school psychologists, SPED assessors, administrators, EDIS, occupational Therapists physical therapists, and school nurses. According to Polit and Beck (2010), quantitative research should come from the largest possible population sample so that it is a direct reflection of the target population. Although all the CSC's within XYZ-Pacific is the

target population, it is vital to the project that all participants are currently working in their respective field of study. The participants profile helped to verify all qualifications. It is important that service providers who work directly with AT decision making, AT evaluations, AT assessments, AT equipment, and AT services fully participated in this study. The qualitative component of the study added interviews to increase the study's value and depth and ultimately have a direct impact on social change within the military community.

Participants

The layer of the research sampling comes from an online survey that targets all XYZ-Pacific, Okinawa employees that are currently working in the field of SPED; provide support services to SPED students, participant in SPED decision making, and all CSC team participants. Prior to the final selection of participants, a SPED service provider profile was sent via online as a qualifications tool and used to sift out those willing participants who did not meet all mandatory requirements for this project. The eight interview participants were selected from the original sampling population, whom had already completed the QIAT self-assessment survey, and met all eligibility criteria.

In order to be eligible to participate in this study, all prospective subjects were required to be (a) currently employed with XYZ, (b) currently working in the Pacific district of XYZ, and (c) currently working with special needs students. Additionally, each study participant had to also fit two of the below criteria for eligibility:

1. Work with XYZs for longer than one academic school year;
2. Attended or participated in an IEP meeting;

3. Certified in a field that supports SPED students; and
4. Has participated and/or is a consistent CSC team member.

Upon completion of the support staff demographic profile, all prospective subjects were emailed a letter of request to voluntarily participate in the self- assessment and online survey portion of the study. The qualifying participants were later contacted to participate in a one-to one staff interview. Additional consent forms were approved by IRB and submitted to participants for consent.

Criterion sampling came from all of XYZs-Pacific, Okinawa primary, elementary, and secondary schools that have certified SPED teachers, or SPED support personnel. There are a total of 24 schools in the XYZs-Pacific, Okinawa. Therefore, the researcher had direct contact with the district office to first identify the sampling school participants and their school emails. Next, the researcher obtained written permissions from each school principal authorizing its willingness to voluntarily participate and allow data collection to take place among its staff.

Purposeful sampling was chosen because it “intentionally selected individuals and sites to learn” and helped the researcher to understand the central phenomenon of XYZs-Pacific SPED service provider’s knowledge, opinions, needs, and available resources of AT (Creswell, 2009, p. 204). A non-random sampling was embedded within the data collection process because all participants voluntarily participated in the study. A SPED demographic profile survey was used as a way to filter out participants who did not meet the above mentioned criteria. The researcher sent a survey packet—which included consent to participate, pre-notice, ethical considerations, confidentiality agreement, and a

demographic profile—to all XYZs-Pacific, Okinawa staff. A follow-up consent form was later sent to the qualifying participants for consent to participate in the semi-structured open-ended staff interview. After the SPED profile was completed and reviewed, the following data collection and research procedures were used to guide the direction of the project. It is the researchers hope that this project will help fill in the missing gaps in practice and provide supportive literature that could further enhance teacher's skills, knowledge and academic success in all students.

Instrumentation and Design Overview

The research tools that were used within this study were selected to provide a voice for the multidisciplinary team and give some clarity and visual representation for this research study. The demographics profile, the QIAT self-assessment with a culminating question, WATI follow-up online questionnaire, and eight staff interviews, have all supported the findings of the data required for this study; validated the findings and provided justification for the research problem. Jones and Rattay (2007) stated that a questionnaire was an inexpensive way of collecting quick standardized information in a convenient manner. The primary data collection can be found within the online QIAT self-assessment and interviews. These collection tools were helpful in identifying both individual and collective SPED staff strengths, needs and added clarity to the quantitative components of the study. A demographic profile for the SPED support staff was developed by the researcher for the purposes of this study. The profile is comprised of two sections. The first section contains multiple choice questions about the current education, training, and work experience. Each question presented allowed participants to

select one of multiple choice responses. The demographic information obtained from this data assisted in purposeful sampling of both the self-assessment survey and the staff interviews.

The second section of the demographic profile was used to gather data about personal and professional participants' opinions and perspectives about AT usage. This section contains a directed multiple choice matrix that gives participants the ability to choose from multiple answers as applicable, from a multiple choice layout. It also offered additional response or comment section and the option of selecting "other" to be used if a selection choice is not listed in the answer choices. The data from this section was used to correlate professional and personal opinions/perceptions to AT application as well as identify how the role of the respondent's perception plays a vital role in AT usage.

Data Collection Strategies

Method A: Demographic Profile

Formal. The demographic profile was used to gather quantitative data about the respondents. It used formal data to support the purposeful sampling needs for this study.

Purpose. Demographic profile was used as one of the formal data collection tools and/or qualifications tools used to sift out those willing participants who did not meet all mandatory requirements for this study.

Procedure. SPED service provider demographic profile was sent via online as a qualifications tool used to sift out those willing participants who do not meet all mandatory requirements for this study. Upon completion of the support staff

demographic profile, all prospective subjects were emailed a letter of request to voluntarily participate in the self-assessment and online survey portion of the study.

Guiding questions. The guiding questions were presented in a multiple choice matrix that gave participants the ability to choose from multiple answers as applicable, from a multiple choice layout. It also offered an additional response or comment section and the option of selecting “other” to be used when a selection choice was not listed in the answer choices. The guiding questions were used to gather data about personal and professional opinions and perspectives about AT using a forced response design.

Data collection. This process helped by locating purposeful sampling participants for the final project. Creswell (2012) described data collection as objective, systematic, and repeatable. The demographic profile findings were documented using a demographic qualification grid, in order to strategically identify eligible participants for the triangulation of the study, and later used to select participants for the semi-structured open-ended staff interviews.

Data analysis. All items were categorized and interpreted. According to Robson (2007), a good researcher should not collect more data than required, and knowing how to collect the necessary data to answer the research questions is vital to data analysis. Summative notes were individually signed by the peer de-briefer. The peer de-briefer monitored the ethical considerations during the entire data collection process to ensure accuracy and validity.

Reporting strategy. A copy of this study will be given to the school administrators.

Method B: Formal QIAT Self-Assessment Survey

According to Caffarella (2010), the purpose of a self-assessment plan is a way for the target audience to verify its own level of knowledge and skills, its interest and opinions, or it is learning habits and preferences. This QIAT self-assessment was used as a guiding tool for this research project. It was administered to all XYZ-Pacific, Okinawa schools SPED service providers, who volunteered to participate in the study. The culminating response question was also used as a layer of data to help provide a broader perspective on what strategies, tools, resources, and trainings the staff currently use without restrains or forced responses. This in turn, helps the XYZ's administrative personnel to better understand the needs of the SPED staff and multidisciplinary team, as it relates to their continuous AT roles and responsibilities, and what their perspectives are regarding AT resources and ongoing AT support within the DODEA school system.

Formal. The QIAT self-assessment survey scale uses a quantitative data approach to gather formal data to support the needs of the AT service personnel and then provide a summative response to the open-ended culmination question presented at the end of the survey. The QIAT self-assessment is written on a variations scale: All participants individually rated themselves on a scale from 1 (Unacceptable) to 5 (Promising Practice). The questions were broken down into a response grid for six AT categories, including consideration, assessment, IEP development, implementation, evaluation, and professional development.

Purpose. QIAT self-assessment survey was used as one of the formal data determinants to help clarify if the AT knowledge and resource support for teachers

enhances the academic success in elementary school and enhances teacher's abilities, confidence, and perceptions about SPED technology services and tools, while giving a voice to the quantitative data that was collected.

Procedure. This survey asked participants to self-rate their familiarity with issues, services, and knowledge related to AT laws, decisions, and the importance of AT for students with special needs, AT devices/ equipment usage and the impact that AT has on students educational success. Questions were pre-developed by the QIAT consortium, which is made up of AT coordinators, speech and language pathologists, SPED assessors, AT specialists, and educational specialists, in order to ensure validity. These questions have a direct correlation with the project, and have an impact on social change within the XYZs school system. The summative response used the culmination of all three research question developed by the researcher to gain clarity and understanding to the quantitative responses.

Guiding questions. The focus questions consist of current knowledge base questions pertaining to current classroom experiences, benefits, anticipated challenges of using new equipment, current AT use, resources, prior AT experience and opinions about learning about new equipment. The data collected was used to answer the following questions: (1) Does the staffs' knowledge differ from the required skills of the QIAT criteria? (2) What is the average central tendency of AT knowledge and skills among the multidisciplinary team? (3) What is the test of difference in the skills and knowledge among the staff?

Data collection. QIAT self-assessment survey was sent to all XYZs-Pacific Okinawa SPED staff, administrators, specialist, CSC team, and all other SPED service providers via school email. A mass distribution was sent out, so that confidentiality was maintained within the learning community. A preliminary SPED profile questionnaire was sent via school email to verify participants met the criteria for the purposeful sampling.

Data analysis. Survey Monkey sent notification of survey responses. Individual surveys were read, reviewed, and analyzed to gain a better understanding of the needs of the participating SPED staff. The peer de-briefer signed all summative notes. The notations were made in the areas of need, and commonalities were identified in order to determine consistencies or variability measures, these notations were signed by the peer de-briefer as well. Consultations with the peer de-briefer were implemented to ensure all ethical considerations were maintained and to monitor the IRB-approved data collection processes.

Reporting strategy. The researcher used the Statistical Package for the Social Sciences (SPSS) statistical analysis software package to analyze the coded survey. The results will be presented to all school administrative staff in a written report so that the principals and the researcher are able to review the program planning process and discuss what was effective or ineffective. The data was be saved and sent via a PDF.

Method C: Formal WATI Likert Survey Scale

Formal. The WATI follow-up questionnaire (see Figure 1). The Likert scale uses a quantitative data approach to gather formal data. It is a necessity for AT service

providers to have knowledge and skills regarding the use of AT. This study used the WATI follow-up questionnaire to identify the level of skill, knowledge, and needs of the multidisciplinary team. A survey was developed in a questionnaire format from the data collected from the QIAT self-assessment. The data collected was the driving force behind the development of the follow-up questionnaire. All participants' survey responses were used as a tool to gain deeper, richer data for this study. A questionnaire is a data collection tool that enables participants to provide open-ended verbal or written responses, to a set of constructed questions (Parahoo, Kader, Barr, Owen, and McCaughan, 2000).

Purpose. The researcher used a Likert scale as one of the formal data tools to help the researcher understand the staff needs, identify opinions of their AT roles and responsibilities, describe current AT knowledge, and explore available resources. The survey questions from the WATI scale were modified with permission to fit the research needs of this study. According to Parahoo (2008), a Likert scale is used to formulate questions that the researcher finds to be pertinent to the data that is being collected and will provide the most valid representation of the items being measured.

Guiding questions. The focus questions consisted of current knowledge base questions, including knowledge, needs, roles and responsibilities, opinions/perceptions about AT usage, supports, and resources.

Survey: Guiding Questions.

1. What QIAT do the XYZ Pacific SPED service personnel possess?

2. What is the XYZ Pacific service personnel's perception of their roles/responsibilities within the laws of the Tech Act?
3. What data collection process is used to determine, train, or assess the QIAT of XYZ SPED service providers?

Data collection. According to Parahoo (2008), information about the attitudes, knowledge, and perceptions of participant can be collected using questionnaires. Therefore, a follow-up questionnaire was sent to all XYZ Sped teachers, support staff, administrators and multidisciplinary team via school email. A semi-structured written questionnaire that uses a self-report technique was used as a guide to collect additional data for this study, as described by Polit and Beck (2010). A mass distribution was sent out; so that confidentiality was maintained and purposeful sampling participants were not identified.

Data analysis. Survey Monkey sent notification to the researcher when questionnaires were completed. Thereafter, each questionnaire was individually read, reviewed, and coded so that they could be placed into various categories. Statistical analysis software from the social sciences (SPSS) Statistical Package was used to analyze the coded questionnaire. Each question was placed into two categories: positive or negative. The positive statements were scored one to six (one for strongly agree through to six for strongly disagree) and scores were reversed for negative perspective statements. The score of each item was individually reported. The fill in the blank section was used to gather data on XYZ staff knowledge and perceptions about AT. This helped the researcher to gain a better understanding of the needs of the XYZ AT service providers.

The peer de-briefer signed all notes and summaries. Notations were made in the areas of need, and commonalities were identified in order to determine the direction of the research project. The peer de-briefer was consulted throughout the study to validate and ensure accuracy of all IRB approved data collection tools were used appropriately, and all ethical considerations were maintained.

Reporting strategy. A PowerPoint presentation of the results was provided to the school administration. Also, the results were printed in a written report so that the principals, district superintendent, and researchers are able to review data for future research planning, and training.

Method D: Staff Interviews

Formal. Semi-structured face-to-face interviews were conducted with eight members of the multidisciplinary team. Participants were interviewed in a location of their choice, during a time that was conducive to both the researcher and the participant. The interview questions were audio-recorded for accuracy during transcription. All participants were sent a follow-up consent form prior to the interview.

Purpose. The data from this section was used to corroborate the findings of the web-based survey, culminating responses, and follow-up questionnaires through triangulation of all data sources and to use the data to identify personal and professional opinions of their AT knowledge, resources, and identify how each respondent's perception of their roles and responsibilities plays a vital role in AT usage. The primary purpose of the staff interviews was to answer the three interview questions: (1) What AT guidelines or supports are in place for SPED personnel to follow? (2) What does the

SPED staff perceive as their greatest AT need within the district? (3) How familiar is the multidisciplinary team with AT devices, AT services and AT resources?

Procedure. The open-ended responses from the participants offered clarity to some of the incomplete survey data due to the lack of survey responses and provided depth and breadth to the quantitative data that lacked richness, quantity and understanding. The interviews lasted approximately 10-40 minutes. Participants were identified in the transcription by a number and not by their names.

Interview questions. The data from the interviews were derived subsequently from the responses to the following interview questions:

1. Describe your lived experiences working with special needs students who required AT, placement, decision making service and/or devices.
2. Reflect on what your professional training or educational experience. What type of professional AT training or education have you received that prepared you to work with students who require AT support services?
3. What resources have you used within the XYZ school district to support students with AT needs and how did you obtain these resources?
4. If you have AT needs or supports for AT questions or guidance, where would you go to get those supports and who would you contact to obtain the supports you need to support the students AT needs?
5. Can you share your opinion or perspective of your role and responsibilities within AT and in what way would clearly understanding your roles and

responsibilities within AT help you to work more effectively with your students?

6. What needs do you have or how would you rate yourself as it relates to the QIAT survey?
7. Express in detail what AT guidelines that are in place within the XYZ school district that you follow consistently to ensure that all your students are receiving the newest and the most effective support services available.
8. As an AT service provider and decision maker for students who have special needs, what do you think would help better prepare you to service students with diverse learning needs within AT?

Data collection. All interviews were transcribed from the audio-recorded devices to ensure accuracy of response. At the completion of each interview, the data was immediately transcribed, color coded and notations were made, categorizing helped with the interpretive data analysis and triangulation.

Data analysis. Prior to data analysis, each participant was sent a copy of the transcripts via email to confirm accuracy of the transcription and clarify statements. Once accuracy was approved by each participant, corrections were made if required. The data was placed in a color coded grid, to match the corresponding interview question. Once all respondent's answers were placed beneath the question, the researcher reviewed each interview response searching for emerging themes and consistencies.

Reporting strategy. When the emerging themes were highlighted in each section, they were then cross-referenced among all participant responses. After the emerging

themes were identified it was transferred to a separate grid to begin triangulation. The findings were added to the study.

In summary, the purposive sample size place statistical limitations around the ability to generalize the results beyond the XYZ school district. The theoretical implications and evidence from the statistical data are plausible and the emerging themes were consistently strong and submerged with richness and depth. The qualitative data provided coefficient factors of reliability and the results consequently are significant to the XYZ school district and have theoretical implications on the entire multidisciplinary team. The eight staff interviews were developed from the emerging themes that arose from the summative responses. The data collected via surveys and culminating responses left a very unclear picture of the XYZ school district staff's needs, and, therefore, required the researcher to dig deeper for clarity to the emerging research questions.

Validity and Reliability

A peer de-briefer was used throughout this entire study to ensure ethical considerations were followed. At the end of the data analysis both quantitative and qualitative data were merged (Creswell and Plano, 2011). The peer de-briefer reviewed the findings from the data comparisons and interpretations that were unveiled from the triangulation. Cross-checking information through the use of multiple data sources contributes to the validity and credibility (Creswell and Plano, 2011) of the study as also noted by Johnson and Turner (2003). Triangulation of data was obtained by the use of qualitative data tool and quantitative research interpretive analysis. All data was triangulated for accuracy, validity, and to provide evidence of quality (Creswell, 2012;

Merriam, 2009) and to maintain credibility. As stated by Creswell (2009) and Merriam (2009), triangulation offers a holistic view of the situation being investigated.

The audio-recorded interviews were transcribed and presented for member checking. Member checking is used to verifying participants true view of perception rather than the researchers own or preconceived beliefs (Creswell, 2009; Merriam, 2009; Yin, 2009). This process allowed the researcher the opportunity to contact each participant and send the interview transcripts for review, confirm accuracy, minimize misinterpretations and ensure that the participants were represented accurately. This process added additional elements of trustworthiness and validity to the data (Glesne, 2011). Yin (2009) described triangulation as a means to gathering more detailed description of the phenomenon through the confirmation of findings and completeness of the research questions.

Upon completion of the data collection the peer de-briefer helped review the findings and determine if the quantitative and qualitative data comparisons and interpretations represented conflicting results (Creswell and Plano, 2011). The researcher was able to assess whether or not the data was convergent or divergent based on the quantitative data supported by the emerging themes of the qualitative data.

Role of the Researcher

The researcher for this study has held several roles throughout this project. The researcher is the Hearing Impaired Specialist-Pacific and the Learning Impaired teacher within the XYZ school district. The researcher has worked in the field of SPED for 18 years. All participants were informed of the researcher's position within the district and

role as the study researcher. Participants' confidentiality was ensured and consent forms were signed. The consent forms were presented to approved school principals for further distribution.

The consent forms were collected and the distribution of the demographic profile and surveys were emailed to qualifying participants with stated timelines for submission. Thereafter, the researcher collected all data from the survey and culminating responses. Next, the follow-up WATI questionnaire was sent to all participants with a follow-up letter and timeline. Following these procedures I then changed roles and began organizing the detailed data. Findings revealed insufficient data, lack of clarity and therefore led the researcher to add a qualitative methodology tool: interview. A change in procedures request form was sent to IRB and the community partners for approval to proceed with the additional data collection. The same initial procedures were followed: informed consent and confidentiality agreements were sent to participants and re-signed. The last component to the data collection piece was conducting one to one interviews. The interviews were scheduled and were audio-recorded, transcribed and analyzed to corroborate the findings.

Limitations

One of the limitations of this doctoral research project study was the fact that most of the data collected was self-rated and the data was gathered from SPED teachers, school personnel, and related service providers who currently work for the XYZ school district. Additionally, the data is limited to the scope of XYZ school community and limits its ability to be generalized to all other school systems. Delimitation is the web-

based questionnaire. It is only submitted to individuals that fit within the described categories within the CSC team, and one must have been presently employed with the XYZ-Pacific District. This narrows the scope and eliminates those perspective participants who have completed training within AT but did not work for XYZ. Lastly, the scope and limitations did not factor in teachers who had recently taken any type of technology class or had any AT experience but were not working within that field of SPED this year. These limitations could be reviewed more thoroughly in future research studies.

Protection of Human Rights

Walden University provides strict guidelines regarding the proper care of human participants within the research forum and data collection from participants. To ensure all guidelines are followed and regulations are in compliance by the IRB, a letter was sent to the XYZ Pacific District superintendent and principals prior to individual staff contact. The letter of intent outlined the project study, to reassure participant confidentiality, safety, and privacy and researcher ethics.

Findings

The purpose of this study was to identify, describe, and explore the current AT knowledge among the SPED service providers, identify individual AT skills, perceptions of current support services, staff needs, and resources and identify what QIAT the multi-disciplinary team members currently possess. It is the primary responsibility of all SPED personnel to access, evaluate, and provide AT accommodations to all students on an IEP, but there is no data to support XYZ pacific school district shared AT responsibility, no

clear AT guidelines or current knowledge of AT services from its staff. It is through this research project that the needs of XYZ pacific school district staff were unveiled and a more cohesive multidisciplinary team has begun to develop.

The demographic profile was used as one of the formal data collection tools and/or qualifications tools used to sift out those willing participants who did not meet all mandatory requirements for this project. The QIAT online survey was administered to help clarify and identify QIAT within the XYZ school district. The Likert scale was administered via survey monkey designed to identify trends, and relationship among variables. A culminating response question was the final component of the online survey. It presented one culminating question as the final question of the QIAT survey. This offered the respondents the opportunity to elaborate or expound on their responses to the QIAT questions and add depth and richness to their perceptions and/or needs as a stakeholder in the SPED learning community.

The data collection was analyzed using SPSS and produced a numerical report, immediately after the respondents completed the survey. The culminating responses were analyzed and coded for triangulation of emerging themes. The WATI follow-up questionnaire was used but rephrased in order to pose them from a research stand point, as opposed to an individualized assessment tool. Data was collected using SPSS from Survey Monkey. A pictorial representation was used to display the data findings collected from the participants. The interviews were administered by the researcher. Data was collected from the members of the multidisciplinary team and triangulated to add depth and breadth to the study, while also giving the XYZ SPED staff the opportunity to share

their needs and perceptions of AT in their own words. The data was transcribed, color-coded and triangulated for emerging themes.

The following research questions were used to address this study. The three research questions were used to answer the quantitative methodology section and three additional research questions were added and used to address the qualitative components of the study. The interview is a data collection tool that enables participants to provide open-ended verbal or written responses, to a set of semi-structured questions. All participants' interviews were used as a tool to gain deeper, richer data for this study.

Quantitative Research Questions

1. What QIAT do the XYZ Pacific school district SPED Service Personnel currently possess?
2. What is the XYZ Pacific school district SPED Service Personnel's perception of their roles and responsibilities within the new laws of the Tech Act?
3. What data collection process is used to determine, train, or assess the QIAT of the XYZ Pacific school district SPED service personnel?

Qualitative Research Questions

1. What AT guidelines or supports are in place for SPED personnel to follow?
2. What does the SPED staff perceive as their greatest AT need within the district?
3. How familiar is the multidisciplinary team with AT devices, AT services and AT resources?

Upon completion of the data analysis, interpretive data analysis and triangulation of all resource tools, these research questions were used to help determine what AT knowledge the multidisciplinary team, administrative staff, and SPED teachers currently possess within the framework of QIAT. More abundantly, it offered an in-depth view of the needs of the XYZ pacific school district staff participants, and provided both rich informative and summative data for this study. It was important that the triangulation of the data from the individuals who participated in the Web-based survey's and culminating responses. The staff interviews were used as an insightful tool towards developing an understanding of the XYZ pacific school district staff. Four themes emerged from the findings. These themes were noted as *lack of AT knowledge, lack of viable resources, AT support and guidance, training and collaboration time*. The findings were based upon the answers to the above research questions presented by the respondents.

Demographic Data

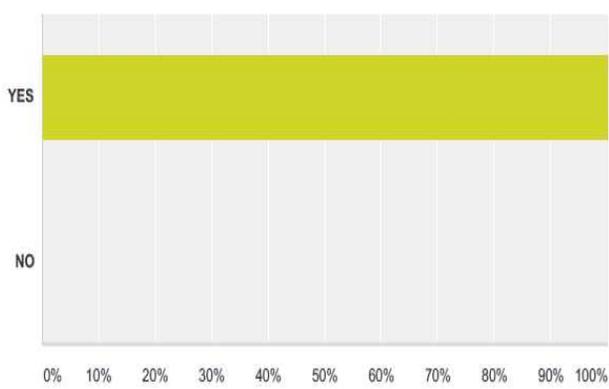
The demographic profile was distributed to all service providers within the XYZ school district. The demographics profile questions included years of teaching, current position, location of employment, certification, and work experience. Consent forms were sent via email to all potential participants within the Pacific district. One hundred fifty-one SPED service providers were sent consent forms and 19 participants completed the demographic profile. The demographic profile was created for purposeful sampling for this study (see Appendix). The sampling population who completed the demographic profile helped to identify a specific group of individuals that have valuable insight into

the phenomenon of this study. The purposeful sampling population came from stakeholders within the learning community. These individuals were able to add an internal perception that a random sampling population would not have provided.

Demographic Profile

Q1 Are you currently working with the Department of Defense?

Answered: 19 Skipped: 0



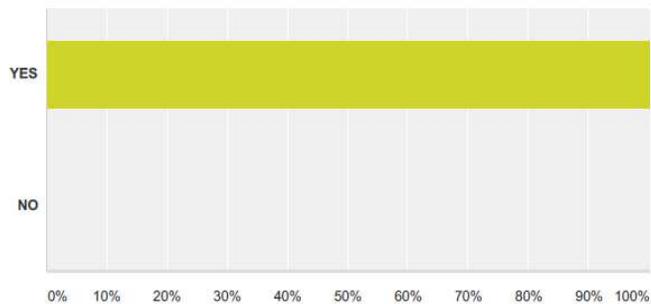
Answer Choices	Responses
YES	100.00% 19
NO	0.00% 0
Total Respondents: 19	

Figure 1. Participant responses to Q1.

Demographic Profile

Q2 Do you currently work in the Pacific District of the Department of Defense?

Answered: 19 Skipped: 0



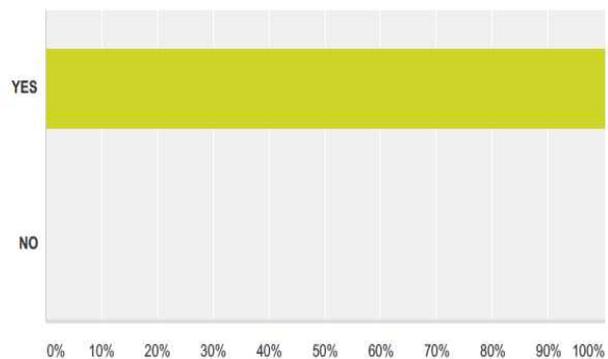
Answer Choices	Responses
YES	100.00% 19
NO	0.00% 0
Total Respondents: 19	

Figure 2. Participant responses to Q2.

Demographic Profile

Q3 Are you currently working with special needs students? Or provide support services for special needs students?

Answered: 19 Skipped: 0



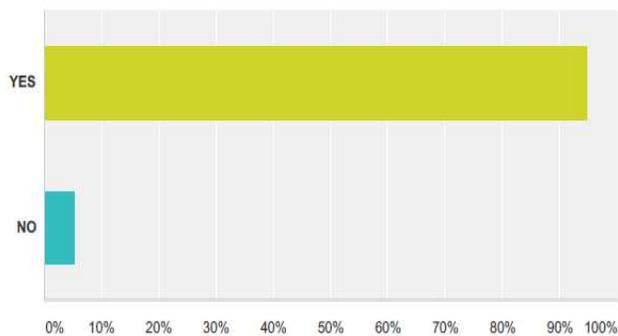
Answer Choices	Responses
YES	100.00% 19
NO	0.00% 0
Total Respondents: 19	

Figure 3. Participant responses to Q3.

Demographic Profile

Q4 Have you worked with Department of Defense for longer than one academic school year?

Answered: 19 Skipped: 0



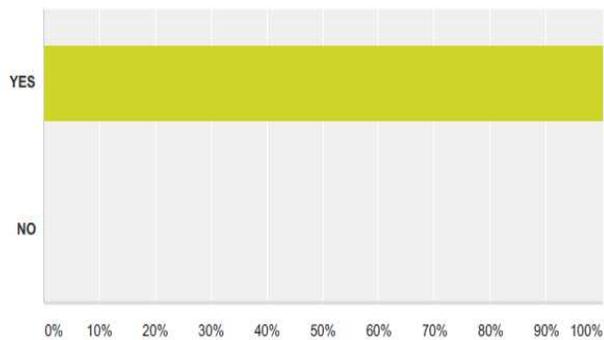
Answer Choices	Responses	
YES	94.74%	18
NO	5.26%	1
Total Respondents: 19		

Figure 4. Participant responses to Q4.

Demographic Profile

Q5 Have you ever attended or participated in an IEP meeting?

Answered: 19 Skipped: 0



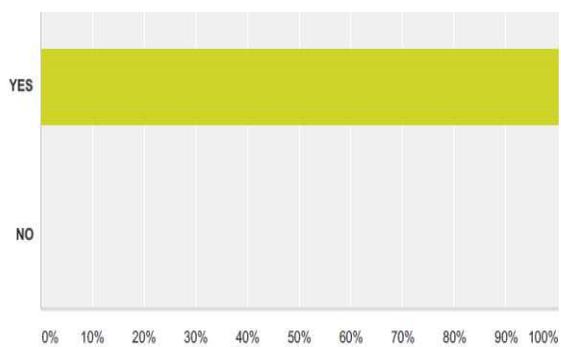
Answer Choices	Responses
YES	100.00% 19
NO	0.00% 0
Total Respondents: 19	

Figure 5. Participant responses to Q5.

Demographic Profile

**Q6 Are you certified in a field that supports
SPED students?**

Answered: 19 Skipped: 0



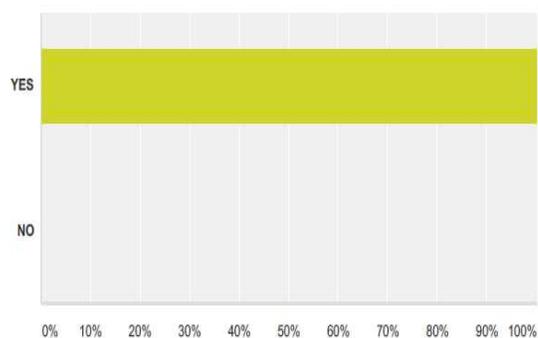
Answer Choices	Responses
YES	100.00% 19
NO	0.00% 0
Total Respondents: 19	

Figure 6. Participant responses to Q6.

Demographic Profile

Q7 Have you ever participated in a CSC meeting? Or, are you a consistent CSC team member?

Answered: 19 Skipped: 0



Answer Choices	Responses
YES	100.00% 19
NO	0.00% 0
Total Respondents: 19	

Figure 7. Participant responses to Q7.

The demographic profile results indicated that 19 participants completed the profile and all 19 respondents met the criteria to participate in the study.

QIAT Web-Based Survey

The QIAT self-assessment was broken down into eight sections, including consideration of AT needs, AT transition, documentation in the IEP, assessment of AT needs, AT implementation, evaluation of effectiveness, administrative support, and professional development training for AT. These eight sections contained 53 questions and six categories (see Appendix). The graphs presented are remarkable for their consistent ratings from Unknown (0) to Highest (5), which is equivalent to Unacceptable (0) to Promising Practice (5), as termed in the QIAT Self-Evaluation Matrices. The

results vary by section, therefore, it is important to review the entire section to clearly understand XYZ staffs overall rating within the category, comparisons can then be made per individual participant's response to determine the specific need within the category. Additionally, one example and question from each of the eight QIAT standards are illustrated in the findings below. The overall data findings for each of the QIAT standards are presented in the tables. The rating score is recorded as Promising Practice (P), the respondent's total rating score were more than 50% of the total score. If the respondents total rating score were at least 50% of the total score, it was recorded as Unacceptable (U).

The QIAT self-assessment was used to answer research question 1.

RQ1: What QIAT do the XYZ Pacific School District SPED Service Personnel currently possess?

a. What are the strengths of XYZ Pacific school district staff according to the QIAT Self-Matrices?

b. What are the needs of the XYZ Pacific school district staff according to the QIAT Self-Matrices?

Respondents' strengths and needs, according to the QIAT, are presented in the below figures.

Example of the QIAT Standard 1: Consideration of AT needs:

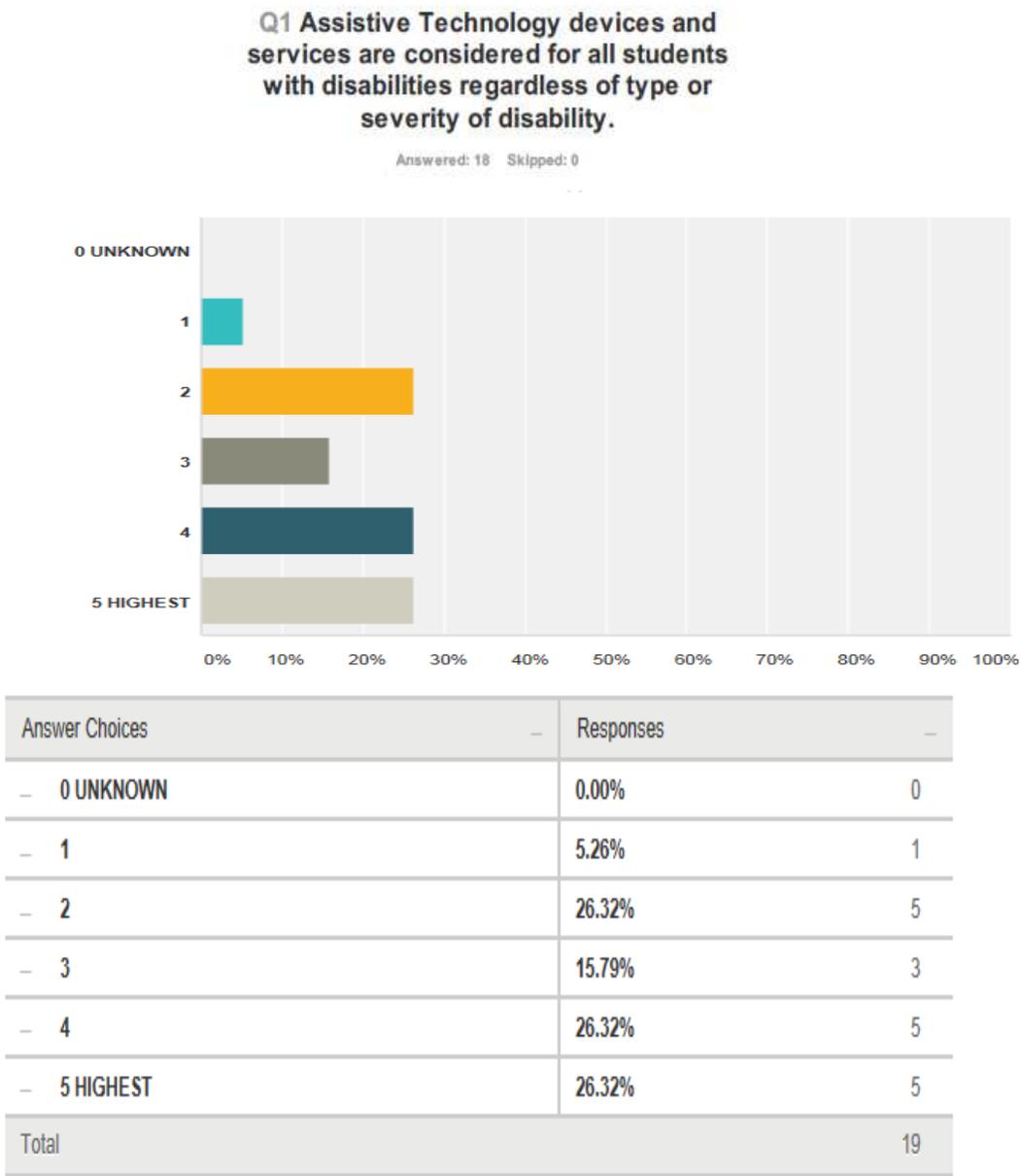


Figure 8. Results of participants’ consideration of AT needs among the XYZ staff.

Table 1

QIAT Standard1: Consideration of AT Needs

<i>Participant#</i>	<i>Q1/Q2/Q3/Q4/Q5/Q6/Q7</i>	<i>Self-Rating Score</i>	<i>P/U</i>
P1:	4,5,4,5,5,4,4	31/35	P
P2:	2,1,1,3,1,1,2	11/35	U
P3:	5,5,4,5,5,5,4	33/35	P
P4:	2,3,3,3,3,2,3	19/35	P
P5:	4,3,3,4,2,4,3	23/35	P
P6:	2,1,2,2,1,1,1	10/35	U
P7:	5,5,5,5,5,skip,4	29/35	P
P8:	4,4,4,5,4,4,5	30/35	P
P9:	3,3,4,3,2,4,4	23/35	P
P10:	5,5,4,5,3,4,4	30/35	P
P11:	3,3,4,4,3,3,3	23/35	P
P12:	4,4,3,4,3,skip,3	21/35	P
P13:	2,3,2,0,0,0,0	7/35	U
P14:	4,3,1,3,3,3,4	21/35	P
P15:	1,3,2,3,3,2,1	15/35	U
P16:	5,5,5,5,5,5,5	35/35	P
P17:	5,5,5,5,5,5,5	35/35	P
P18:	3,3,3,4,4,3,4	24/35	P

Q8 Procedures for all aspects of assistive technology assessment are clearly defined and consistently applied.

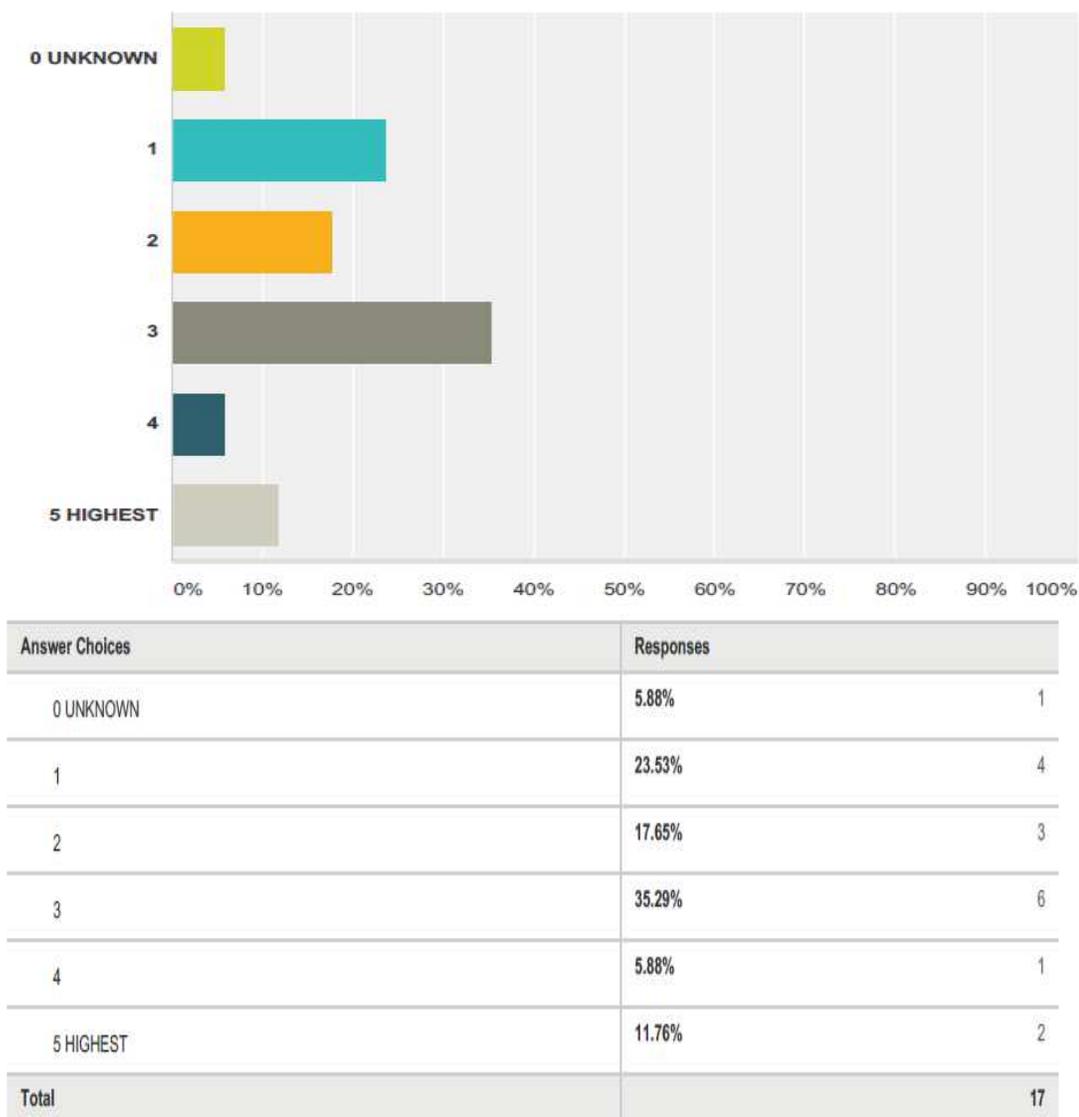


Figure 9. Assessment of AT needs among the XYZ staff.

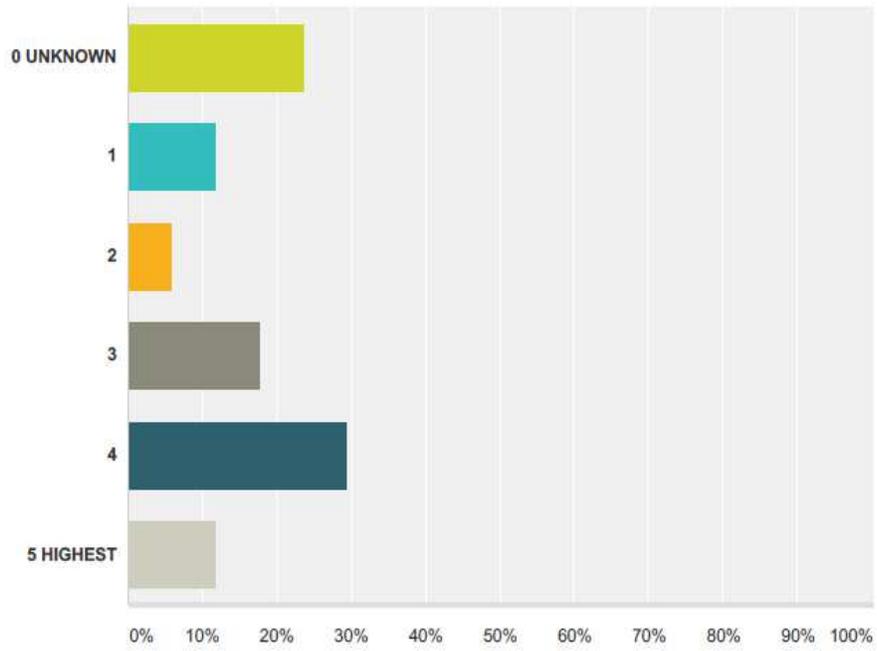
Table 2

QIAT Standard 2: Assessment of AT Needs

<i>Participant#</i>	<i>Q1/Q2/Q3/Q4/Q5/Q6/Q7</i>	<i>Self-Rating Score</i>	<i>P/U</i>
P1:	3,3,3,3,4,4,4	24/35	P
P2:	1,0,2,3,3,2,2	13/35	U
P3:	2,4,5,4,4,4,5	28/35	P
P4:	1,0,0,0,0,0,1	2/35	U
P5:	3,3,2,4,2,3,3	20/35	P
P6:	1,0,0,0,0,0,1	2/35	U
P7:	5,5,5,4,5,5,5	34/35	P
P8:	3,3,5,3,3,3,4	24/35	P
P9:	noreponse	0/35	U
P10:	3,3,4,3,3,3,3	22/35	P
P11:	3,3,3,4,3,4,3	23/35	P
P12:	3,3,3,3,3,3,3	21/35	P
P13:	0,2,0,3,0,0,3	8/35	U
P14:	2,4,3,4,4,3,3	23/35	P
P15:	1,1,2,1,1,2,3	11/35	U
P16:	4,4,4,4,5,5,4	30/35	P
P17:	noreponse	0/35	U
P18:	2,4,3,3,3,3,3	21/35	P

Q15 The education agency has guidelines for documenting assistive technology needs in the IEP and requires their consistent application.

Answered: 17 Skipped: 2



Answer Choices	Responses
0 UNKNOWN	23.53% 4
1	11.76% 2
2	5.88% 1
3	17.65% 3
4	29.41% 5
5 HIGHEST	11.76% 2
Total	17

Figure 10. IEP among the XYZ staff.

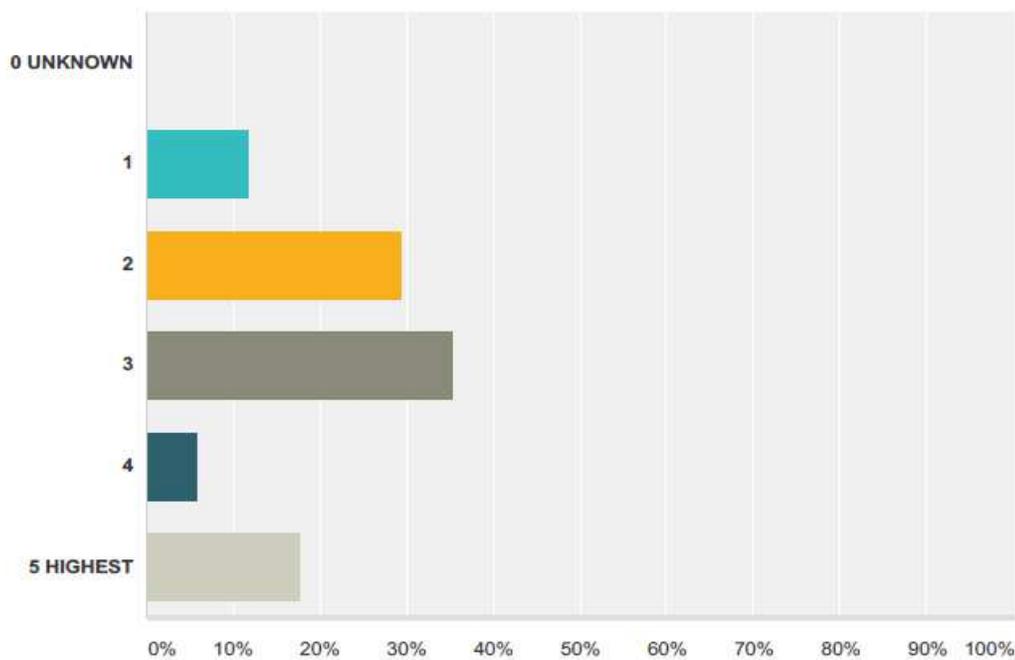
Table 3

QIAT Standard 3: Documentation in the IEP

<i>Participant #</i>	<i>Q1/Q2/Q3/Q4/Q5</i>	<i>Self-Rating Score</i>	<i>P/U</i>
P1:	4,3,4,3,3	20/25	P
P2:	1,2,2,1,2	8/25	U
P3:	4,4,5,4,4,	21/25	P
P4:	0,2,2,4,2	10/25	U
P5:	4,5,4,2,2	17/25	P
P6:	0,0,0,0,0	0/25	U
P7:	5,0,0,0,0	5/25	U
P8:	2,3,3,3,3	14/25	P
P9:	4,3,4,3,3	13/25	P
P10:	4,3,4,3,3	17/25	P
P11:	3,4,3,3,3	16/25	P
P12:	3,3,3,3,2	14/25	P
P13:	0,0,3,0,2	5/25	U
P14:	0,0,2,0,2	4/25	U
P15:	1,1,1,2,1	6/25	U
P16:	4,5,5,4,5	23/25	P
P17:	no response	0/35	U
P18:	3, 2, 3, 3, 3	14/35	U

Q20 Assistive technology implementation proceeds according to a collaboratively developed plan.

Answered: 17 Skipped: 2



Answer Choices	Responses	Count
0 UNKNOWN	0.00%	0
1	11.76%	2
2	29.41%	5
3	35.29%	6
4	5.88%	1
5 HIGHEST	17.65%	3
Total		17

Figure 11. AT implementation among the XYZ staff.

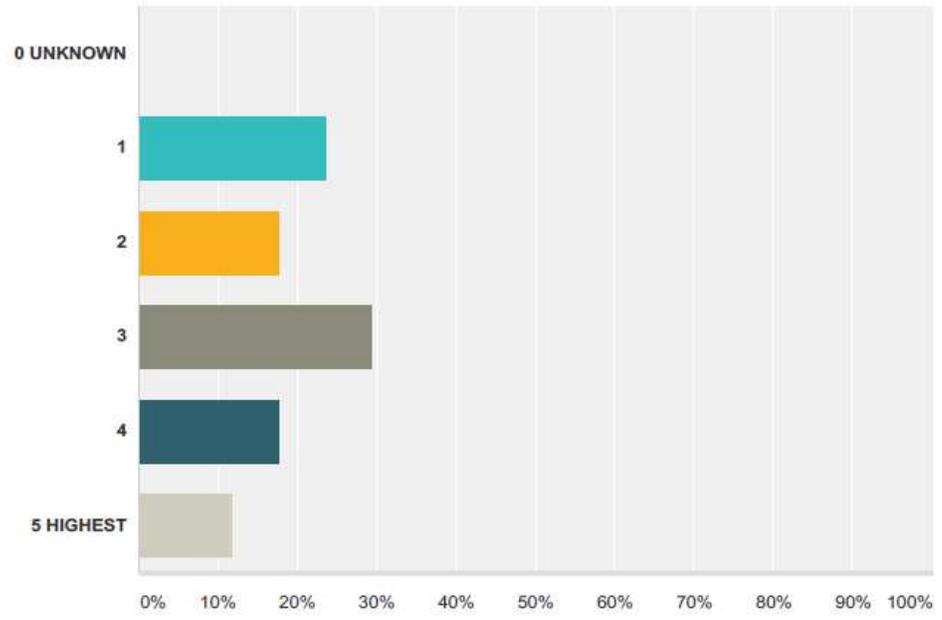
Table 4

QIAT Standard 4: AT Implementation

<i>Participant#</i>	<i>Q1/Q2/Q3/Q4/Q5/Q6/Q7</i>	<i>Self-Rating Score</i>	<i>P/U</i>
P1:	3,4,3,3,3,4,4	24/35	P
P2:	1,2,1,2,3,3,1	13/35	U
P3:	3,4,3,5,4,5,5	29/35	P
P4:	2,4,3,3,1,skip,4	17/35	P
P5:	2,2,3,3,3,4,3	20/35	P
P6:	2,1,0,2,1,1,1	8/35	U
P7:	5,5,5,5,0,4,0	24/35	P
P8:	3,3,3,4,2,3,2	20/35	P
P9:	3,2,4,1,1,4,1	16/35	U
P10:	noreponse	0/35	U
P11:	4,4,4,3,3,3,3	24/35	P
P12:	3,3,0,3,0,3,0	12/35	U
P13:	2,3,3,4,3,3,4	22/35	P
P14:	1,3,2,2,2,3,3	16/35	U
P15:	1,1,1,0,2,1	6/35	U
P16:	5,4,4,4,4,4,4	29/35	P
P17:	noreponse	0/35	U
P18:	2,3,3,3,2,3,3	19/35	P

Q27 Team members share clearly defined responsibilities to ensure that data are collected, evaluated, and interpreted by capable and credible team members.

Answered: 17 Skipped: 2



Answer Choices	Responses
0 UNKNOWN	0.00% 0
1	23.53% 4
2	17.65% 3
3	29.41% 5
4	17.65% 3
5 HIGHEST	11.76% 2
Total	17

Figure 12. Evaluation of effectiveness of AT among the XYZ staff.

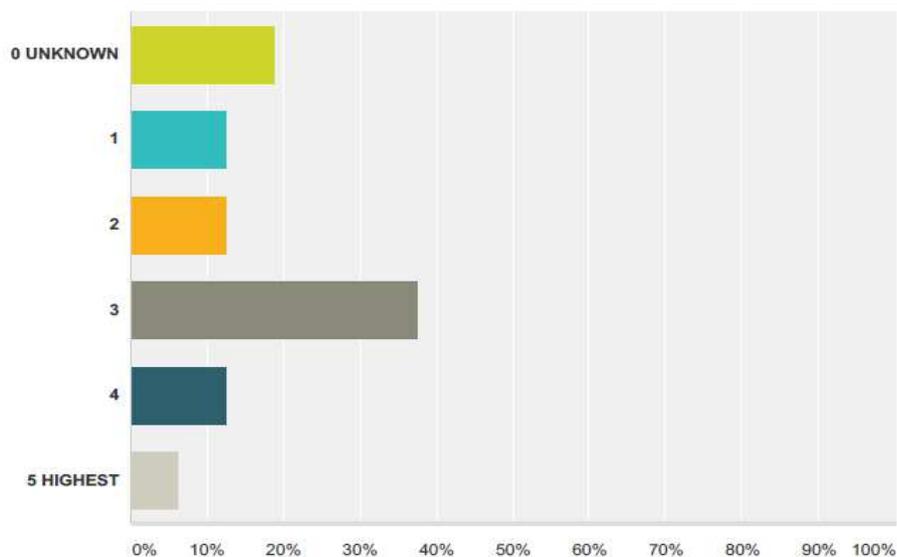
Table 5

QIAT Standard 5: Evaluation of Effectiveness

<i>Participant#</i>	<i>Q1/Q2/Q3/Q4/Q5/Q6/Q7</i>	<i>Self-Rating Score</i>	<i>P/U</i>
P1:	4,4,4,4,4,4,4	28/35	P
P2:	1,2,1,2,3,3,1	13/35	U
P3:	5,5,5,5,5,5,5	35/35	P
P4:	1,3,4,4,3,4,4	23/35	P
P5:	2,2,3,3,3,4,3	20/35	P
P6:	2,1,0,2,1,1,1	8/35	U
P7:	5,5,5,5,5,5,5	35/35	P
P8:	4,5,3,4,3,skip,4	27/35	P
P9:	noreponse	0/35	U
P10:	3,4,3,3,3,3,3	22/35	P
P11:	3,3,3,3,3,3,3	21/35	P
P12:	2,4,0,0,0,4,4	14/35	U
P13:	2,3,4,3,3,4,4	22/35	P
P14:	3,3,3,3,3,3,3	21/35	P
P15:	1,2,0,0,0,0,0	3/35	U
P16:	4,5,4,4,4,5,4	30/35	P
P17:	noreponse	0/35	U
P18:	3,3,3,3,3,3,3	21/35	P

Q34 Transition plans address the assistive technology needs of the student, including roles and training needs of team members, subsequent steps in assistive technology use, and follow-up after transition takes place.

Answered: 16 Skipped: 3



Answer Choices	Responses
0 UNKNOWN	18.75% 3
1	12.50% 2
2	12.50% 2
3	37.50% 6
4	12.50% 2
5 HIGHEST	6.25% 1
Total	16

Figure 13. AT transition among the XYZ staff.

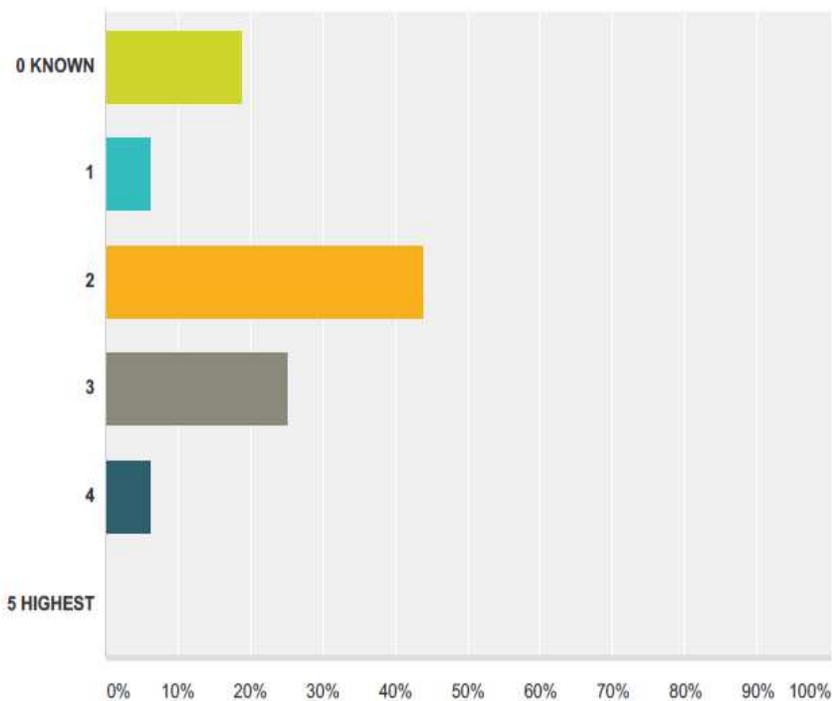
Table 6

QIAT Standard 6: AT Transition

<i>Participant#</i>	<i>Q1/Q2/Q3/Q4/Q5/Q6</i>	<i>Self-Rating Results</i>	<i>P/U</i>
P1:	3,4,3,3,4,4	20/30	P
P2:	1,5,2,1,1,1	11/30	U
P3:	4,5,4,3,5,5	26/30	P
P4:	3,5,3,3,4,3	21/30	P
P5:	4,4,4,4,3,4	23/30	P
P6:	1,0,0,0,0,0	1/30	U
P7:	5,5,5,5,5,5	30/30	P
P8:	3,3,2,3,3,3	17/30	P
P9:	no response	0/35	U
P10:	0,0,3,0,0,0	3/35	U
P11:	2,3,3,3,3,2	19/35	P
P12:	3,1,0,0,4,0	8/35	U
P13:	no response	0/35	U
P14:	2,2,1,2,1,2	10/35	U
P15:	1,1,1,1,0,0	4/35	U
P16:	0,0,0,0,0,0	0/35	U
P17:	no response	0/35	U
P18:	3, 3, 3, 3, 3, 2	20/35	P

Q45 The education agency provides access to ongoing learning opportunities about assistive technology for staff, family, and students.

Answered: 16 Skipped: 3



Answer Choices	Responses
0 KNOWN	18.75% 3
1	6.25% 1
2	43.75% 7
3	25.00% 4
4	6.25% 1
5 HIGHEST	0.00% 0
Total	16

Figure 14. Administrative support among the XYZ staff.

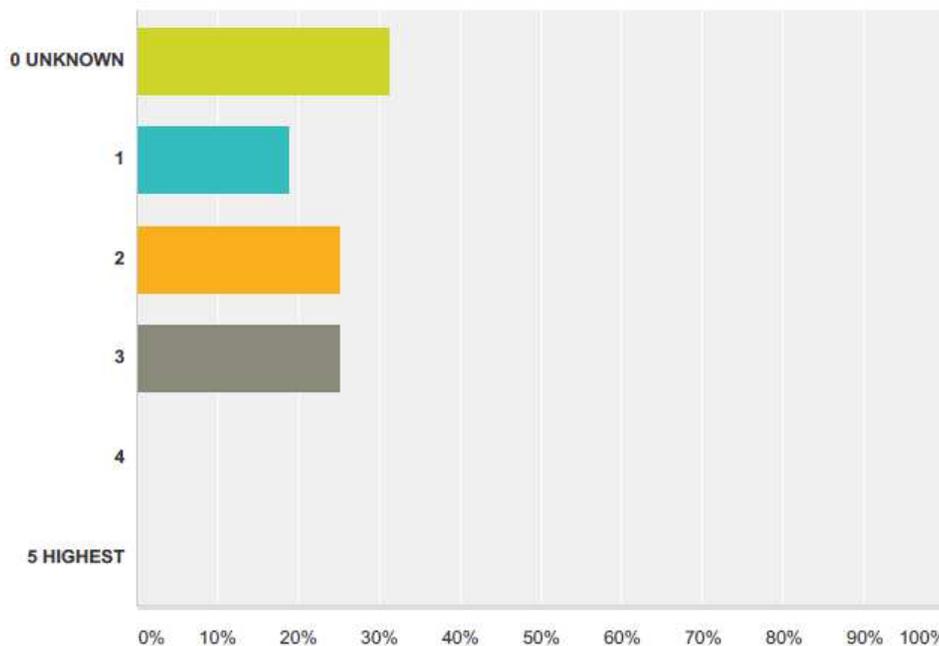
Table 7

QIAT Standard7: Administrative Support

<i>Participant#</i>	<i>Q1/Q2/Q3/Q4/Q5/Q6/Q7</i>	<i>Self-Rating Results</i>	<i>P/U</i>
P1:	4,4,4,4,3,3,3	25/35	P
P2:	3,4,2,3,1,2,1	16/35	U
P3:	2,1,2,1,0,2,0	8/35	U
P4:	3,0,1,0,0,0,0	4/35	U
P5:	5,4,4,3,2,3,2	23/35	P
P6:	3,3,2,2,1,0,3	14/35	U
P7:	5,4,3,4,4,1,1	22/35	P
P8:	2,3,2,3,3,2,1	16/35	U
P9:	noreponse	0/35	U
P10:	4,3,2,2,0,2,0	18/35	P
P11:	3,2,2,2,2,2,2	15/35	U
P12:	3,0,3,0,0,0,0	6/35	U
P13:	noreponse	0/35	U
P14:	2,3,2,3,3,3,3	19/35	P
P15:	1,1,1,1,1,1,1	7/35	U
P16:	4,4,4,4,4,4,4	28/35	P
P17:	noreponse	0/35	U
P18:	2, 2, 2, 2, 2, 2, 2	14/35	U

Q49 The content of comprehensive AT professional development and training addresses all aspects of the selection, acquisition and use of assistive technology.

Answered: 16 Skipped: 3



Answer Choices	Responses	
0 UNKNOWN	31.25%	5
1	18.75%	3
2	25.00%	4
3	25.00%	4
4	0.00%	0
5 HIGHEST	0.00%	0
Total		16

Figure 15. Professional development and training for AT among the XYZ staff.

Table 8

QIAT Standard8: Professional Development and Training for AT

<i>Participant#</i>	<i>Q1/Q2/Q3/Q4/Q5/Q6/Q7</i>	<i>Self-Rating Results</i>	<i>P/U</i>
P1:	3,4,3,4,3,3,3	23/35	P
P2:	3,1,1,1,1,1,1	9/35	U
P3:	2,0,0,0,2,0,1	5/35	U
P4:	2,2,2,0,1,3,3	13/35	U
P5:	3,2,2,2,2,2,2	15/35	U
P6:	1,2,2,0,2,0,0	7/35	U
P7:	0,0,0,0,0,0,0	0/35	U
P8:	3,3,3,3,3,2,3	20/35	P
P9:	noreponse	0/35	U
P10:	1,0,0,0,1,0,0	2/35	U
P11:	3,3,3,2,2,2,2	17/35	P
P12:	3,1,0,0,0,2,3	9/35	U
P13:	noreponse	0/35	U
P14:	3,3,3,3,2,2,1	17/35	P
P15:	0,1,2,2,1,1,1	8/35	U
P16:	3,0,0,0,0,0,0	3/35	U
P17:	noreponse	0/35	U
P18:	1,1,1,1,1,1,1	7/35	U

In summary, upon the completion of the data collection, data analysis, review of literature and triangulation, there were four themes that emerged. The emerging themes were identified as viable resources, diverse AT knowledge and experiences, support and guidance, and updated devices. Limited training was identified as a significant barrier. According to the National Center for Education Statistics (NCES) (2011), there were over 408,642 students who are eligible SPED students in the United States. Approximately half a million students have disabilities that are adversely affecting their academic performance. The laws of AT require all students to be considered for AT, once they are found eligible for SPED services.

The consideration of AT is life changing for millions of students with disabilities. When teachers understand the importance of AT consideration and how technology offers students with learning disabilities an opportunity to experience education with greater ease, while increasing their independence and expanding the horizons of their daily living. AT ultimately makes life and learning easier. Service providers need to understand their role and responsibilities when considering AT for students with diverse learning needs. All SPED service providers use a process that should be utilized to meet the individualized needs of all SPED students. Awareness of devices and service options play a role in the consideration of AT. The lack of unified guidelines appeared to be the reason for the limited AT usage and support.

The findings from the QIAT Self-Assessment survey was used to answer research question 1. The online survey sought to identify the level of knowledge and skills that the XYZ SPED service providers have and what their strengths and needs were according to

the QIAT, in addition to how the staff are rated according to the recommendations of QIAT. The results from the QIAT revealed the lack of AT knowledge as a barrier for adopting AT devices, consistent daily usage, and adequate AT service implementation. Although findings were significant in four of the eight QIAT Standards, the data indicated there are no significant differences in the data when comparing individual responses to the overall staffs average rating score. The majority of the respondents failed to meet the QIAT professional guidelines in all areas. The findings for the research questions revealed participants failed to meet the four selected professional QIAT guidelines as they related to (a) documentation in the IEP, (b) AT transition, (c) administrative support, and (d) professional development and training for AT. Additionally, for the items related to the QIAT standards, the participants failed to meet professional guidelines for both low and high tech AT. Upon further analyses differences among individual and overall grouping indicated no significant statistical differences and illustrated an overall failure among the XYZ school district to meet the professional guidelines according to the QIAT standards.

Culminating Question

The culminating question was used to answer research question 2.

What data collection process is used to determine, train, or assess the QIAT of the XYZ Pacific school district SPED service personnel?

a. What methods are used to address the SPED staff AT needs?

b. What strategies does XYZ Pacific school district use to strengthen the SPED staff AT needs?

The summative response is a part of the QIAT self-assessment. Nineteen online survey links were sent via email to approved SPED service providers within the XYZ Pacific district. The culminating question was developed to add a narrative to the QIAT self-assessment survey as a means to offer the participants a platform for expression. All participants were asked the same questions at the end of the survey. The findings from the culminating response are presented in this section. Participant responses were coded to identify emerging themes and triangulated to corroborate findings. The culminating question was used to answer research question number 2. The following codes were used in the table below: Need Training (NT); Resources ®; Budget (B); No Experience (NE); Positive (+), and Support (S). The emerging themes were noted below each statement and coded to help simplify data.

Summative Response

Describe your lived experiences working with special needs students on an IEP that required assistive technology equipment, placement, decision making, services, or devices. Explain how you provided consistent services, what resources have you used, how you obtained the support service or resources and what training/education you have received to prepare you to work with students with AT equipment needs. Share your opinion or perceptions of your roles and responsibilities within AT and what needs or supports you need to exhibit according to the QIAT self-assessment, and express in detail what AT guidelines are in place that you follow consistently to ensure that all students are receiving the newest and most effective support services available. Lastly, reflect on what AT support services or training that the XYZ school district has provided you to

increase, enhance, or support your adult learning needs and what you feel that you need to know/learn as an AT service provider and decision maker that would make you more prepared to service students with diverse AT needs?

Table 9

Eight Respondents' Perceptions of Their Role, Responsibilities, and Attitudes about AT, Supports, and Resources within the SPED Learning Community

Respondent #/Initial Tier Coding

Emerging Theme and Example

Respondent 1

“I would love to have the opportunity for more professional development in this field”.

(NT)

Professional development training needed

“My biggest need is for communication devices. The ones we have are old and out of date. However, XYZ has not approved some of the newer technology (such as iPad's) for use in our schools”.

(R)

Up to date Resources/Devices

“XYZ does not provide any funding for Professional Development, but last year I did pay on my own to attend an AT conference held in my home state, and I have done my own research about the subject”.

(B)

No budget for training

(table continues)

Respondent #/Initial Tier Coding***Emerging Theme and Example*****Respondent 2**

“I have never been to any sort of professional development training pertaining to AT. I have never received any formalized training pertaining to AT, therefore could not answer those questions more accurately.

(NT)

No formal AT training

“I was taught how to use the AT with my students who required it, but was never .
“I truly believe AT can be very beneficial for students. My experience show are limited pertaining to using AT.”

(NE)

Limited experience using AT

“I am familiar with the AT components of an IEP that have to be completed when writing an IEP for a student that requires AT. I really do not know how training is conducted in XYZ.”

(NT)

*Do not know how or when training is conducted
within the district.*

(table continues)

Respondent #/Initial Tier Coding***Emerging Theme and Example*****Respondent 3**

“I consider it best practice to keep a breast of the latest assistive technology available.”

(+R)

Keep abreast of the latest AT that is available.

“I have used assistive technology on a consistent basis to include adapted keyboards, modified mouse, specialized software, applications for iPad/iTouch and Smart Board. IEP goals/objectives vary from increasing language skills via sign language, PECS and/or augmentative device to improving writing skills via applications/modified keyboard.”

(+R)

Used AT on a consistent basis.

“I have used the area assistive technology specialist as are source on my professional developmental plan. PTO has supported the use of assistive technology by purchasing applications .I have contacted physicians and Tri-Care in regard to reimbursement for augmentative applications due to communication delays.”

(+S)(+R)

Use the AT specialist as a resource.

(table continues)

Respondent #/Initial Tier Coding***Emerging Theme and Example*****Respondent 4**

“I would like to see more school support in assistive technology for students and case managers.”

(S) *More AT support for school and case managers.*

Respondent 5

“I have not had any experience working with special needs students on an IEP.”

(NE) *No experience working with AT.*

Respondent 6

“Although I only graduated with my Master’s in my field 6 years ago and was trained on a variety of devices, the evolution of technology has changed so quickly within that time.”

(NT) *Need training on devices*

“I try to keep up date with current trends.”

(R) *Keep updated on the current AT trends.*

“Although an iPad is great, it does not fill the need for trained professionals in this area, whose sole purpose is to train and update employees about trends and availability of AT devices and resources.”

(S) *Need for trained professionals in this area,
whose sole purpose is to train and update employees.*

Respondent #/Initial Tier Coding***Emerging Theme and Example***

“I was typically trained on the software, but had difficult implementing It because of several factors either a) the child’s articulation was so poor, he/she was unable to use the device/software effectively; b) the child did not bring or complete work before coming to see me and/or the teacher had been unable to follow-through with a piece of the assignment (email/upload content to be worked on in my room); and/or) the needed device/program was not yet available in our district.”

(NT) *Trained on software, but difficulty with implementation*

(R) *The needed device/program was not yet available in our district.*

“I think we (professionals) do not fully utilize there sources available to us. But given all our other responsibilities, that is something that needs to happen continually throughout the school year by ISS and other trained AT knowledge able persons (e.g., discussed/presented at Case Study Committee(CSC) business meetings; professional development/staff training days, etc.”

(R) *Resources and available devices.*

(S) *Needs to happen continually throughout the school year by ISS and other trained AT knowledgeable persons.*

(table continues)

Respondent #/Initial Tier Coding***Emerging Theme and Example*****Respondent7**

“I have worked with students on IEP's for 16 years. Our district has numerous resources for assistive technology.”

(+R)

District has numerous resources for AT

Respondent8

“I am a special education teacher and I work daily in securing and providing appropriate services for SPED students. However, since being with the agency I have never received any training in regards to any type of assistive technology, how to acquire it, to use it, the availability or anything else.”

(NT)

Never had any AT training

(R)

Do not know where to find AT resources

(S)

Do not know how to acquire AT

In summary, the culminating responses are a compilation of the summative data that was collected through Survey Monkey from eight participants who currently work for the XYZ Pacific school district. The data findings from the culminating question were used to answer research question number 2. The findings revealed seven out of eight respondents discussed resources as an area of need. Two of the eight respondents had positive responses about the resources in the XYZ school district. For instance one

participant stated, “Our district has numerous resources for assistive technology.” Six out of eight respondents have never had any formal training within the district. Another reoccurring theme was the need for support. Two out of eight respondents shared the need for support from administrators and two respondents have a negative perception about the supports within the learning community. For instance, one participant responded, “Although an iPad is great it does not fill the need for trained professionals in this area, whose sole purpose is to train and update employees about trends and availability of AT devices and resources.” One other participant stated, “I would like to see more school support in assistive technology for students and case managers. To the contrary, two out of eight respondents use the AT specialist as a consistent resource. Additionally, two out of the eight respondents responded as having no experience with AT. Budget was not a reoccurring theme but it was addressed by one of the eight participants, and therefore, it appeared to have a direct correlation to training, and therefore it was noted in the above table.

WATI Follow-up Questionnaire

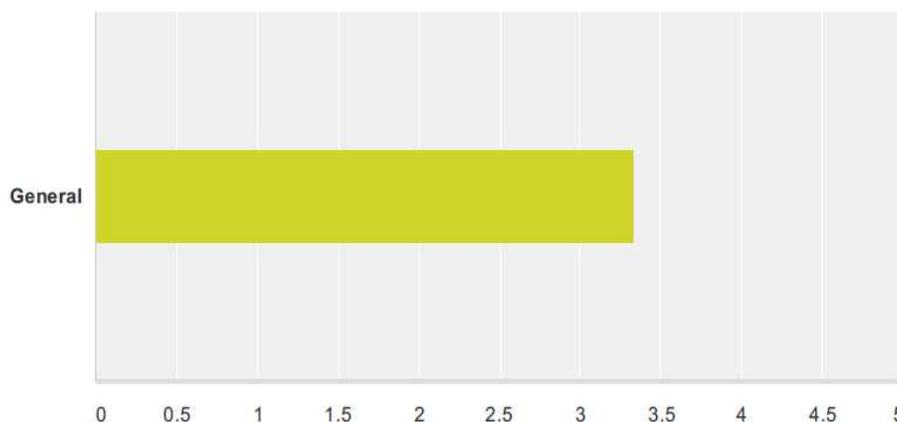
The Likert rater scale was used to analyze the data collected by Survey Monkey. Survey Monkey used SPSS to calculate the data and identify trends obtained by the respondent’s. The WATI follow-up questionnaire focused on research question number 3. There are a total of 76 questions on the follow-up questionnaire. All 76 questions used the same rater scale. The rater scale that was used was presented on a 0-5 scale, with 0 being unfamiliar (U) and 5 being mastery (M). Participants were asked to read each competency. After reading a competency, use the codes in the columns that best reflect

your perspective rating. The columns are headed U, Aw, K, Ap, and M. The meanings of these abbreviations are as follows:

- U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?
- Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.
- K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.
- Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.
- M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.

Q1 Define and describe a wide range of Assistive Technology.

Answered: 6 Skipped: 0

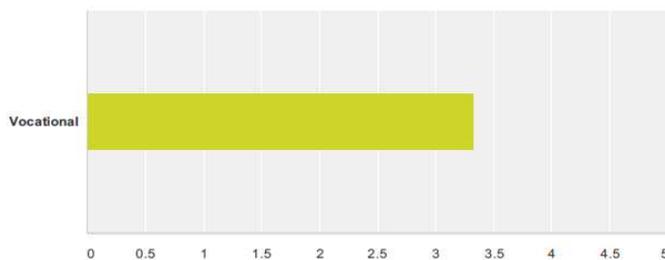


	• U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	• Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	• K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	• Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	• M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
General	0.00%	33.33%	0.00%	66.67%	0.00%	6	3.33
	0	2	0	4	0		

Figure 16. Participants' AT knowledge.

Q66 Create customized jigs or other AT for specific vocational tasks.

Answered: 6 Skipped: 0

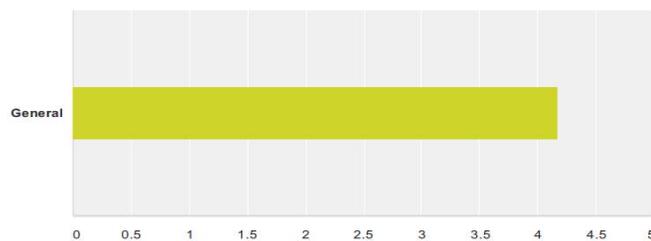


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Vocational	0.00% 0	16.67% 1	33.33% 2	50.00% 3	0.00% 0	6	3.33

Figure 17. Participants' AT knowledge application.

Q3 Appropriately consider the need for AT for all students with disabilities, not just a select few.

Answered: 6 Skipped: 0

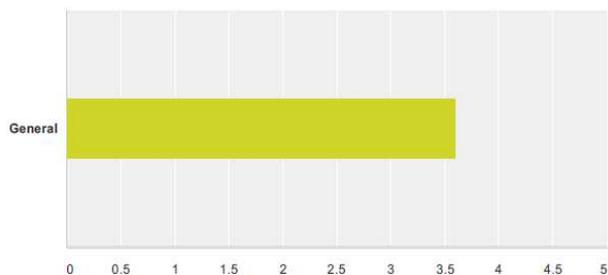


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
General	0.00% 0	0.00% 0	0.00% 0	83.33% 5	16.67% 1	6	4.17

Figure 18. Participants' AT skill.

Q4 Complete an evaluation/assessment of a student (which is focused on the student, the environment and the task) to determine if they could benefit from the use of AT.

Answered: 5 Skipped: 1

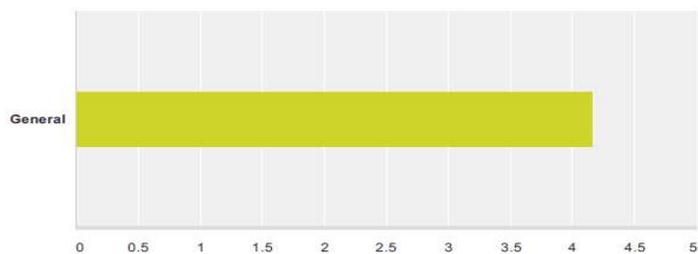


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
General	0.00% 0	0.00% 0	40.00% 2	60.00% 3	0.00% 0	5	3.60

Figure 19. Respondents' AT application knowledge.

Q5 Write IEP/IFSP goals/objectives as needed to describe the acquisition of AT skills.

Answered: 6 Skipped: 0



	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others	Total	Average Rating
General	0.00% 0	0.00% 0	16.67% 1	50.00% 3	33.33% 2	6	4.17

Q5 Write IEP/IFSP goals/objectives as needed to describe the acquisition of AT skills.

Q6 Arrange the environment for increased participation and communication for all students.

Q27 Identify need for and use an array of low-tech solutions to assist with reading text.

Q29 Use a variety of means to provide spoken text to accompany the printed words.

Figure 20. Participants' IEP/IFSP goals.

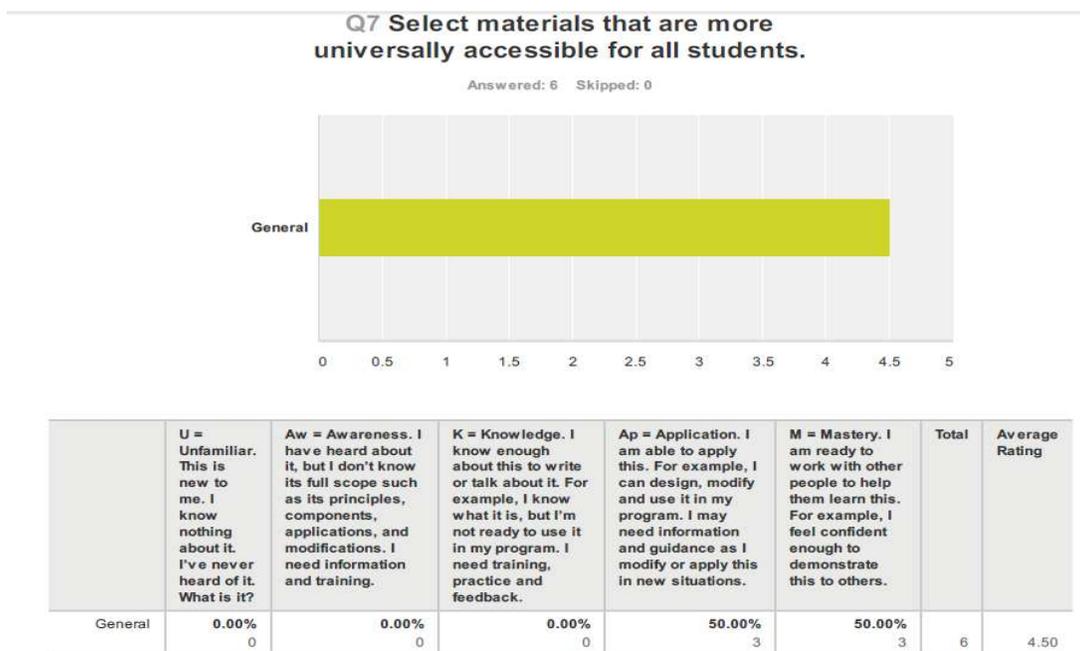


Figure 21. Participants' abilities to select materials that are universally accessible for all students.

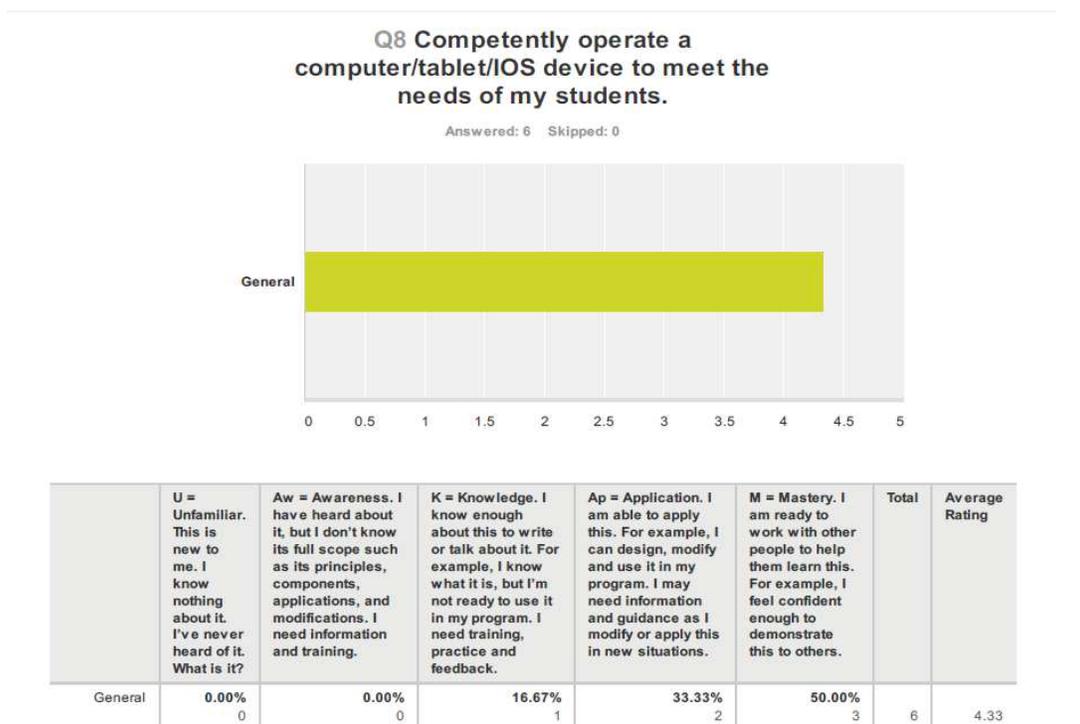
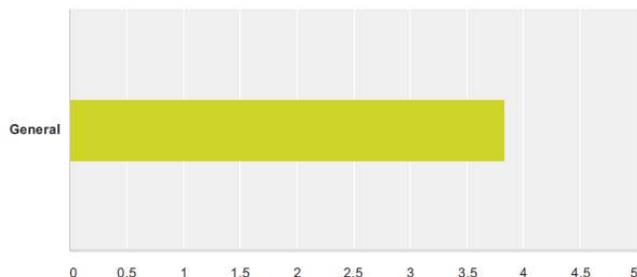


Figure 22. Participants' abilities to operate a computer/tablet/IOS device to meet the needs of their students.

Q9 Access AT resources.

Answered: 6 Skipped: 0

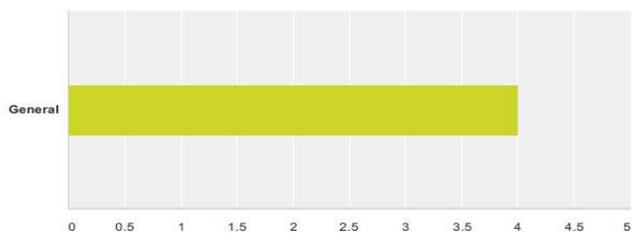


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
General	0.00% 0	0.00% 0	16.67% 1	83.33% 5	0.00% 0	6	3.83

Figure 23. Participants' abilities to access AT.

Q10 Determine for an individual student when the best intervention is to train a new a skill, teach a compensatory skill, use AT or use a personal assistant.

Answered: 6 Skipped: 0

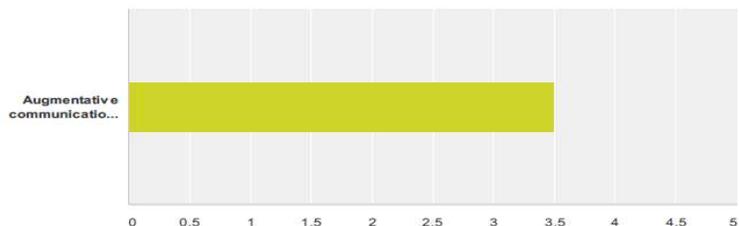


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
General	0.00% 0	0.00% 0	16.67% 1	66.67% 4	16.67% 1	6	4.00

Figure 24. Participants' abilities to apply their AT knowledge to their specific programs.

Q16 Utilize informal assessment techniques (e.g., environmental inventory, interview, observation) to determine need for AC or SGD

Answered: 6 Skipped: 0

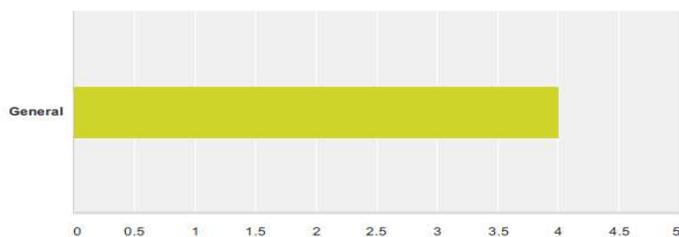


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Augmentative communication (AC) Speech generating device (SGD)	0.00% 0	0.00% 0	66.67% 4	16.67% 1	16.67% 1	6	3.50

Figure 25. Participants' abilities to utilize informal assessment techniques to determine need for AC or SGD.

Q11 Determine appropriate use of AT as an accommodation or modification in order to participate in standardized testing, including district and state assessments.

Answered: 6 Skipped: 0

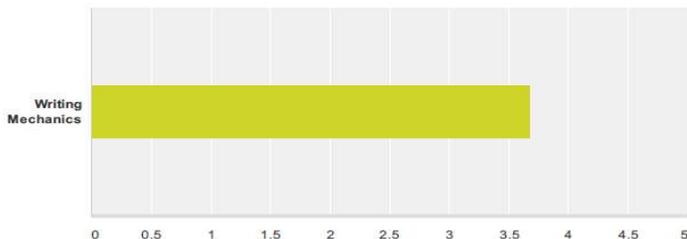


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
General	0.00% 0	0.00% 0	0.00% 0	100.00% 6	0.00% 0	6	4.00

Figure 26. Participants' appropriate use of AT as an accommodation or modification in order to participate in standardized testing.

Q12 Identify and use a progression of AT solutions from low- to high-tech for difficulties in the mechanics of writing.

Answered: 6 Skipped: 0

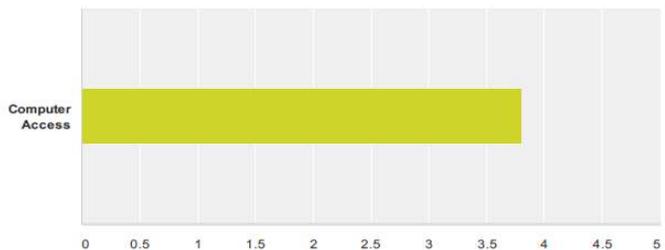


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Writing Mechanics	0.00% 0	0.00% 0	33.33% 2	66.67% 4	0.00% 0	6	3.67

Figure 27. Participants' identification and use of progression of AT solutions from low- to high-tech for difficulties in the mechanics of writing.

Q14 Operate/utilize alternative access methods for computers/tablet/IOS device

Answered: 5 Skipped: 1

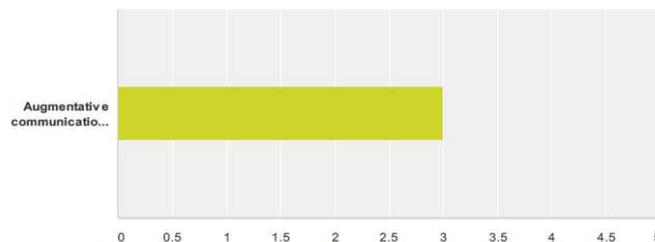


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Computer Access	0.00% 0	0.00% 0	20.00% 1	80.00% 4	0.00% 0	5	3.80

Figure 28. Participants' abilities to operate/utilize alternative access methods or computers/tablets/IOS devices.

Q17 Identify important features of AC/SGD devices.

Answered: 6 Skipped: 0

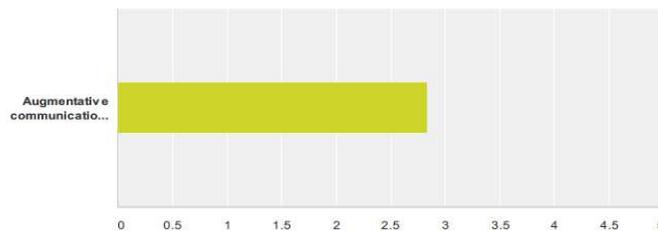


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Augmentative communication (AC) Speech generating device (SGD)	0.00% 0	33.33% 2	33.33% 2	33.33% 2	0.00% 0	6	3.00

Figure 29. Participants' abilities to identify important features of ACSG devices.

Q19 Construct/modify simple AC/SGD devices.

Answered: 6 Skipped: 0

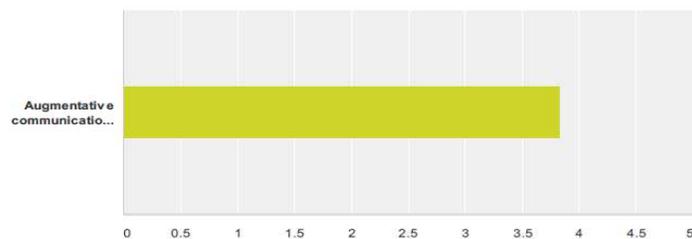


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Augmentative communication (AC) Speech generating device (SGD)	0.00% 0	33.33% 2	50.00% 3	16.67% 1	0.00% 0	6	2.83

Figure 30. Participants' abilities to construct/modify simple AC/SGD devices.

Q21 Select appropriate vocabulary to promote communication.

Answered: 6 Skipped: 0

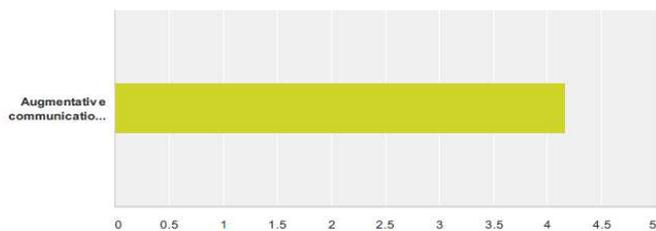


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Augmentative communication (AC) Speech generating device (SGD)	0.00% 0	16.67% 1	16.67% 1	33.33% 2	33.33% 2	6	3.83

Figure 31. Participants' abilities to select appropriate vocabulary to promote communication.

Q22 Determine the best form of vocabulary representation (pictures, symbols, words).

Answered: 6 Skipped: 0



	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Augmentative communication (AC) Speech generating device (SGD)	0.00% 0	0.00% 0	33.33% 2	16.67% 1	50.00% 3	6	4.17

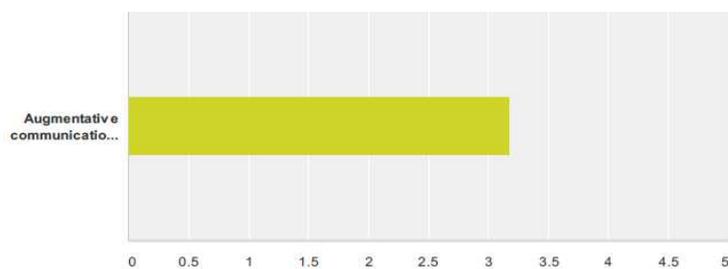
Q22 Determine the best form of vocabulary representation (pictures, symbols, words).

Q23 Organize vocabulary in a usable system.

Figure 32. Participants' abilities to determine the best form of vocabulary representation.

Q24 Determine functional mounting for AC/SGD device.

Answered: 6 Skipped: 0



	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Augmentative communication (AC) Speech generating device (SGD)	0.00% 0	33.33% 2	33.33% 2	16.67% 1	16.67% 1	6	3.17

Figure 33. Participants' abilities to determine functional mounting for AC/SGD device.

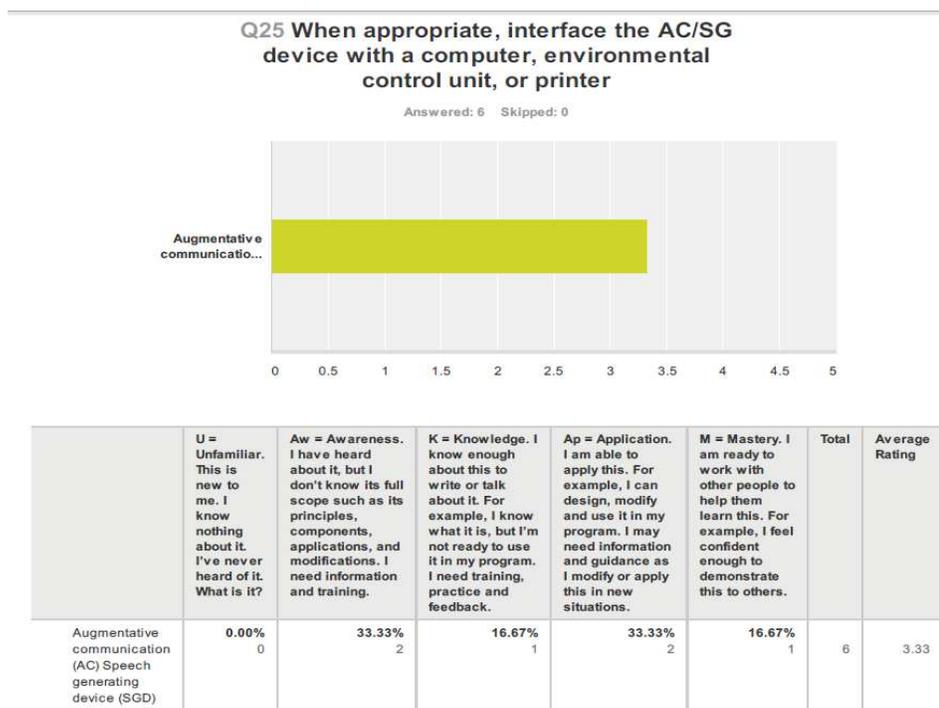
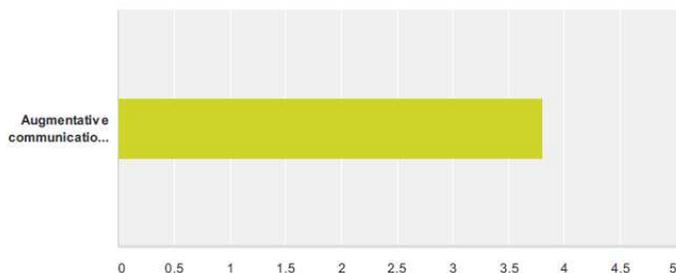


Figure 34. Participants' abilities to, when appropriate, interface with the AC/SGD device with a computer, environmental control unit, or printer.

Q26 Train communication partners.

Answered: 5 Skipped: 1

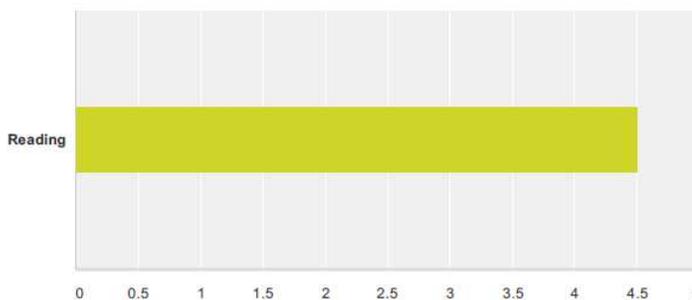


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Augmentative communication (AC) Speech generating device (SGD)	0.00% 0	20.00% 1	20.00% 1	20.00% 1	40.00% 2	5	3.80

Figure 35. Participants' abilities to train communication partners.

Q28 Create and use pictures with text to support reading.

Answered: 6 Skipped: 0

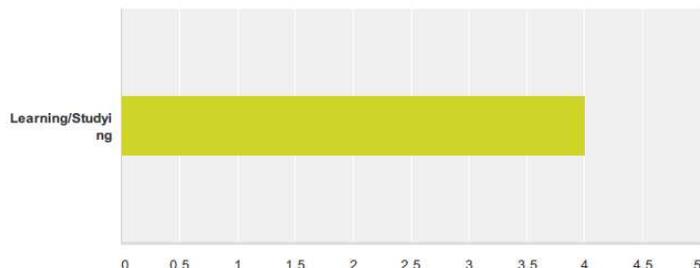


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Reading	0.00% 0	0.00% 0	16.67% 1	16.67% 1	66.67% 4	6	4.50

Figure 36. Participants' abilities to create and use pictures with text to support reading.

Q31 Select and use a variety of aids to locate, highlight and track information.

Answered: 6 Skipped: 0



	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Learning/Studyi ng	0.00% 0	0.00% 0	33.33% 2	33.33% 2	33.33% 2	6	4.00

Q31 Select and use a variety of aids to locate, highlight and track information.

Q36 Adapt toys and games appropriately.

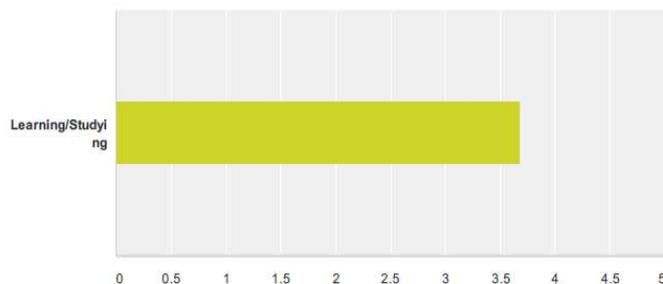
Q49 Determine when a student may benefit from assisted mobility.

Q75 Coordinate with other agencies, such as vocational, medical, birth to 3, community and other service providers.

Figure 37. Participants' abilities to select and use a variety of aids to locate, highlight, and track information.

Q32 Use software/Apps to manipulate and organize information.

Answered: 6 Skipped: 0



	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Learning/Studyi ng	0.00% 0	16.67% 1	16.67% 1	50.00% 3	16.67% 1	6	3.67

Q33 Identify and use a variety of math aids and low-tech AT.

Q32 Use software/Apps to manipulate and organize information.

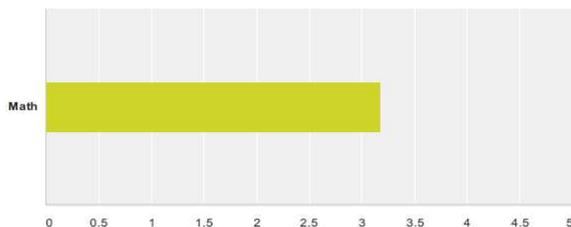
Q60 Use low-tech vision aids to enlarge text.

Q70 Write compile necessary documentation to support funding from third party payers.

Figure 38. Participants' abilities to use software/apps to manipulate and organize information.

Q34 Select and use a variety of voice output aids for math operations, such as counting, measuring, timing and computation.

Answered: 6 Skipped: 0



	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Math	0.00% 0	16.67% 1	50.00% 3	33.33% 2	0.00% 0	6	3.17

Q34: Select and use a variety of voice output aids for math operations, such as counting, measuring, timing and computation.

Q45: Select and utilize adaptive devices for dressing.

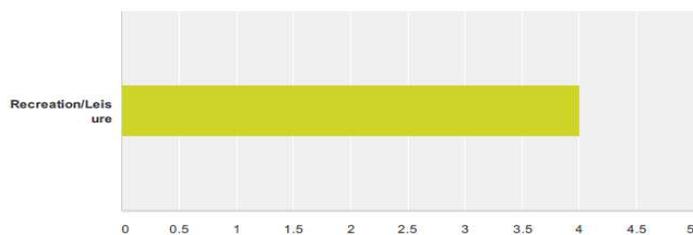
Q47: Select and utilize adaptive bathing devices.

Q48: Select and utilize adaptive cooking devices.

Figure 39. Participants' abilities to select and use a variety of voice output aids for math operations.

Q37 Select and use adapted toys, games and recreational equipment.

Answered: 6 Skipped: 0

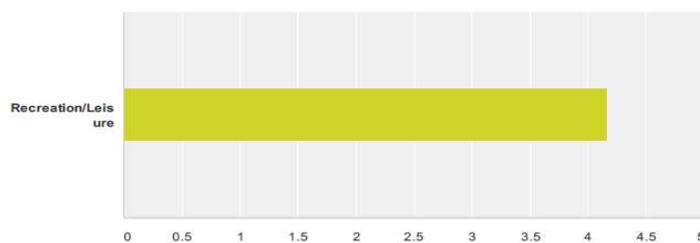


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Recreation/Leisure	0.00% 0	0.00% 0	50.00% 3	0.00% 0	50.00% 3	6	4.00

Figure 40. Participants' abilities to select and use adapted toys, games, and recreational equipment.

Q38 Select and utilize a variety of AT for access and interaction.

Answered: 6 Skipped: 0

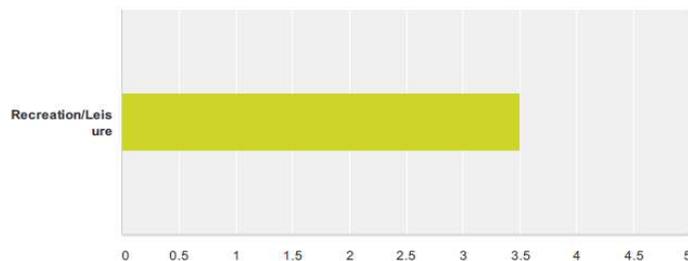


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Recreation/Leisure	0.00% 0	0.00% 0	33.33% 2	16.67% 1	50.00% 3	6	4.17

Figure 41. Participants' abilities to select and utilize a variety of AT for access and interaction.

Q39 Select a utilize software/APPS for a variety of recreational activities.

Answered: 6 Skipped: 0

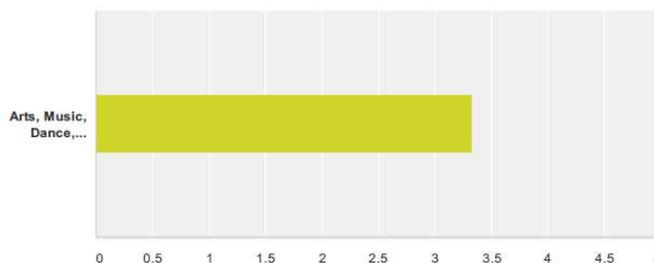


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Recreation/Leisure	0.00% 0	0.00% 0	66.67% 4	16.67% 1	16.67% 1	6	3.50

Figure 42. Participants' abilities to select and utilize software/apps for a variety of recreational activities.

Q40 Identify need for and use low-to-mid tech AT for the arts.

Answered: 6 Skipped: 0



	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Arts, Music, Dance, Photography	0.00% 0	0.00% 0	66.67% 4	33.33% 2	0.00% 0	6	3.33

Q40 Identify need for and use low-to-mid tech AT for the arts.

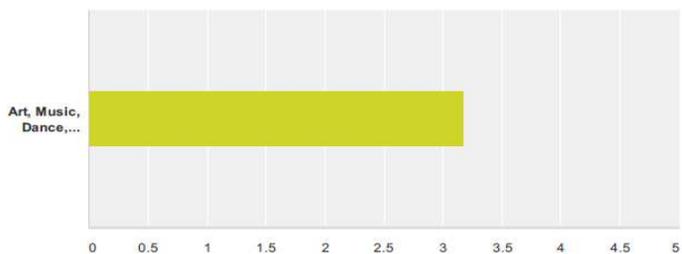
Q50 Select and utilize a low-tech AT for mobility or stabilization

Q58 Utilize assisted positioning devices.

Figure 43. Participants' abilities to identify need for and use low-to-mid tech AT for the arts.

Q41 Identifying need for and use software/APPS for the arts.

Answered: 6 Skipped: 0

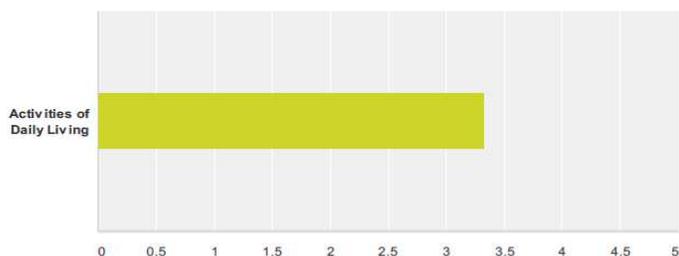


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Art, Music, Dance, Photography	0.00% 0	16.67% 1	50.00% 3	33.33% 2	0.00% 0	6	3.17

Figure 44. Participants' abilities to identify need for and use software/apps for the arts.

Q42 Select and utilize a variety of low-tech aids to position and stabilize items.

Answered: 6 Skipped: 0

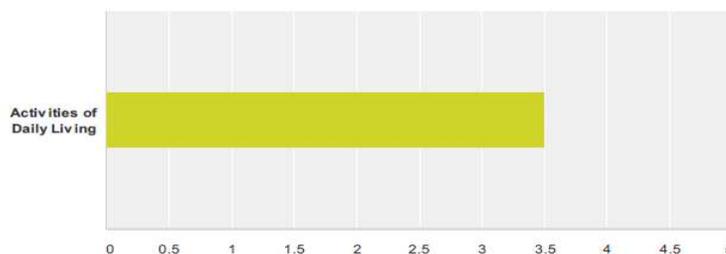


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Activities of Daily Living	0.00% 0	16.67% 1	50.00% 3	16.67% 1	16.67% 1	6	3.33

Figure 45. Participants' abilities to select and utilize a variety of low-tech aids to position and stabilize items.

Q43 Select and utilize adaptive eating utensils and aids.

Answered: 6 Skipped: 0



	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Activities of Daily Living	0.00% 0	16.67% 1	33.33% 2	33.33% 2	16.67% 1	6	3.50

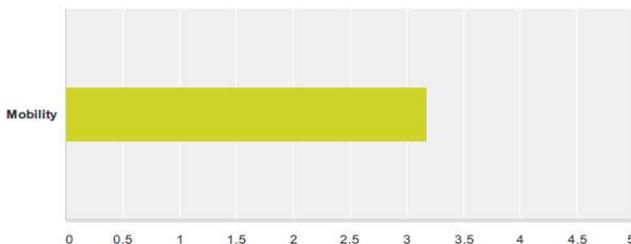
Q43 Select and utilize adaptive eating utensils and aids.

Q44: Select and utilize adaptive devices for drinking.

Figure 46. Participants' abilities to select and utilize adaptive eating utensils and aids.

Q51 Design/implementation a sequenced intervention to teach a student to operate/utilize an assisted mobility device.

Answered: 6 Skipped: 0

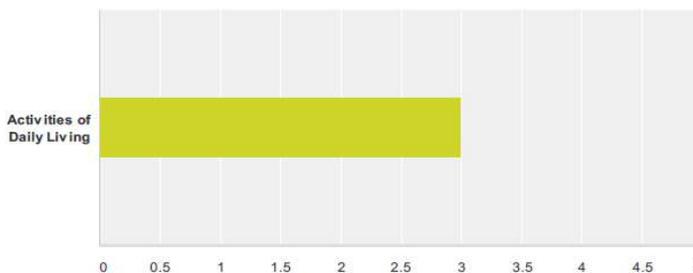


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Mobility	16.67% 1	0.00% 0	50.00% 3	16.67% 1	16.67% 1	6	3.17

Figure 47. Participants' abilities to design/implement a sequenced intervention to teach a student to operate/utilize an assisted mobility device.

Q46 Select and utilize adaptive devices for hygiene.

Answered: 5 Skipped: 1

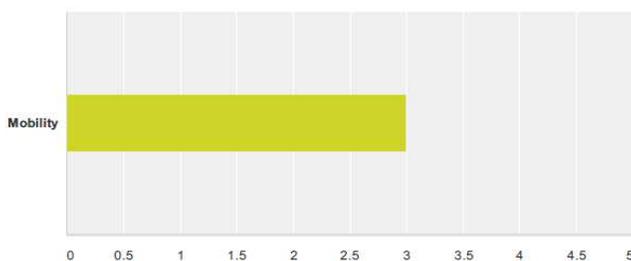


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Activities of Daily Living	0.00% 0	20.00% 1	60.00% 3	20.00% 1	0.00% 0	5	3.00

Figure 48. Participants' abilities to select and utilize adaptive devices for hygiene.

Q52 Obtain adapted equipment for operating a motor vehicle.

Answered: 6 Skipped: 0

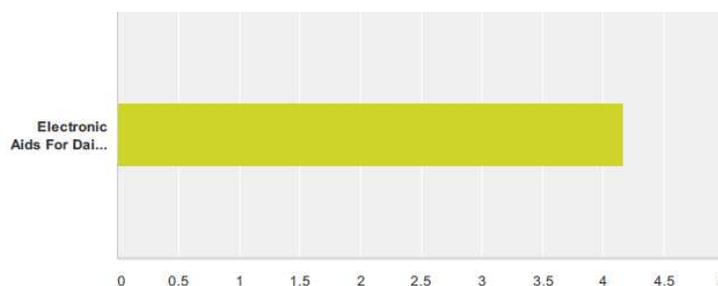


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Mobility	16.67% 1	16.67% 1	33.33% 2	16.67% 1	16.67% 1	6	3.00

Figure 49. Participants' abilities to obtain adapted equipment for operating a motor vehicle.

Q53 Identify a student's need for greater control of their environment.

Answered: 6 Skipped: 0



	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Electronic Aids For Daily Living	0.00% 0	0.00% 0	16.67% 1	50.00% 3	33.33% 2	6	4.17

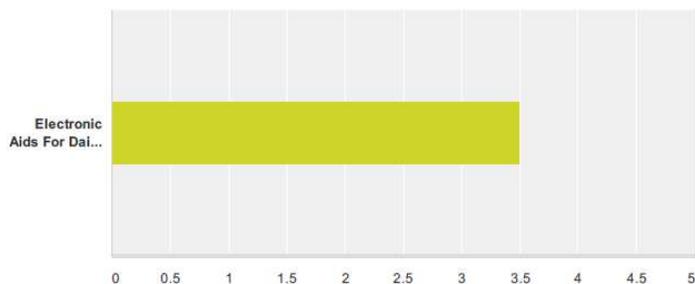
Q53 Identify a student's need for greater control of their environment.

Q63 Identify when hearing amplification may be necessary for a student in an educational setting.

Figure 50. Participants' abilities to identify a student's need for greater control of their environment.

Q54 Design opportunities to use electronic aids to daily living and select appropriate AT.

Answered: 6 Skipped: 0



	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Electronic Aids For Daily Living	0.00% 0	0.00% 0	50.00% 3	50.00% 3	0.00% 0	6	3.50

Q54: Design opportunities to use electronic aids to daily living and select appropriate AT.

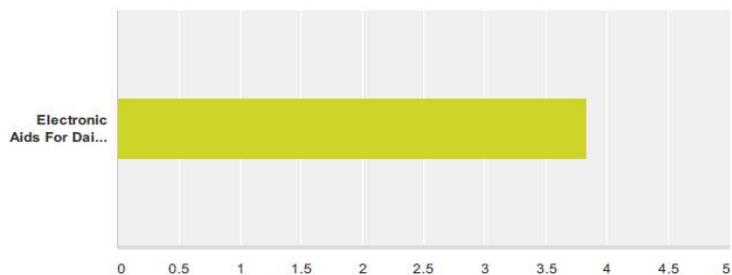
Q57: Analyze appropriateness of the student's basic position.

Q64: Operate/utilize assistive technology for: telecommunications, assisted learning, alerting.

Figure 51. Participants' abilities to design opportunities to use electronic aids to daily living and select appropriate AT.

Q55 Operating/utilize electronic aids to daily living including: call buttons/devices, hands-free, page turners.

Answered: 6 Skipped: 0

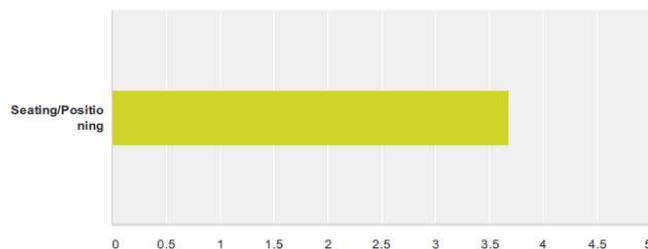


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Electronic Aids For Daily Living	0.00% 0	0.00% 0	33.33% 2	50.00% 3	16.67% 1	6	3.83

Figure 52. Participants' abilities to operate/utilize electronic aids to daily living.

Q56 Recognize the impact of seating/positioning on the students attention, energy and ability to access AT devices.

Answered: 6 Skipped: 0

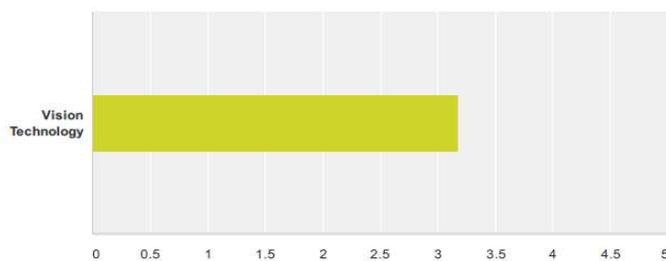


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Seating/Positioning	0.00%	0.00%	50.00%	33.33%	16.67%	6	3.67
	0	0	3	2	1		

Figure 53. Participants’ abilities to recognize the impact of seating/positioning on the student’s attention, energy, and ability to access AT devices.

Q61 Operate utilize the following for computer input: text to speech, screen reader, braille printer, braille translation software.

Answered: 6 Skipped: 0

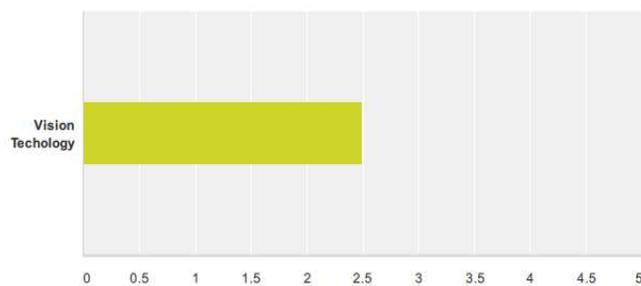


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Vision Technology	0.00% 0	16.67% 1	66.67% 4	0.00% 0	16.67% 1	6	3.17

Figure 54. Participants' abilities to operate and utilize various features for computer input.

Q62 Operate/utilize Braille keyboard and notetakers.

Answered: 6 Skipped: 0

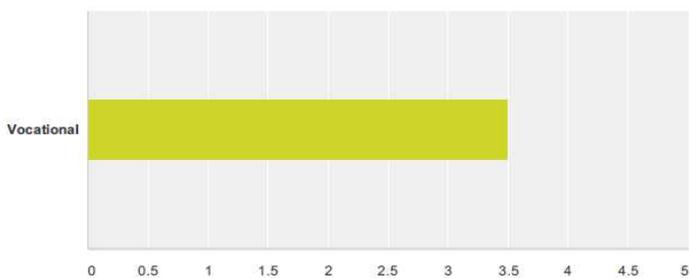


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Vision Technology	16.67% 1	50.00% 3	16.67% 1	0.00% 0	16.67% 1	6	2.50

Figure 55. Participants' abilities to operate/utilize Braille keyboard and note-takers.

Q65 Recognize need for and use AT for general vocational tasks.

Answered: 6 Skipped: 0

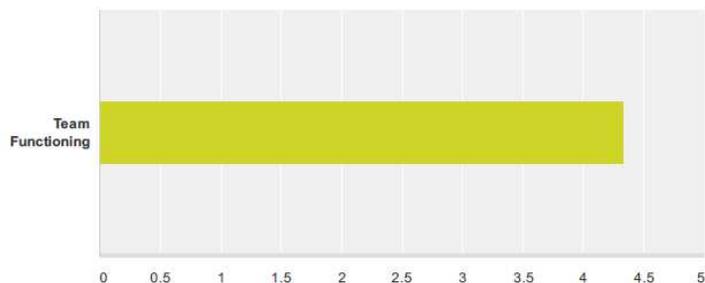


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Vocational	0.00% 0	16.67% 1	16.67% 1	66.67% 4	0.00% 0	6	3.50

Figure 56. Participants' abilities to recognize need for and use AT for general vocational tasks.

Q67 Understand the roles of individual team members in the evaluation for and implementation of AT.

Answered: 6 Skipped: 0

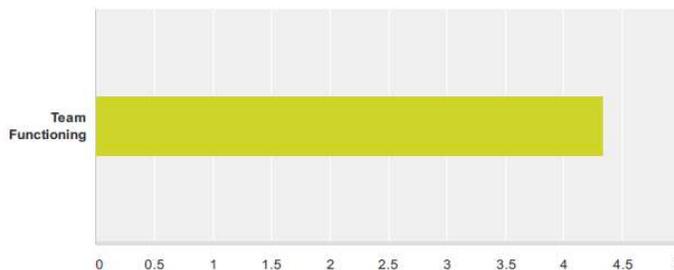


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Team Functioning	0.00% 0	0.00% 0	0.00% 0	66.67% 4	33.33% 2	6	4.33

Figure 57. Participants' abilities to understand the roles of individual team members in the evaluation for and implementation of AT.

Q68 Utilize an effective team decision-making process to keep our team operating collaboratively and smoothly.

Answered: 6 Skipped: 0

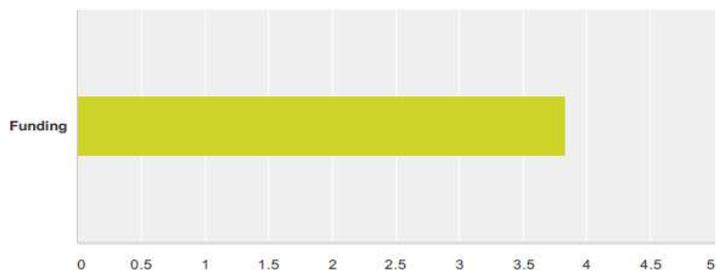


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Team Functioning	0.00% 0	0.00% 0	16.67% 1	33.33% 2	50.00% 3	6	4.33

Figure 58. Participants' abilities to utilize an effective team decision-making process to keep their teams operating collaboratively and smoothly.

Q69 Utilize appropriate AT funding sources for an individual

Answered: 6 Skipped: 0



	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
Funding	0.00% 0	0.00% 0	33.33% 2	50.00% 3	16.67% 1	6	3.83

Q69: Utilize appropriate AT funding sources for an individual

Q71: Plan and implement improved AT services in my school district.

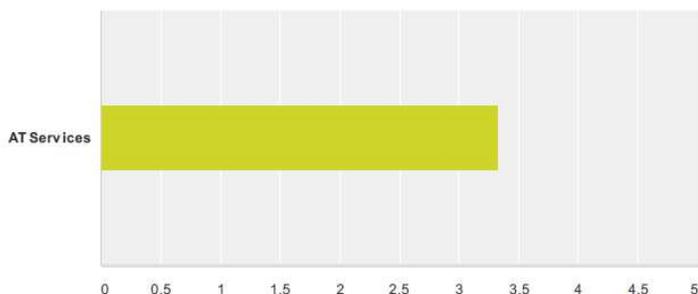
Q72: Train others (parents, support staff, etc.) to operate/utilize specific AT devices.

Q73: Train others to adapt curriculum/plan AT use.

Figure 59. Participants' abilities to utilize appropriate AT funding sources for an individual.

Q74 Adapt, fit, customize repair AT devices.

Answered: 6 Skipped: 0

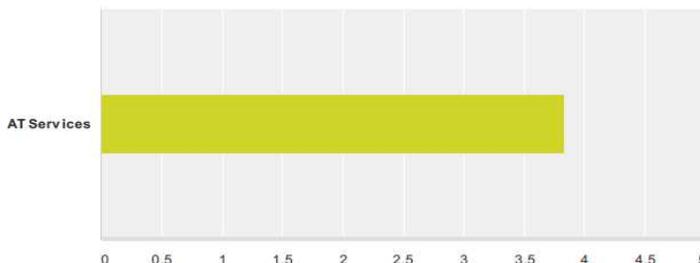


	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
AT Services	0.00% 0	16.67% 1	50.00% 3	16.67% 1	16.67% 1	6	3.33

Figure 60. Participants' abilities to adapt, fit, customize, and repair AT devices.

Q76 Work with the transition team to plan for effective transition of assistive technology to new settings.

Answered: 6 Skipped: 0



	U = Unfamiliar. This is new to me. I know nothing about it. I've never heard of it. What is it?	Aw = Awareness. I have heard about it, but I don't know its full scope such as its principles, components, applications, and modifications. I need information and training.	K = Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.	Ap = Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.	M = Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.	Total	Average Rating
AT Services	0.00% 0	16.67% 1	16.67% 1	33.33% 2	33.33% 2	6	3.83

Figure 61. Participants’ abilities to work with the transition team to plan for effective transition of AT to new settings.

In summary, the quantitative data presented above was relevant in answering research question number 3. The overall average rating for the WATI follow-up questionnaire response from the XYZ school district-Pacific was 2.50, being the lowest in operating/utilizing Braille keyboards and note-takers, and the second lowest rating was 2.83 in constructing/modifying simple AS/SGD devices. The highest average rating for the district was 4.50 in two areas: creating and using pictures with text to support reading and selecting materials that are more universally accessible for all students. The most consistent average rating was 3.33, which covered six areas: Defining and describing a wide range of AT; creating customized jigs or other AT for specific vocational tasks; when appropriate, interface the AC/SG device with computer, environmental control unit, or printer; identifying need for and use low to mid tech AT for the arts; select and utilize

a low-tech AT mobility or stabilization; and utilizing assisted positioning devices.

Completing an evaluation/assessment of a student to determine if they could benefit from the use of AT was the only area with an average rating of 3.60. Identifying needs for and using software/APPS for the arts and operating utilizing the following computer input: text to speech, screen reader, Braille, printer, and Braille translation software was rated at an average of 3.17. An average rating of 4.17 in the area of identifying a students' need for greater control of their environment, and identifying when hearing amplification may be necessary for a student in an environmental setting. The area of understanding the roles of individual team members in the evaluation for and implementation of AT, utilizing an effective team decision making process to keep our team operating collaboratively and smoothly received an overall average rating as 4.33. Results suggested a generally positive attitude about the value of AT, but an overall negative perception of the resources and guidance available.

Interview

After completion of the web-based survey, eight multidisciplinary team members from the initial group of respondents were asked to participate in a one-to-one semi-structured, open-ended interview to further expand the study. The SPED personnel interviews were relevant in addressing the three research questions: (1) What AT guidelines or supports are in place for SPED personnel to follow? (2) What does the SPED staff perceive as their greatest AT need within the district? (3) How familiar is the multidisciplinary team with AT devices, AT services and AT resources? The data results from the eight interviews were reviewed. The interviews were used to gather rich detailed

information that answered the research questions. Eight interviews were conducted to capture meaningful and rich information about the perceptions, or attitudes, of the XYZ service providers, since these thoughts, according to Merriam (2009), cannot be measured or observed. Each interview was audio-recorded in a location chosen by the participant, during a time that was conducive to both the researcher and the interviewer. The interviews were comprised of eight semi-structured interview questions that were designed to focus on the knowledge, perception, resources, supports, role and responsibilities and the AT needs of the XYZ learning community. The qualitative data collected from the interviews were derived from the following interview questions:

1. Describe your lived experiences working with special needs students who required AT, placement, decision making service and/or devices.
2. Reflect on what your professional training or educational experience. What type of professional AT training or education have you received that prepared you to work with students who require AT support services?
3. What resources have you used within the XYZ school district to support students with AT needs and how did you obtain these resources?
4. If you have AT needs or supports for AT questions or guidance, where would you go to get those supports and who would you contact to obtain the supports you need to support the students AT needs?
5. Can you share your opinion or perspective of your role and responsibilities within AT and in what way would clearly understanding your roles and

responsibilities within AT help you to work more effectively with your students?

6. What needs do you have or how would you rate yourself as it relates to the QIAT survey?
7. Express in detail what AT guidelines that are in place within the XYZ school district that you follow consistently to ensure that all your students are receiving the newest and the most effective support services available.
8. As an AT service provider and decision maker for students who have special needs, what do you think would help better prepare you to service students with diverse learning needs within AT?

The qualitative data from the interviews were transcribed with notations and some observable responses such as laughter, to help draw a clear picture of the true emotions and perceptions of each respondent. Participants were asked to share their perceptions and experiences within AT and to give a voice to the survey responses in which they had completed. The open-ended responses from the participants offered clarity to some of the incomplete survey data. The lacks of survey responses lead the researcher to seek greater depth and breadth to the quantitative data that lacked richness, quantity and understanding. The interviews lasted approximately 10-40 minutes. Participants were identified in the transcription by a number and not by their names. All interviews were transcribed from the audio-recorded devices to ensure accuracy of response. At the completion of each interview, the data was immediately transcribed, coded and notations were made. Categorizing the interview data helped with the interpretive data analysis and

triangulation. Each respondents answer was placed in a table to match the corresponding interview question. Once all the respondent's answers were placed beneath the question. The researcher reviewed each interview response searching for emerging themes and consistencies. These emerging themes were highlighted in each section and cross-referenced among all participant responses. When the emerging themes were identified, the researcher used all findings and themes to triangulate the data. Once the results were unveiled, the findings were added to the study. The responses to the interview questions lead to several emerging themes. The emerging themes and supporting statements are presented below.

Interview Question 1: Describe your lived experiences working with special needs students who required AT, placement, decision making service and/or devices.

P1: Interviewee:Most of my students don't need a whole lot of assistive technology except for things that I make with my computer and stuff. I've used Alpha-Smart many times, SMART Board of course not for an IEP though. Nothing has been written on an IEP for my kids.

P2: Interviewee:"I would say my experiences vary according to the needs of the students. I'm a speech language pathologist and some students would benefit from assistive technology and others do not need it."

P3: Interviewee:I have devices already in my classroom such as a modified keyboard it's got color keys on it. I've worked with kids who are higher functioning autistic kiddos and we use their ability to read to holistic communication and these color code keys help them with typing skills in response to me. I also have ordered these things on my own.

PTO has paid for an orthopedic mouse. The devices I use are devices used in the classroom every day is not necessary something I need to write an IEP separately. I work closely with the previous assistive technology specialist for our area and with a lot of software.

P4: Interviewee: Kurzweil number one and I work very closely with dragging speech naturally with my students and some other assistive software. I work with Dynovox in our district and Picture Exchange Communication (PEC) as well as Board-maker and also some assistive living things.

P5: Interviewee: I've contacted the hearing impaired specialist in Yokosuka who wasn't near us. We got together as an IEP team and decided what the child needed.

P6: Interviewee: I just kind of relied on my own background my own training again because the fields are compatible they do overlap. Something I professionally and personally am very comfortable with it and know what resources to tap into. I would like more training on that area.

P7: Interviewee: We used Dragon Speak Naturally and that was quite interesting because we got to get familiar with the program.

P8: Interviewee: I just try to use the tools I have in my classroom to support their needs. I need training and I want to know what's available.

Emerging Themes: Devices

RQ2: What does the SPED staff perceive as their greatest AT need within the district? *Supporting statements and examples.* Most of my students don't need a whole

lot of assistive technology except for things that I make with my computer and stuff. I've used Alpha-Smart many times, SMART Board of course not for an IEP though.

Nothing has been written on an IEP for my kids.

I have devices already in my classroom such as a modified keyboard it's got color keys on it. I've worked with kids who are higher functioning autistic kiddos and we use their ability to read to holistic communication and these color code keys help them with typing skills in response to me. I also have ordered these things on my own. PTO has paid for an orthopedic mouse.

The devices I use are devices used in the classroom every day is not necessary something I need to write an IEP separately.

I work closely with the previous assistive technology specialist for our area and with a lot of software.

We used Dragon Speak Naturally and that was quite interesting because we got to get familiar with the program.

Kurzweil number one and I work very closely with dragging speech naturally with my students and some other assistive software.

I work with Dynovox in our district and Picture Exchange Communication (PEC) as well as Board-Maker and also some assistive living things.

I've contacted the hearing impaired specialist in Yokosuka who wasn't near us.

Finding different programs on the computer would help them also.

I've had the training from the lending library or it really wasn't training but it was more of here's what we have to offer.

I just kind of relied on my own background, my own training again because the fields are compatible they do overlap.

I professionally and personally feel very comfortable with it and know what resources to tap into.

I would like more training on that area.

I just try to use the tools I have in my classroom to support their needs.

The district has never offered any training in this area except for the basic computer training.

I need training and I want to know what's available.

The qualitative data presented above, was collected from the eight respondents who participated in the semi-structured interviews. The supporting statements were listed in the table to assist with identifying emerging themes, coding the data and expedite the triangulation process. The participant statements and examples were used to answer research question number two. The diversity in background knowledge and training was an emerging theme that derived from interview question number 1. The participants have an abundance of knowledge in a variety of fields. Many have developed skills from working in the field of special education for many years and they have not had any current training to efficiently support the current AT laws. Others are new to the district and have shown initiative and desire to learn strategies to accommodate the needs of their students, while others have used other district support staff to gain knowledge. For example, one participant stated, "I've contacted the hearing impaired specialist in Yokosuka who wasn't near us." Although this shows initiative by the staff and loyalty to

the laws, knowledge about devices that are available to support student's needs should not take such effort. There should be AT supports embedded in the district that supports the AT laws and guides the service providers' and addresses their needs.

Interview Question 2: Reflect on what your professional training or educational experience. What type of professional AT training or education have you received that prepared you to work with students who require AT support services?

P1: Interviewee: I don't know if I've had any training per say. I took classes in college a long time ago. I usually had to bring my own experience to assistive technology."

P2: Interviewee: I have taken classes offered by the district and just basic computer. Just basic understanding different software that we have available in the district use then I've used that and adapted it to meet the needs for my students.

P3: Interviewee: I haven't had any recent training, I did receive training for a nonverbal student and it was easily obtained through the AT consultant. "I have vast knowledge of assistive technology through attending college and through district trainings. I have specifically been trained to use many different items. I've been trained to use Kurzweil, Dragon Speaks Naturally, and Front Row to Go. In our district, I have received Kurzweil training first and foremost and I have received training from the hearing impaired specialist on how to use the Front Row to Go with our students in the classroom. I have had the opportunity to tinker with many different items from that our lending library that's there just by checking them out or working through things on my own. I've had the training from the lending library or it really wasn't training but it was more of here's what we have to offer.

P4: Interviewee:“Our assistive technologist has provided specific trainings across our district first and foremost in Kurzweil. That is something that is conducted every year our Kurzweil training.

P5: Interviewee: Absolutely nothing.

P6: Interviewee:Out of the ten years, seven years I’ve been working with special needs so the type of training I’ve had it was the last time was about four to five years ago and it was then it was something that you could sign up for by choice and it was whenever we had this teacher training day for the whole island and we came together and they had a bunch of classes listed and you could take cultural classes or an area of your specialty could go there and that was the last exposure.

P7: Interviewee: Mine goes back six years ago. So for me, I got a lot of one on one with the assistive technology director. We sat there and played with it or we presented it to the parent. So that was really awesome. That was great training; it was kind of like we were teaching each other as we went along.

P8: Interviewee:I have never had any assistive technology training from the district.

Emerging Theme: Lack of Knowledge and Training

RQ1: What AT guidelines or supports are in place for SPED personnel to follow? *Supporting statements and examples.* I don’t know if I’ve had any training per say. I took classes in college a long time ago.

I usually had to bring my own experience to assistive technology.

I have taken classes offered by the district and just basic computer.

Just basic understanding of different software that we have available in the district.

I haven't had any recent training.

I did receive training for a nonverbal student and it was easily obtained through the AT consultant.

I have vast knowledge of assistive technology through attending college and through district trainings.

I have specifically been trained to use many different items. I've been trained to use Kurzweil,

Dragon Speaks Naturally, and Front Row to Go. In our district, I have received Kurzweil training first and foremost and I have received training from the hearing impaired specialist on how to use the Front Row to Go with our students in the classroom.

Our assistive technologist has provided specific trainings across our district first and foremost in Kurzweil. That is something that is conducted every year our Kurzweil training.

Absolutely nothing.

Out of the ten years, seven years I've been working with special needs so the type of training I've had it was the last time was about four to five years ago and it was then it was something that you could sign up for by choice and it was whenever we had this teacher training day for the whole island and we came together and they had a bunch of

classes listed and you could take cultural classes or an area of your specialty could go there and that was the last exposure.

Mine goes back six years ago. So for me, I got a lot of one on one with the assistive technology director. We sat there and played with it or we presented it to the parent. So that was really awesome. That was great training; it was kind of like we were teaching each other as we went along. Shared knowledge.

I have never had any assistive technology training from the district.

The qualitative data presented above shows the emerging themes that developed from interview question number two, and were subsequently used to answer research question number 1. The examples and emerging themes from each participant is presented in the table. The lack of AT knowledge was found to be a consistent theme among participant responses. The lack of knowledge in ones field of specialization may cause a ripple effect that can negatively impact student's educational performance and weaken the learning community's ability to properly and effectively support the needs of the students.

Interview Question 3: What resources have you used within the XYZ school district to support students with AT needs and how did you obtain these resources?

P1: Interviewee: The Guam District knows quite well what's in their lending library because it's been it's a small district. It's been maintained by the same person for years and she's kept it listed and she keeps it updated and so forth. Korea's never had any consistencies as far as I know. I've inquired so I don't think they have ever listed that I know of anywhere.

P2: Interviewee: When staff contact me, and it's usually regarding something like a communication device, or for a nonverbal child or it's for a child that's having severe handwriting difficulties or reading difficulties and for things like a communication devices, I send the staff a questionnaire about communication and how the student is communicating, how they are currently communicating, whether or not they have they ever used a communication device. Set up a webcam in the room so that the autism specialist can see this is a joint kind of effort on our parts. The PEC System which is more of a manual sort of a system. Dragon Naturally Speaking. I got a volunteer like one of the parent volunteers at the schools

P3: Interviewee: Okay. Some of it was on my own for example the schools do not supply iTouch or iPads. I've been using the iPad since it came out. I use it in conjunction with the Smart-Board but I've procured my own HDMI cable adaptors that sort of thing and it was a self-study that I did with those. I used that with the assistive technology director we did it together and she happened to be a colleague as well as a friend and it was something that we took on our own initiative to learn and use in the classroom. I had a parent that was willing to kind of be my pilot parent and so that worked out well.

P4: Interviewee: I would start at the school level and use the resources that are available and if they are insufficient then I would refer out to the assistive technologist consultant.

P5: Interviewee: I think we have them. I don't think we all know what's out there but then what to do with it. The lending library has a lot.

P6: Interviewee:I do know currently that our specialist at the district office is trying to purchase more items for assistive technology that can be used within all the schools and to maintain a more accessible inventory so everyone will have access to that.

P7: Interviewee:I've been on this island for a while so I know the go to people. There is a lending library. There have been different people in training in charge of the lending library at one point it was the assistive technology specialist but now it's like we have the RBI teacher that's taking care of the lending library. I was able to order the mouse that didn't come from the lending library the PTO paid for that. I have quite a bit of software that I've gotten from the lending library and then Board-Maker is something that we were issued.

P8: Interviewee:I would say that all SLP's. I'm biased I'm sorry you know we are excellent resources when it comes to communication needs. Many resources and not all of those resources are communicated to each of us so there are things that I know to do naturally and they are through my professional training. I think something comprehensive like that of a binder; you know just how we communicate the information and resources that are available

Emerging Theme: Need for Viable Resources

RQ3: How familiar is the multidisciplinary team with AT devices, AT services and AT resources? *Supporting statements and examples.* The Guam District knows quite well what's in their lending library because it's a small district. It's been maintained by the same person for years and she's kept it listed and she keeps it updated and so forth.

Korea's never had any consistencies as far as I know. I've inquired so I don't think they have ever listed their resources that I know of anywhere.

When the staff contacts me, it's usually regarding something like a communication device, or for a nonverbal child or it's for a child that's having severe handwriting difficulties or reading difficulties and for things like a communication devices.

Set up a webcam in the room so that the autism specialist can see this is a joint kind of effort on our parts.

The PEC System which is more of a manual sort of a system.

Dragon Naturally Speaking.

I got a volunteer like one of the parent volunteers at the schools.

Some of it was on my own for example the schools do not supply iTouch or iPads. I've been using the iPad since it came out. I use it in conjunction with the Smart-Board but I've procured my own HDMI cable adaptors that sort of thing and it was a self-study that I did with those.

I used that with the assistive technology director we did it together and she happened to be a colleague as well as a friend and it was something that we took on our own initiative to learn and use in the classroom.

I had a parent that was willing to kind of be my pilot parent and so that worked out well.

I would start at the school level and use the resources that are available and if they are insufficient then I would refer out to the assistive technologist consultant.

I think we have them. I don't think we all know what's out there but then what to do with it. The lending library has a lot.

I do know currently that our specialist at the district office is trying to purchase more items for assistive technology that can be used within all the schools and to maintain a more accessible inventory so everyone will have access to that.

I've been on this island for a while so I know the go to people. There is a lending library. There have been different people in training in charge of the lending library at one point it was the assistive technology specialist but now it's like we have the RBI teacher that's taking care of the lending library.

I was able to order the mouse that didn't come from the lending library the PTO paid for that. I have quite a bit of software that I've gotten from the lending library and then Board-Maker is something that we were issued.

I would say that all SLP's. I'm biased I'm sorry you know we are excellent resources when it comes to communication needs.

Many resources and not all of those resources are communicated to each of us so there are things that I know to do naturally and they are through my professional training.

I think something comprehensive like that of a binder; you know just how do we communicate about the information and resources that are available?

The data above shows the emerging themes that were unveiled from interview question number three. The statements and examples were used to answer research question number 3. Four of the participants identified the Lending library as a viable resource. Some of the participants noted that the resources were out of date and are not

accessible within the district. Other participants shared the need for information regarding the available resources that the district had available. One participant responded, “I think something comprehensive like that of a binder, you know just how we communicate about the information and resources that are available.” This statement exhibits the XYZ’s need for access to viable resources and ongoing communication regarding new, update, available resource within the district. Without viable resources, service providers are not offering SPED students an equal educational platform for learning.

Interview Question 4: If you have AT needs or supports for AT questions or guidance, where would you go to get those supports and who would you contact to obtain the supports you need to support the students AT needs?

P1: Interviewee: It was given to me by another SLP.

P2: Interviewee: Well each of the school districts has a lending library that is funded by its particular district so I have inventories of each I know what they have. I tend to bring that to the speech language pathologist first especially if I don’t feel as though there is a strong CSC support team. I might go to the ISS but I feel uncomfortable because I feel as though I might be overstepping.

P3: Interviewee: Well Proloquo. The assistive technology director we researched that together. She got together and we worked on it together for hours when she came by, she came to my classroom. I called her up and we looked it up together online. I’m very blessed that we have a wonderful supportive school because they did reimburse me. It was \$189.00 and they reimbursed me for Proloquo because I used it in my classroom daily to augment communication.

P4: Interviewee: If I did not feel adequately trained in Smart-Board for example. I would attempt to use it and if I couldn't solve an issue and I had my 20 little ones waiting for me, I would move on and let technology move on and teach right out of a book. I just think that with adequate training and instruction, many of the teachers are going to step up to the plate. They are going to want to stay with technology as it grows and they are going to want to service the kids but they need to know that the support is consistent you know.

P5: Interviewee: Just knowing what is out there that is more up to date and possibly purchasing some items that would be more beneficial and adding and expanding to the lending library that we already have. We can also seek out those who have a larger knowledge than what we have or more insight so we do have our hearing impaired specialist on our island that we can contact division impaired specialist as well as assistive technology person.

P6: Interviewee: Typically the ISS technology person. More and more parents are buying them for us. So, they are coming into school district some of them with their own device. When you're teaching a child how to use it, you program, you set it up and then it's kind of like PEC. You have two people; the person who is asking the questions or giving the instruction and the person who is sitting with the kid they will take their hand and hand over hand and start showing them the device.

P7: Interviewee: You know what I imagine is if someone invest in me with ample training and practice, I can then go to a 5th grade level meeting and then present that information to the general education teachers.

P8: Interviewee: I contact the lending library or our ET here at school. Maybe co-workers. I know Ben is one of the technology staff with computers he has helped me with all the different programs for kids. The Lending Library tech would guide me in the right direction if I didn't know how to use something and if she didn't know it, because it is like a hearing impaired kid, I would come to the hearing impaired specialist, or if it was a vision impaired kid I would go to the vision impaired specialist.

Emerging Theme: Need for AT Supports

RQ1: What AT guidelines or supports are in place for SPED personnel to follow? *Supporting statements and examples.* It was given to me by another SLP.

Well each of the school districts has a lending library that is funded by its particular district so; I have inventories of each I know what they have.

The speech language pathologist first especially if I don't feel as though there is a strong CSC support team.

I might go to the ISS but I feel uncomfortable because I feel as though I might be overstepping sometimes.

The assistive technology director we researched that together. She got together and we worked on it together for hours when she came by, she came to my classroom. I called her up and we looked it up together online.

We can also seek out those who have a larger knowledge than what we have or more insight so we do have our hearing impaired specialist on our island that we can contact division impaired specialist as well as assistive technology person.

I'm very blessed that we have a wonderful supportive school because they did reimburse me. It was \$189.00 and they reimbursed me for Proloquo because I used it in my classroom daily to augment communication.

If I did not feel adequately trained in Smart-Board for example. I would attempt to use it and if I couldn't solve an issue and I had my 20 little ones waiting for me, I would move on and let technology move on and teach right out of a book.

I just think that with adequate training and instruction, many of the teachers are going to step up to the plate. They are going to want to stay with technology as it grows and they are gonna want to service the kids but they need to know that the support is consistent you know.

Just knowing what is out there that is more up to date and possibly purchasing some items that would be more beneficial and adding and expanding to the lending library that we already have.

Typically the ISS technology person.

More and more parents are buying them for us.

They are coming into school district some of them with their own device.

When you're teaching a child how to use it, you program, you set it up and then it's kind of like PEC. You have two people; the person who is asking the questions or giving the instruction and the person who is sitting with the kid they will take their hand and hand over hand and start showing them the device.

You know what I imagine is if someone invest in me with ample training and practice, I can then go to a 5th grade level meeting and then present that information to the Gen Ed. teachers.

I contact the lending library or our ET here at school. Maybe co-workers.

I know Ben is one of the technology staff with computers he has helped me with all the different programs for kids.

The Lending Library tech would guide me in the right direction if I didn't know how to use something and if she didn't know it, because it is like a hearing impaired kid, I would come to the hearing impaired specialist, or if it was a vision impaired kid I would go to the vision impaired specialist.

The qualitative data shows a need for support as one of the emerging themes, these needs were derived from the data collected from interview question number four. The data from the interviews were used to answer research question number 1. The data from the interviews were used to answer research question number 3b. The findings indicated that participants consistently used different people within the community for AT support. For example one participant shared, "the assistive technology director we researched that together. She got together and we worked on it together for hours when she came by, she came to my classroom. I called her up and we looked it up together online." Another stated, "I contact the lending library or our ET here at school. Maybe co-workers." These examples show the need for consistent support or clarity as to who the support providers are for AT. Many of the service providers indicated their

proficiency in using AT, but it was due to their initiative to gain knowledge to better serve their students.

Interview Question 5: Can you share your opinion or perspective of your role and responsibilities within AT and in what way would clearly understanding your roles and responsibilities within AT help you to work more effectively with your students?

P1: Interviewee: I would say that that's an area of weakness because we all do our own thing and again we are not necessarily violating any rules but that's not something that has ever explicitly come to our attention that is something that I would like to know more about.

P2: Interviewee: I would oversee the use of assistive technology and that's basically it as using a team approach depending on the needs of the student.

P3: Interviewee: My role as a teacher. I'm going to be the teacher for the parent. I'm the lead liaison. I'm the one that helps them set it up. I go to the parents' house. I show them how to take pictures of the kids. I'll download them for them.

P4: Interviewee: I think as a Sped teacher for LI mild to moderate, I of course should be working on academic goals and also behavioral goals but at the same time if I do see that the child has any sort of communication issues that are affecting academic progress or behavior.

P5: Interviewee: It's my role and responsibility to look at the whole child. I think we should be looking at each individual child to see what kind of assistive technology would be beneficial.

P6: Interviewee: My job is to make things accessible to kids. To do the right thing. I didn't know there were laws.

P7: Interviewee: I would just you know again, I just do my own research and I also make sure that I contacted our district ISS person about that.

P8: Interviewee: I think I should know more about it what's offered to my students. How to create some of that stuff because I know the teachers I've worked with they can make the programs.

Emerging Theme: Roles and Responsibilities

RQ2: What does the SPED staff perceive as their greatest AT need within the district? *Supporting statements and examples.* I would say that that's an area of weakness because we all do our own thing and again we are not necessarily violating any rules but that's not something that has ever explicitly come to our attention.

That is something that I would like to know more about.

I would oversee the use of assistive technology and that's basically it as using a team approach depending on the needs of the student.

My role as a teacher. I'm going to be the teacher for the parent. I'm the lead liaison. I'm the one that helps them set it up. I go to the parents' house. I show them how to take pictures of the kids. I'll download them for them.

I think as a Sped teacher for LI mild to moderate, I of course should be working on academic goals and also behavioral goals but at the same time if I do see that the child has any sort of communication issues that are affecting academic progress or behavior.

It's my role and responsibility to look at the whole child. I think we should be looking at each individual child to see what kind of assistive technology would be beneficial.

My job is to make things accessible to kids.

To do the right thing. I didn't know there were laws.

I would just you know again, I just do my own research and I also make sure that I contacted our district ISS person about that.

I think I should know more about it what's offered to my students.

How to create some of that stuff because I know the teachers I've worked with, they can make the programs.

The data presented above shows the need for understanding AT roles and responsibilities. Interview question number five helped to identify the emerging theme and answer research question number 2. The participant responses lead to the perceptions of roles and responsibilities as an emerging theme. Many of the participants use various devices in their educational settings to support students with diverse learning needs, but there were no clear and definitive statements that demonstrated the staff understood their roles and responsibilities within AT. The XYZ SPED staff demonstrate diverse AT experiences and knowledge. The problem lies in the fact that there was no consistent AT knowledge within the district staff. The SPED service provider's advocate for students with disabilities by piecing AT devices and tools together to support the student needs, but this is not best practice. By identifying and understanding the roles and

responsibilities within AT the multidisciplinary team will be able to increase student success and take ownership in the laws in which they are required to uphold.

Interview Question 6: What needs do you have or how would you rate yourself as it relates to the QIAT survey?

P1: Interviewee: Better than some but not as good as I want to.

P2: Interviewee: I need to tap into the developing perhaps a yearly goal for myself to work with these kinds of things definitely.

P3: Interviewee: I need to get more familiar with for example the Tech Act and you know make sure that we are following a procedure that in place because we didn't even know.

P4: Interviewee: I would need more training on when I do get those students, how do I consistently tracked to make sure that the data that we collected is consistent and the data based on their educational needs. That's something that I haven't had experience with and would need training in that I would say.

P5: Interviewee: I feel like I'm very comfortable with technology but knowing how to tap into the different resources that are available, is something that I would need.

P6: Interviewee: So, low tech and high tech things yes, but I mean things change so quickly and perspectives change so quickly and again that is a part of my job.

P7: Interviewee: I feel like I'm qualified but a lot of that is because it's also an interest a personal interest that I research outside of school. My degree is in emotional impairments. So, not a whole lot of assistive technology.

P8: Interviewee: My expertise is to take the general curriculum, poke whatever I need from it in order to make the individual child successful at that moment at their level.

Emerging Theme: AT Devices

RQ3: How familiar is the multidisciplinary team with AT devices, AT services and AT resources? *Supporting statements and examples* .I need to get more familiar with for example the Tech Act and you know make sure that we are following a procedure that in place because we didn't even know.

I need to tap into the developing perhaps a yearly goal for myself to work with these kinds of things definitely.

Better than some but not as good as I want to.

I feel like I'm qualified but a lot of that is because it's also an interest a personal interest that I research outside of school.

My expertise is to take the general curriculum, poke whatever I need from it in order to make the individual child successful at that moment at their level.

Low-tech and high-tech things yes but I mean things change so quickly and perspectives change so quickly and again that is a part of my job again that is something that I do subconsciously at times

I feel like I'm very comfortable with technology but knowing how to tap into the different resources that are available, is something that I would need.

I would need more training on when I do get those students, how do I consistently tracked to make sure that the data that we collected is consistent and the data based on

their educational needs. That's something that I haven't had experience with and would need training in that I would say.

The data above presents supporting statements from interview question number six. The theme that emerged from interview question number six showed the need for knowledge of assistive technology device. The data findings were relevant in answering research question number 3. Many of the participants have devices that they use in their classrooms but are not aware of the current available devices for their students. More important is majority of the XYZ staff does not know how to identify the devices that would support the students educational needs. One example of this lack of knowledge was indicated by a participant. She stated, " I feel like I'm very comfortable with technology but knowing how to tap into the different resources that are available, is something that I would need." Technology changes constantly and it is the responsibility of the AT service provider to be knowledgeable about current devices, service needs and available resources for the student and their family.

Interview Question 7: Express in detail what AT guidelines that are in place within the XYZ school district that you follow consistently to ensure that all your students are receiving the newest and the most effective support services available.

P1: Interviewee: I have no idea.

P2: Interviewee: There aren't any.

P3: Interviewee: No guidelines. I'd like to know like if there is a law that I'm not following.

P4: Interviewee: I have no idea. I've never seen a guideline.

P5: Interviewee: I think there is this perception among special educators in this organization that we are not subject to the same rules and regulations and laws that special education in the United States is and that's not true.

P6: Interviewee: I know as far as guidelines as within our Sped guidelines, as far as assistive technology and IEP and why you put it on there. Guidelines within the district I don't know.

P7: Interviewee: The guidelines I went with per say under assistive technology were under our basic Sped guidelines. In our guidelines, it gives a definition of assistive technology but as far as our systems involved we have to make sure the child has access to that device before we write it in.

P8: Interviewee: Absolutely nothing. So, in terms of guidelines and things like that I've been heavily relying mostly on the ISS to guide us.

Emerging Theme: AT Guidelines

RQ1: What AT guidelines or supports are in place for SPED personnel to follow? *Supporting statements and examples* .I have no idea.

There aren't any.

I'd like to know like if there is a law that I'm not following.

No guidelines.

I have no idea. I've never seen a guideline.

I think there is this perception among special educators in this organization that we are not subject to the same rules and regulations and laws that special education in the United States is and that's not true.

I know as far as guidelines as within our Sped guidelines, as far as assistive technology and IEP and why you put it on there.

Guidelines within the district I don't know.

The guidelines I went with per say under assistive technology were under our basic Sped guidelines

In our guidelines, it gives a definition of assistive technology but as far as our systems involved we have to make sure the child has access to that device before we write it in.

Absolutely nothing.

So, in terms of guidelines and things like that I've been heavily relying mostly on the ISS to guide us.

The data presented above shows the XYZ staff's significant need for unifying guidelines. The data from interview question number 7 was used to answer research question number 1. The data findings show that the majority of the participants had no idea about AT guidelines. For instance, one participant stated, "there aren't any." Another participant responded, "I have no idea. I've never seen a guideline." It was unanimous by all participants that guidelines are taboo. "The perception among the special educators in the district is that they are not subject to the same rules and regulations and laws that special education in United States is," as expressed by one of the participants. Guidelines are in place to guide and lead the individuals under its umbrella. Special education personnel should have access to the guidelines in which the district has in place. There appears to be some disparities in upholding the guidelines. First the district needs to establish guidelines and share those guidelines with the

multidisciplinary team to ensure that the lead implementers understand their responsibilities in relation to laws of AT.

Interview Question 8: As an AT service provider and decision maker for students who have special needs, what do you think would help better prepare you to service students with diverse learning needs within AT?

P1: Interviewee: I stay current on my C's that certificate of clinical competence and that enables me to make decision on assistive technology however due to being a part of the military, there are some restrictions with different software's we can load and I've gone out personally and bought my own laptop and download the cd's that I needed to teach the students the skills that I need to teach so there is a huge disconnect between the resources that we have and we do have a lot of resources you know that's something fortunate we have in this district but the procedure in order to get those resources available immediately in a more timely manner and apply to the student that can take a whole academic year. So I think there needs to be better communication between the people they have on island.

P2: Interviewee: Networking I guess. Sharing information. ISS people present to first introduce themselves to us and then to explain their area of expertise and what how we can use them as a resource. Every CSC meeting there should be some sort of mini lesson whether it is fed to us by the CSC chair or an ISS person or the guest ISS of the day.

P3: Interviewee: Training. It would not be lecture it would be here's what's available let me show you how it works and I would have iPad's and iTouches and I would download

those programs and let them know how insurance reimburses the parents so that these parents most of the parents have iPhones they have the device available.

P4: Interviewee: Well, I think training would be effective. I think training would be hard to do in our circumstances because of the way that we're spread out and because of the restrictions on travel. It may be a clear cut plan that every teacher knows about to include the General Ed. teacher population teachers. Another thing that would be beneficial is to showcase more assistive technology that way we are more aware of products that are available for students.

P5: Interviewee: Training. All the different options. Understanding. Is it just computers is it and I know it's not. It's also make what we make for the kids. I mean really what is it because I think General Ed. teachers have no idea what it is either. I think with training you'd see students' scores rising. I think that that's what your end result will be. You would see actual student improvement. I think you'd find more satisfaction on the part of staff, than what they have right now.

P6: Interviewee: I would like more professional development that pertains to things that I can apply right away. I need real live living and breathing person that comes in to our continual improvement days and trains us. That means putting us in computer labs. I mean this is where we are in life and in technology we need to be trained on these devices and not just having some classes. Anything like that that's hands on for credit district training would be great actually someone coming in and teaching us having us playing with the different devices and technologies that are out there would do a lot. It would be great if someone would do a program you know teach us how to use all those things

because it would benefit a lot of kids. Train us. Show us what's out there and how to use it properly to best suit our student's needs.

P7: Interviewee: Island wide training would be beneficial.

P8: Interviewee: I would do is target moderate to severe teachers who have the kids with more needs that would be my target group first and I would look at people who are using the technology to present it and but the fundings' the big thing so you would have to find a day where it's an already a designated teacher work day and get the funding for that and have those teachers meet at the district office or another teachers' classroom if available and train them that way. The laws and how it effectively makes a program for my kid that needs it, or for any kid because they all learn differently.

Emerging Theme: Training

RQ2: What does the SPED staff perceive as their greatest AT need within the district? *Supporting statements and examples.* So I think there needs to be better communication between the people they have on island.

Networking I guess. Sharing information.

ISS people present to first introduce themselves to us and then to explain their area of expertise and what how we can use them as a resource.

Training. All the different options.

Understanding. Is it just computers is it and I know it's not. It's also what we make for the kids. I mean really what is it because I think General Ed. teachers have no idea what it is either.

I think with training you'd see students' scores rising. I think that that's what your end result will be. You would see actual student improvement. I think you'd find more satisfaction on the part of staff, than what they have right now.

Island wide training would be beneficial.

What we are lacking is maybe a clear cut plan that every teacher knows about to include the General Ed. teacher population teachers.

I think another thing that would be beneficial is to showcase more assistive technology that way we are more aware of products that are available for students.

Training. It would not be lecture it would be here's what's available let me show you how it works and I would have iPad's and iTouches and I would download those programs and let them know how insurance reimburses the parents so that these parents most of the parents have iPhones they have the device available.

I would like more professional development that pertains to things that I can apply right away. I need a real living and breathing person that comes in to our continual improvement days and trains us. That means putting us in computer labs. I mean this is where we are in life and in technology we need to be trained on these devices and not just having some classes. Anything like that that's hands on for credit district training would be great actually someone coming in and teaching us having us playing with the different devices and technologies that are out there would do a lot.

Train us. Show us what's out there and how to use it properly to best suit our student's needs.

It would be great if someone would do a program you know teach us how to use all those things because it would benefit a lot of kids.

I stay current on my C's that certificate of clinical competence and that enables me to make decision on assistive technology however due to being a part of the military, there are some restrictions with different software's we can load and I've gone out personally and bought my own laptop and download the cd's that I needed to teach the students the skills that I need to teach so there is a huge disconnect between the resources that we have and we do have a lot of resources you know that's something fortunate we have in this district but the procedure in order to get those resources available immediately in a more timely manner and apply to the student that can take a whole academic year

First, what I would do is target moderate to severe teachers who have the kids with more needs that would be my target group first and I would look at people who are using the technology to present it and but the funding's the big thing so you would have to find a day where it's an already a designated teacher work day and get the funding for that and have those teachers meet at the district office or another teachers' classroom if available and train them that way.

The laws and how it effectively makes a program for my kid that needs it, or for any kid because they all learn differently.

Well, I think training would be effective. I think training would be hard to do in our circumstances because of the way that we're spread out and because of the restrictions on travel.

Every CSC meeting there should be some sort of mini lesson whether it is fed to us by the CSC chair or an ISS person or the guest ISS of the day.

The data presented above shows the need for training as an emerging theme. Interview question number eight unveiled the significant need for training within the XYZ Pacific District.

Conclusion

The mixed-methodological research design was selected to help the XYZ-Pacific school districts staff identify their individual strengths, and needs within the QIAT matrices. The self-rater tool gives each service provider an individual perception of their ability to efficiently and effectively provide supports for students' with special needs. It was selected as a pathway to understanding the needs of the AT service providers while describing their perspectives on AT supports, available AT resources, and their lived experiences as primary decision makers and community resource providers for the educational military community. The findings from the data that was triangulated revealed that the XYZ school district-Pacific multidisciplinary team is dealing with challenges in five areas: collaboration and viable resources, unifying guidelines, AT support and guidance, AT knowledge/roles and responsibilities, training and devices. The data suggests that the multidisciplinary team is lacking the knowledge to consistently and confidently utilize AT technology within their classes daily. The SPED staff also lack current and viable resources, and professional development training to practice strategies and collaborate with their counterparts. Training will help support the implementation of the gained AT knowledge. These factors are consistent with the initial identified problem

statement and corroborate the need for AT professional development training. This data revealed the lack of QIAT within the XYZ-Pacific school district and identified the need for training, which would ensure teachers as highly qualified to support, assess, evaluate, service and make legal decisions for students with disabilities. AT is woven into the framework of the legislation as a means to eliminating some of the barriers that students with disabilities may encounter.

The data findings from the interview answered research question number 2. All eight participants stated the need for AT training, whether it was in AT devices, AT supports or AT guidance the response was unanimous. For example, one participant stated, “I would like more professional development that pertains to things that I can apply right away. I need a real living and breathing person that comes in to our continual improvement days and trains us. That means putting us in computer labs. I mean this is where we are in life and in technology we need to be trained on these devices and not just having some classes. Anything like that that’s hands on for credit district training would be great actually someone coming in and teaching us having us playing with the different devices and technologies that are out there would do a lot.”

The diversity of experiences and training among the staff led to professional development training as a theme. This theme alone had the most consistent responses and specific request compared to the other seven interview questions. The participant responses suggest SPED service providers recognize their needs and understand what strategies are needed to be more effective for their students. For instance, “I think with training you’d see students’ scores rising. I think that that’s what your end result will be

that you would see actual student improvement. I think you'd find more satisfaction on the part of staff, than what they have right now." Many of the service providers have sought to gain their own knowledge by using Google, and other resources necessary to ensure that all SPED students are successful. All of the findings show the importance of AT service providers input and application. AT service providers and support staff are the resource highways for students with AT needs, decisions, supports, and equipment (Yell, Shringer, and Katsiyannis, 2006). Therefore, it can be viewed as unlawful for SPED teachers to not to be informed or knowledgeable about the laws in which they are mandated to uphold. Teachers having knowledge and understanding of the AT guidelines and laws help them make informed decisions for SPED student in the least restrictive environment; provide opportunities for independence that would not otherwise have been possible. AT knowledge and support for teachers will help make informed decisions about AT devices, services, and ensure that AT accommodations, assessments, and technologies are consistent with the student's needs or disabilities. Thus, teacher knowledge alone can alleviate some of the barriers that students experience in their daily educational settings (Dalton, 2002).

The concurrent quantitative data from the survey, questionnaire and cumulative response, steered the researchers' path toward obtaining rich, thick, and useful data to answer the three research questions and guide the direction of the project. The staff interviews were used to triangulate the survey data and verify the consistency or lack thereof within the study. The QIAT tool was used in various studies, and therefore validation and reliability was previously established. Careful analysis of the data, coding,

categorizing, interpretive data analysis, transcription, and SPSS provided clarity to the findings of the research questions. The findings provide the XYZ-Pacific school district with supportive data to guide and help build a stronger learning community. A peer debriefer was a great asset for this research process and was used to ensure that all ethical measures and procedures were followed appropriately. Aligning the research study to the XYZ-Pacific school districts Community Strategic Plan, provides immediate social change within the military's learning community. It also helped generate future recommendations and intervention strategies for ongoing school improvement.

In conclusion, section 3 displays the formative and summative data-driven project selected for this research study. The project was chosen based upon the data derived from the quantitative QIAT survey, WATI follow-up questionnaire, summative responses, and interviews. It is the hope of this researcher that the data triangulation provided a clear voice for the multidisciplinary team and offers the XYZ-Pacific district stakeholders with knowledge of their staffs AT strengths and needs. The project helped school administrators understand how the adult learning process affects performance, and how the learning community is an essential component towards obtaining unifying guidelines and student academic success.

Section 3: The Project

Introduction

Within this section, I present the proposed project for this study. The study results led me to develop professional development training for SPED service providers who support students with disabilities within the XYZ pacific district. The project provides the school with a program that uses formative and summative evaluations, effective strategies that are proven to build more prepared and confident teachers and staff upon completion of the 3-day training. Formative tools were used to develop the professional development training but broken down into two stages due to the lack of data collected from the quantitative surveys. The insufficient data left the need for more clarity and depth, thereby leading me to introduce the second stage: staff interviews, which increased the richness and breadth of the study and answered the research questions, while also confirming the findings through triangulation of multiple data sources. The community's strengths and needs were divulged and the findings led to the development of the professional development training. The professional development training program is an effective tool that can be duplicated and modeled in other school districts if implemented properly.

Purpose

The professional development training was designed to actively respond to the needs derived from the findings of both the summative and formative data collected. The summative data came from the summative responses. The data was used as a tool to find

out how much AT knowledge each teacher currently possessed. The formative data came from the surveys, interviews, and questionnaires. They were used to gain knowledge about the staff's prior training, knowledge of AT, skills of AT application, their understanding of AT laws, and their perceptions of the roles and responsibilities of an AT service provider. The formative data were used to triangulate all data in order to effectively determine which areas of AT had the greatest service provider need.

It is my hope that this project will help “learners, for example to ‘trust the process’, be willing to take risks, and be ‘open to new ideas and experience’” (Merriam, Caffarella, & Baumgartner(2007, p. 243). This program will be an effective tool that can be duplicated and modeled in other school districts.

Description and Goals

The professional development training program is designed to increase the AT knowledge of all SPED service providers, offer current AT resources, and clarify roles and responsibilities in relation to the laws of the Tech Act.

Scope and Sequence

The 3-day training should take place in various settings: individually and group settings. Within these settings, individual assessments, small group activities, equipment training sessions, and large group collaborations should take place. The trainings should take place in an informal setting to allow all participants to feel comfortable throughout the training. Each day the opening sessions should begin with the KWL chart, which will be used for attendance purposes as well as used as a guide for enhancing the program. The KWL chart should be collected daily. On Day 1, participants will complete the *know*

(K) section of the KWL chart. Upon completion of the KWL chart daily, a review and background session will begin with a large group collaborative discussion. The group will break into smaller training groups that will encourage staff to engage in social learning during the different sections of the training. Whole group discussions focus on the AT laws, history, and the roles and responsibilities of AT service providers. Day 2 begins with completing the *want to know* (W) section of the KWL chart. At the end of each training session, the groups will reconvene with a closing discussion and question-and-answer forum. All participants need to complete the QIAT self-assessment survey, and the group findings are shared and discussed as a whole group. Throughout the day paired grouping activities will take place to focus on the AT equipment, devices, and services application. The ISS technology specialist should be the guest speaker. The ISS will come and share information with the staff about available technology tools and support the simulations training session as well. On Day 3, the final day of the training, all participants are asked to complete *what you learned* (L) section of the KWL at the end of the training. Activities and collaborative lessons will focus on AT resources, websites, and links that offer teacher support for students with special needs and resources that can enhance students' educational experience. After the final group discussion, the KWL chart will be used as the ticket out the door. These data collected from the training should be used as an assessment tool and analyzed to see if transfer of learning took place, as well as to determine the effectiveness of the training program.

Timeline

The 3-day training program should take place during the first quarter of school; late August or September would be an ideal time to conduct the professional development training because most of the service providers would have had enough time to review their case files. The training program should be held 8:00am-3:00pm, with a 1-hour lunch break. This timeline is effective for all school staff because it is the beginning of the school year and it gives some teachers an AT refresher and offers some service providers with a review of new and old AT equipment from the lending library that they have used in previous years. This professional development is an additional support for students because it ensures that the teachers and staff that will be providing AT service, will be knowledgeable about the most updated AT devices and resources, which ultimately guarantees immediate usage upon the student's arrival and that highly qualified to make legal decisions regarding children's AT needs and support.

Desired Outcomes

The desired outcomes will highlight the abilities that each teacher obtained during the AT training, such as their ability to grasp new technology equipment usage, and understand their function, and identify available resources and links to support students with diverse learning needs. With this new or refreshed knowledge, all teachers will be better prepared to implement the usage of various types of AT equipment, without having to wait for training from the AT department in service training. In addition to the above desired outcomes, teachers will be able to confidently articulate the benefits of effective AT usage, and increase student academic success. The desired program outcomes are

based upon the effectiveness of the assist technology training program. Teachers will be able to:

- Apply knowledge gained from training into classroom settings.
- Demonstrate appropriate skills related to equipment usage.
- Gain a better understanding of the importance of AT equipment, and select equipment that will enhance student's academic progress.

Program Outcomes

According to Christine and Alkin (2005), in order to determine whether or not a project has accomplished its proposed objectives, a goal-based evaluation should be completed. The 3-day AT training program will:

- Inform teachers about the importance of appropriate and consistent daily usage of assistive technology in the classroom.
- Increase academic success in students, through demonstrating the ability to effectively use assistive technology equipment in a timely manner.
- Apply knowledge and be more equipped with the skills to trouble-shoot, utilize, and select appropriate AT equipment for special needs students.

Learning Objectives

In order for the learning objectives to be successful, the outcomes must have obtainable objectives. These objectives are stepping stones to accomplishing the program planning goals. As a means to having all teachers accomplish the training goals, three learning objectives were developed:

1. When asked to describe AT and the QIAT, the teacher will be able to give definition of AT and explain their roles and responsibilities within the QIAT independently, or until mastery with minimal prompts.
2. When presented with pictures and names of a selected group of AT devices, each teacher will be able to describe its function and identify its purpose with minimal teacher assistance, and at least 80% accuracy or 8/10 questions correct.
3. When given a randomly selected student with AT needs, each teacher will be able to identify an online AT resource site and equipment to support the students need with at least 90% accuracy or until mastery.

Rationale

The use of interviews and survey data revealed the consistent need for AT knowledge, collaboration and resources. The needs of the staff can be met through the development of professional development training. The quality of professional development varies widely from school to school and from district to district. It was also noted that gaps often exists between state policies and local implementation. The XYZ is a prime example of this and exposure to technology is vital to the future success of students in later academic years and into adulthood (Agree and Freedom, 2011). It is this researcher's belief as the researcher, that this professional training will generate a stronger learning community by providing the staff with viable resources, AT knowledge and necessary community collaboration. Survey Monkey provided detailed information regarding the need for teacher training within the local community and among a diverse

group of SPED service providers. Bain et al. (2010) explained that some teachers make AT recommendations with little knowledge and many lack the support from the school administrators. This, too, was found to be a factor within the XYZ school district. Professional development training and accessible technology provide the promising tools to staff with access to resources, collaboration, exposure to new technologies and opportunities for interaction and continuous school improvement. The staff will begin to feel a stronger sense of community among the student's with AT needs as well as an increase in daily AT usage.

Review of Literature

The review of literature was derived from the research of multiple data bases from Walden's library: EBSO, Pro Quest, Sage, ERIC, Google Scholar, and Education Research Complete. The saturation of literature terms included, professional development, professional learning communities, benefits of professional development, educational learning communities, professional development in elementary school, military schools professional development training, effective learning communities, professional development learning model, professional development characteristics, pioneers of professional development and collaborative learning. All of these data base topics and sites were supportive tools in the development of the literature review. The resources will be used to help explain and support the XYZ's need for professional development training and teacher collaboration as revealed by the findings from the one-to-on open-ended staff interviews.

A case study which encompasses components of both the quantitative and qualitative methodology tools were incorporated to examine the current AT knowledge, skills and support that is governed within the military community. According to Bogdon and Biklen, (2007), an effective strategy based on findings brings about change within a programmatic need within a community. Training teachers using professional development may help bridge the gap between abstract and conceptualized application of AT support services among the military schools. The newly mandated technology laws, in addition to current technology standards need to clearly support the development of AT guidelines that can be used to promote the academic success of student with disabilities, increase knowledge, support new teacher, pre-service and renew skill and application of returning teachers across all educational arenas. Developing a clear vision of professional development training and ongoing support services were the primary findings of the data collected. Evidence focused on the needs of current available technologies and time to effectively train or in-service staff consistently as different technologies and laws are updated. The diversity among the staff and various learning needs and styles unveiled the need for multi-modality professional development training. Consequently, in-service, technology training, and pre-service programs developed by policy makers should take into consideration that technologies are constantly changing and re-innovated and so should the professional development standards as it relates to AT and offer equal access to AT for all SPED service providers within the XYZ district.

The review of literature is comprised of two theoretical perspectives that will be the guide for both the conceptual and theoretical framework of the project. Andragogy

(1968; in Knowles et al., 2011) identified the transfer of learning among adults using core principles that enhance the learning transfer in adult learners. The primary principles of adult learning transfer should incorporate the methodological frameworks of both Knowles et al. (2011) and Bandura (1986). The embodiment of the Andragogy practice model should alter the outcomes of the learning process to ensure that learning has been transferred. Knowles et al.'s (2011) principles were used as a tool grounded in humanistic philosophies. The human actualization (as cited in Taylor and Kroth, 2009) were highlighted as a form of self-actualization of the adult learner within Andragogy (1987). Taylor and Kroth (2009) asserted that there are clear distinctions in how adult learning takes place and how children obtain knowledge. Adults should be active participants in the learning process. Remembering that the adult experiences and pre-established have a direct impact on the learning process. Children on the other hand are more consumed with the content itself versus the relevance of the content (Knowles, 1980).

Knowles et al. (2011) explained that the application of Andragogy within a practice model is ideal for program planning, after consideration of individual assessments and situational differences have been considered. The practice model of Andragogy offers a structural learning format that can meet the needs of each adult learner by simply applying the six core principles. Bandura (2001) asserted that the social cognitive learning theory (SCLT) is most effective when adult learners apply four components of the adult learning process: (1) observation; (2) self-efficacy; (3) self-regulation; and (4) reciprocal determination. Through each of the four components learning becomes more powerful and the transfer of learning has begun.

Teachers have held positions within the SPED field with inadequate training that has challenged or questioned the delivery of effective classroom technology integration and by years of experience they have been promoted to positions and roles such as lead teacher or mentor teacher; yet the disbursement of new technology knowledge, skill and application do not meet the highly qualified teachers standards. The education community has continued to push teacher knowledge and application by using data base training, smart-board tools and more computer literate staff beyond the parameters of the school by way of distance learning programs. This has been a starting point to combat the lack of classroom technology integration within the military schools. The 21st century schools have been a driving force for school districts to branch out and update tools and training that will have a significant impact on technology usage in the classroom. A survey from the National Center of Education Statistics (NCES) (1997a; 1997b; 1999) showed that 20% of the teachers viewed themselves as prepared to meet the rising demands of the school, serve students with diverse learning needs, assist in the learning process of special needs students, and use technology within the classroom. However, there continues to need to be clarity and understanding among all teachers towards the expansion of more distance learning, AT and telecommunication classroom implementation.

Professional Learning Communities

There has been an increase in ongoing professional development communities (Papinczak, Tunny, and Young, 2009) that have been utilizing collaboration, listening opportunities and help teachers gain new understandings in order to ensure that teachers

are highly qualified in the content areas (Gelman, Pullen, and Kauffman, 2004) that they are required to teach. Professional development learning communities are building blocks that provide a solid foundation for constructing meaning and offers opportunities to collaboratively examine their own contexts and reflect on their individual practices. Clearly identifying the purpose, alignment with the school mission, clear and concise teacher goals (Hodgson, Lazarus, and Thurlow, 2011) student data, and engaging in meaningful activities in professional development play an important role in knowledge building for teachers, in order to for the transfer of knowledge to application to take place (Smith, 2002).

An effective professional development training in ongoing and takes into consideration the needs of the learning community and is designed to fit into the framework of the learning community in which it supports. Current research supports the notion that teachers demonstrate improved performances and show enhanced instruction when ongoing professional development is paramount. According to Nelson (2006), professional development offers teachers tools to facilitate changes to improve student achievement. It also teaches teachers how to acquire knowledge and then put that knowledge into practice. Ongoing professional development opportunities are used when trying to prepare teachers to practice new skills or looking to improve teacher quality, and increase their confidence levels (Van Laarhoven and Conderman, 2011) during AT implementation. By building a strong community support system, as stated by Hipp and Hoffman (2010), a dynamic professional learning community can be established and the system will enable collaboration between teachers in a forum that fosters learning.

Community support is vital to the success of a strong learning community according to Bryck et al. (2010). A professional development should be far-reaching that provides ample time for follow-up, allot for critical reflection, and evaluation with ongoing assessments that will ultimately benefit teacher knowledge, teacher ability, teacher confidence and student success. As researched by DuFour, DuFour, and Eaker (2009), professional development is an ongoing timely process and not a one-time event.

In order for the interventions to be viable, teachers must demonstrate confidence in the educational methods learned by their school district if expected to consistently implement their ability effectively. The increase in teacher confidence (Lee, Patterson, and Vega, 2011) from professional development may be the necessary intervention to provide teachers with academic, technical, and social-emotional resource supports for their special needs students and the families. Adults learn through various learning modalities and Brookfield (1995) explained that adults' mastery of skills is achieved when they are able to think critically and analytically through life experiences. Research indicates the collaboration between teacher knowledge, attitude, student achievement and professional development (Wilson and Berne, 1999; Penuel, Fishman, Yamaguchi, and Gallagher, 2007). Teachers are able to discover new perspectives, listen to and contemplate various viewpoints and beliefs (Michaels and McDermott, 2003) during collaboration.

Shared teaching strategies can be used to establish constructive and relevant feedback, while working towards continuous school improvement and student success (Wilkins, Shin, and Ainsworth, 2009). This feedback allows teachers the space and

opportunity to activate learning in an environment that is satisfactory, while also offering leadership with a significant source of data to show what is working and what is needed for continuous school improvement. Miller (1994) acknowledged that critical thinking is a fundamental process for educator but it is not often emphasized during undergraduate course work. Energized thinking, a boost in teacher confidence and collaboration has been noted as one of the benefits of professional development learning communities. Vescio, Ross, and Adam (2008) showed positive effects on student achievement success when professional development learning communities are utilized within a learning community. The foundation of a learning community can improve teaching and learning and has been proven to be more effective with additional teacher collaboration (McLaren, Bausch, and Ault, 2007). Teachers are able to improve their practice consistently in ongoing professional development training or establish the fundamental principles of a professional development community.

The stakeholders are key players in the development of professional development trainings and leadership is the guide for achieving the goals of the learning community (Maloney and Konza, 2011). Through the development of AT professional development training, the teachers are guaranteed to walk hand in hand with the schools mission. A successful global environment will support student's individual needs, give accommodations to those students who have not been identified with special needs, help all students to achieve academic and personal goals, give equal access to curriculum materials, all while becoming productive, responsible citizens. Ultimately, as teachers gain knowledge themselves through a professional development model a decrease in

academic concerns will become more prevalent; students will become more engaged and better prepared to succeed in a global economy. Darling-Hammond et al. (2005) asserts that “teachers have the content, process, knowledge, skills, dispositions, and accountability to help all students achieve high standards.”

In conclusion, the mission of XYZ pacific school district schools is to “Provide Exemplary Education that inspires and Prepares All XYZ pacific school district Students for Success in a Dynamic, Global Environment” (DODEA, 2006, p. 2). The goal of XYZ pacific school district is to provide visual reassurance to parents, teachers and staff that education is a shared responsibility. The development of a global environment takes the efforts of our community, our homes and our schools to maximize our student’s academic potential (DODEA Handbook, 2008). Shared decision making helps in moving toward higher student success, according to Katzenmeyer and Moller (2009). Desimone, (2009) expressed professional development as, “a key to reforms in the teaching and learning, making it essential that we use best practice to measure its effects” (p. 193). Thereby, acknowledging that professional development is essentially the change agent that supports teachers need to gain a better understanding and to dig dipper into the topics or resources that support the laws of AT.

Discussion of the Project

The purpose of the AT professional development training program is to teach, to inform, and to help all participants develop a resource of AT learning devices. It was developed to support the needs of SPED students through the professional training of all SPED service providers. The training will give service providers current resources,

hands-on usage of the equipment, and strategies to help identify students who would benefit from equipment and AT support. The program structure was setup to fit the schedule, timelines and the field of SPED provider's needs.

The AT training program is established as an educational program in the XYZ Pacific School district. The program is established to enhance the knowledge and skills of current SPED department staff, teach skills to newly hired teachers and staff, as well as enhance the training program, provide resources and a collaboration forum for service providers of students with special needs.

Once a year, prior to the beginning of the school year, all new and returning SPED teachers/staff will be provided the opportunity to participate in a three-day AT training. The essential purpose of the program is to help staff providers identify, describe, and implement AT equipment, supports and services as needed. In addition to the application of the equipment, it is the goal of the professional development training to supply all staff members with resources and newly innovative educational technology experiences, as well as build confidence in those participants who lack AT knowledge and experience.

Potential Resources and Existing Supports

Caffarella (2010) discusses techniques that can be used within groups or in individual sessions. The group techniques include, the transfer teams, which identifies individuals to work before, during and after program as a designated support for the transfer of learning. For instance, the trainer from each technology group could be identified as one of the transfer teams. This would be an effective strategy because they

will have had the opportunity to work with the program planners to develop various areas of resource tools and training techniques. Next, the turning protocols whom are individuals who get together voluntarily to examine their knowledge through reflective activities and formal presentations. Throughout the professional training program, each group would allow participants to volunteer and implement this process. Then there are the support groups, which encompass individuals who meet regularly to collaborate via online or in person as a means to gain practical experience, share prior experiences and problem solving strategies as it relates to the learning transfer. During the three-day training and collaboration sessions, a participant's email contact list could be added to the resources PPT links that every participant could take and later use for networking and collaborative resource support. The last group technique that Caffarella (2010) discussed is the follow-up session, which formulates an extension of learning from the original activity through the use of audio or video conferencing, face to face or online. This process has been developed as a part of our three-day professional development training and is a useful tool for ongoing learning.

Monitoring Process

During the monitoring process the stakeholders, program planners, trainers and participants should be fully aware of the skills required for the transfer of learning, clearly identify when these skills will be applied during the training, be flexible and open-minded enough to adjust, and negotiate changes needed to ensure that the application of learning is transferred using a formative evaluation process, and monitoring techniques. At the close of the training program a follow-up activity and/ or

lesson should be administered. These techniques used during the three-day training program will be both summative and formative. The analysis of the end of the training KWL chart will serve as a summative measure of learning, while the Likert Scale will serve as a formative measure of learning. Both in which will support the monitoring progress pre and post training.

Resources

Additional resources include experienced, certified individuals who work in the field of SPED, AT ISS, IT equipment specialist, parents of children with disabilities and administrators who will work with the training program as a support group necessary to monitor and document the process of the program.

Fiscal

The training program is provided at an XYZ school and administered to teachers and staff on a voluntary basis, so there will be no cost for transportation. Funds are limited to copies, resource books, instructional supplies and the lending library equipment will be provided by the school district on a loaner basis, so no cost will be added. Participants will provide their own lunch daily.

Space

The professional development training will take place at a school in the XYZ Pacific School district, in one of the school's cafeterias or gym. These are very large spaces and can hold several hundred participants. It will also allow the program developers to setup learning stations, while also having space to collaborate at the end of each session for closing dialogue, questions and answers.

Potential Barriers

Lahm (2003) found that teachers lack clarity of their roles and responsibilities in the area of AT equipment usage in the classroom. According to Artiles and Kozleski, (2010), this could be caused by the lack of training in device programming, familiarity of devices, device maintenance, and classroom technology integration. Policy inconsistency and continual changes within the laws add to the barriers of AT services. Without proper training or unifying guidelines for service providers to follow, additional barriers in the application process will begin to develop, including lack of unifying development of guidelines, delivery, devices, planning, and AT service delivery (Reed, 1999; Cook and Polgar, 2008; Moorison, 2007; Abner and Lahm, 2002).

The first barrier identified is the inadequate amount of exposure and communication among families of special needs children and AT service providers. Another barrier is the lack of networking and visible resources. This inadequate training and minimal AT support could be another viable cause for an increased lack of inefficient and ineffective AT practice. The last barrier identified correlates to the other two barriers and has a direct impact on the realm of AT services, and delivery. The distinctive differences of opinions, perceptions, attitudes, and varying levels of preparedness among the multidisciplinary team will continue to widen the gap of AT service policy and provisions and block the freeway of AT resources and educational equality for students to gain equal access to curriculum as mandated by the laws of IDEA 1997.

The most common barrier addressed in AT (Judge, 2006; Lesar, 1998; Copley and Ziviani, 2004) is the lack of adequate training and minimal to no follow-up support for

SPED service providers. Some SPED teachers and CSC members have had some AT device training, but there is no data to prove their understanding of their role and responsibilities as service providers, or how their role or responsibilities as service provider have increased. Dewey (1990) described the composition of a CSC team in the same manner in which a community is described. Each member within the community plays a role that is vital to the survival of the entire community. All communities have leaders and roles to perform as a means to maintain cohesiveness within the unit, rules that have been developed for everyone to follow and guidelines that are used to accomplish and maintain the common goal. Complications arise when a community leader changes the goals without notifying the community, but yet expects them to accomplish the goal. Barriers are built when those within the community do not understand their role within the community. Therefore, necessary daily tasks may be overlooked or overlapped by one or more community members. Ross, Dodman, and Vescio (2010) found that confusion within the multidisciplinary team may occur if the professionals within the team do not have a clear understanding of their roles and responsibilities.

Proposal for Implementing Timetable

The advantage of providing this AT training to XYZ pacific school district staff is the accessibility. The trainers can have direct access to the SPED teachers, and the multidisciplinary team. The training can be done on school property, and the refresher trainings can be completed before or after school and during staff development Continuous School Improvement (CSI) days. The proposed implementation and scope

and sequence can be found in the Appendix. If teachers were provided with consistent annual AT training, it would ensure all SPED teachers the ability, knowledge and assurance to adequately provide technology modifications and accommodations for each student according to their Individualized Education Plan, without having to wait for the AT specialist to come and demonstrate how to properly use the equipment. This would also provide active researchers with data to verify the knowledge, or needs of the multidisciplinary team within the QIAT framework, as well as contribute to the literature that emphasizes the need for unifying guidelines of roles and responsibilities, and justify the need for teacher professional development training preparation, and resource support.

Roles and Responsibilities

The researcher will be the primary trainer for this project. As such, the researcher's responsibility is to teach and inform the SPED service providers about the new mandates to the Tech Act and identify the needs of the SPED staff and develop, modify, and revamp the training to ensure the data collected from the training addresses the needs of the learning community and offers viable resources that will enhance AT usage, consistency, and promote implementation of AT services. Collaboration with school administrators is imperative because the leaders of the school district emulate the staff in which it embodies. Each participant has a role and responsibility that is vital to the success of this project, because everyone within the learning community add depth, knowledge, strength, and resources and they are the information highway between student ability and student accessibility to AT services that could change special needs students' lives forever.

It is this researcher's desire to gather a group of SPED leaders to train as additional co-trainers for this project. These co-trainers would be an additional resource within the military community and help disseminate AT knowledge, skills, and resources more rapidly. The co-trainer would preferably be the instructional technologist (IT) and AT Instructional Support Service (ISS) within the school district. The IT and AT ISS could function in a dual role: trainer and technologist just in case there are any technological glitches before, during or after the professional development training. Additionally, the AT ISS person should be cognoscente of all AT devices, equipment, and program usage available to the XYZ school district.

It is the responsibility of all SPED service personnel to attend the three-day training and missing one or two days of the training will hamper the progress and knowledge ascertained. Each day of the training scaffolds the previous day training skills and application. Therefore, in order for the professional development training to be successful, majority of the SPED service providers should attend the three-day training. Upon completion of the three-day professional development training, an AT Refresher training is highly recommended to continuously update staff on newly innovative technologies used with students who have disabilities and to build a consistent strong learning community, while also ensuring that service providers keep AT knowledge fresh and at the forefront of their minds. The responsibility will fall upon the individual service providers to continue to attend the AT refresher trainings. These refresher trainings will hopefully increase daily usage, fluency, confidence and increase student academic success.

Transferable Skills

At the close of the three-day professional development training program, all participants will be able to return to their classrooms with knowledge of all AT equipment, identify all equipment from training, describe and implement the proper usage of all AT equipment presented during training, select from a group of technology devices, that would enhance academic success in students with various learning disabilities, and trouble-shoot equipment if it is not working properly. Additionally, each participant will be able to immediately utilize all AT devices upon arrival to the classroom, locate and use web-links and resources to support students' needs consistently without having in-service from the AT department.

Contributors to Transfer

Program planners, trainers, paraprofessional/teachers, and all participants are all collaborative contributors of the transfer of learning process. The transfer of learning process can be viewed or verified by the actual implementation of knowledge and skills performed after participants have attended the AT training program. Most transfer of learning is perceived as the behavioral application of skills, attitudes, and knowledge obtained before the program begins, during the program, and after participating in the educational training program.

Program planners need to revisit the needs of the stakeholders, needs assessments, and learning outcomes and objectives to ensure that all participants are aware of the desired outcomes. This information allows all trainers to fully participate in the learning process and incorporate strategies that would assist with the transfer of learning.

Participants are vital contributors to the transfer of learning, as well. Informing the participants of the goals and objectives help the participants stay focused, and retain specified information as it relates to the objectives. By reviewing the desired outcomes with the participants, it supports the framework for planning learning transfer, as described by Caffarella (2010). The author pin-points three key elements of importance to the success of learning transference: when the transference strategies are employed, the variety of strategies used to help in applying what has been learned, and the key people involved in the learning process. Confusion on roles and responsibilities within a learning community tends to make the community lose focus of its functional tasks. Regardless of the direction the leader has chosen to take the community, it will not be possible without the community knowledge, understand and clear guidelines as to how to accomplish the new tasks. Clarity offers all participants a unifying voice and vision, which would in turn provide a strong functional unit (Wong and Cohen, 2011).

Project Evaluation

Formative Evaluation

The project will be evaluated using a summative KWL chart completed by all participants. This chart will be given to each participant on the first day of training. The (K=Know) section of the chart will be completed on day 1. On day 2, the (W=Want to Know) section will be completed and the last section (L= Learned) will be completed on day 3 and submitted to the trainer as a ticket out the door. The KWL chart requires participants to write their names on the form and therefore, can be used as an attendance record. A copy of the KWL chart can be found in the Appendix. The QIAT self

assessment survey scale uses a quantitative data approach to gather formal data to support the needs of the AT service personnel and then provide a summative response to the open-ended culmination question presented at the end of the survey. The QIAT self-assessment is written on a variations scale: All participants will individually rate themselves on a scale from 1 (Unacceptable) to 5 (Promising Practice). The questions were broken down into a response grid for six AT categories: (a) consideration; (b) assessment; (c) IEP development; (d) implementation; (d) evaluation; and (e) professional development. The data from the KWL chart and the participant survey will be used to revamp the training needs of the SPED staff and determine if the projected outcomes of the goals and objectives have been met.

Summative Evaluation

A staff training participant evaluation will be presented to all participants to complete. It will be used to elicit the staff's perception, rate the effectiveness, preparedness and organization of the training. It will offer a section for comments or suggestions of improvement for future trainings. Both of these formative and summative evaluations will be used to build a stronger training model and to enhance future AT training programs within the military community.

Implications Including Social Change

This project was developed for all special needs community stakeholders to include, but not limited to the AT service providers, students, parents and administrators. The conduit of social change can be obtained through this project in a few different ways: (a) the staff obtained knowledge about their strengths and needs within AT; (b) the staff

can use the gained AT resource knowledge immediately within their educational setting; (c) staff have access to the newly innovative technology resources binder; (d) staff have become more confident in their ability to provide resource supports to the SPED community; (e) school administrators have a resource tool that can be used for continuous professional development training; (f) district superintendent have a resource tool that can provide a parameter of unifying guidelines and resources to support the AT needs of students on IEP; and (g) students can begin to feel some equality within the educational setting that will allow them to fluently participate in all educational activities. Therefore, the KWL chart was used as an evaluation tool for this study.

Local

This project addressed the AT needs, knowledge, and resources of the XYZ SPED community. Developing a sustainable intervention relies upon the local schools within the Pacific District to identify the staffs specific AT needs that are derived from the formal data-driven measures presented within the study. This project is beneficial to the stakeholders: SPED service personnel, special needs families, students with disabilities, and school administrators because it builds upon the SPED service provider's current AT knowledge, and scaffolds the emerging skills as a means to develop the most effective school intervention and a more unified learning community.

Generating a clear understanding of the staff needs directly impacts student support services and brings social change for the military community. It provides the SPED staff with a self-assessment tool that allows each service provider a rater-tool and grid that can be used to monitor their individual AT strengths and weaknesses.

Administrators can use this project for individual school use or as an overall district rater-tool, or as a platform for school improvement and professional development strategy. Parents of special needs students may not have access to this tool, but they can feel reassured that their child's AT service providers are knowledgeable, skilled and highly qualified to service their child's individualized AT needs. Rather than continuously using a school wide initiative to address a broad scope of concerns within the XYZ school district, a data-driven approach could be implemented consistently to remediate areas of need among the staff and used as an outline for the Community Strategic Plan. There is no doubt that the lack of data surrounding the SPED staff's AT knowledge and needs have had a negative impact on student support services. This lack of data to prove neither effective nor ineffective demonstrates clearly that the administration has failed to provide effective intervention strategies that improve unifying guidelines, understand the AT roles and responsibilities or develop readily assessable AT resources for the SPED staff and families with children with special needs.

The school administration has done an acceptable job keeping the IEP documents up to date and a lending library with AT tools that provide sufficient supports for students on an IEP and families with disabled children, but they have not produced any data-driven tools to help differentiate how much working knowledge is necessary to keep up with the newly innovative technologies that have been developed within the 21st century. In addition, the administration has not introduced, trained, or offered any AT simulation training to support the staffs' transition from abstract to concrete classroom usage. As new technologies are developed to support the independence, educational equality and

increased educational supports mandated, so should the knowledge and skills of the gatekeepers of the SPED education community. In order to determine how to produce highly qualified teachers/staff and ensure that service providers are proficient in their fields, the school administration must first produce data-driven measures that demonstrate the effective and ineffective school interventions. A project such as this is just one intervention that will begin to help increase AT service provider's knowledge, teacher application, teacher resource supports and begin to develop a more cohesive education community with unifying guidelines that can provide some clarity on AT roles and responsibilities.

Far Reaching

This project has the ability to be far-reaching because the military community is world-wide. Military families with special needs travel abroad and require high-tech and low-tech AT supports. As families move around the world these resources can be accessed from anywhere in the world and the shared knowledge can be transferred to other families with special needs. The greatest resource tool for teachers is networking. This is the most common and consistent educational tool among teachers. When teachers feel confident in their abilities they are more comfortable sharing their knowledge. Globally, the military service providers support students in various countries and the potential of delivering positive social change will change the opinions and lived experiences of SPED service providers, and families with disabled children. By following the guidelines of the project, all school districts around the globe can begin to offer AT

supports and expose students, staff and families to technologies that could enhance their independence and education.

Conclusion

It is the hope of the researcher that social change is transferred from the XYZ Pacific district to other districts. Improvement of student academic scores, increased teacher knowledge, networking and enhanced technologies is the fundamental building blocks for social change within this learning community. The development of unifying AT guidelines and identifying the roles and responsibilities for the XYZ Pacific school district, decrease the uncertainties felt when students enroll with AT needs. The staff is less resistant to use new equipment and it helps teachers gain a better understanding of the importance of AT, in addition to enhancing their own knowledge base. The XYZ Pacific District provides more efficient and effective AT decisions. AT knowledge strengthens the schools ability to support students with diverse AT needs, which ultimately increases student academic success, and decreases behavioral issues as well. Training and experience make teachers more marketable within the global education arena and provide service providers with resource tools to use consistently in the classroom. School districts need to keep up with the new technologies that support the educational success and independence of students with disabilities. This upkeep will increase student success, self-esteem, decrease drop-out rates, decrease teacher anxiety and increase daily AT classroom usage. This project has a broad scope of resources to implement due to the increased technologies developed over the last century, but these resources guide the intervention tools that can be used all over the world. It requires

continuous staff training, annual updating and daily usage in order for it to be emulated.

The resources can be successfully used within the military community. A needs assessment should be generated within each school, in order for the tools, supports, strategies, and suggestions to be useful.

In closing, it is with great enthusiasm and excitement that this program could offer such an effective educational training program to new and returning teachers. It offers opportunities for all staff members to enhance their educational knowledge, transfer their learning to other educational settings, develop a repertoire of resources, and participate in simulation activities as a means to gaining hands-on experience. It is empowering for the administrative staff to know that their employees are very well trained and qualified to perform tasks using the AT equipment/devices provided by the county, and the training provides additional academic support for all SPED students.

Section 4: Reflections and Conclusions

Introduction

It is a valuable internal process to be able to reflect on what is important as a researcher, in order to become a responsible member within the educational community in which one serves. As I reflect on the learning processes within this program, I am reminded of Merriam et al. (2007), who said the learning that adults do arises from the context of their lives, which is intimately tied to the socio-cultural setting in which they live. My self-reflection and experiential journey as a scholar, practitioner, and project developer has helped me to grow into the learner Knowles (1980) once described as the “growing reservoir of experience” (p. 44).

Theoretically, both exposure and experience have afforded me the greatest opportunities to grow as a researcher. Throughout this project, I learned that the journey in this program has been enhanced by “a rich source of learning” (Knowles, 1980, p. 1). This project should be used to address the needs of the military SPED community. It is my desire that the project be emulated in the 50 schools within the XYZ school district. The culminations of my progress within the doctoral program are analyzed and presented in the next sections: project strengths, impact on positive social change, potential for future research, and self-reflections. It is through these milestones that I succumbed to the notion that educators are the strength and premier source of knowledge for individuals with disabilities.

Project Strengths

A major strength of this project can be found within the SPED personnel's resource growth, enhanced knowledge, increased confidence, and a clearer understanding of their AT roles and responsibilities. The staff will have the knowledge to be able to recognize the types of AT that will enhance a student's academic success and have readily assessable resources and AT links to obtain these devices to be able to immediately use the technology within the educational setting. Gathering the data from the surveys and separating the culminating responses into themes was an effective way to focus on the revealing needs of the XYZ school district SPED staff. The need for professional development training, AT knowledge, and resources were highlighted within the culminating responses and interviews. The data provided evidence that these vital components are missing from this education community. Through this project, the SPED staff's knowledge and resources could inevitably change the educational experiences of students with disabilities, increase students' educational success and life-long independence, and alter the attitudes and perceptions surrounding AT.

There are additional benefits of providing AT training to all SPED teachers and service providers, including the following: (a) It prepares the teachers to work with a diverse group of students; (b) it adds knowledge and skill to their certification; (c) it keeps them up to date on new and innovative technologies that may further enhance students success; and (d) it enhances the IDEA law that was passed in 1990 that changed its focus more on the individual with disabilities, rather than on the handicapped children. Therefore, education now needs to be provided to all individuals (IDEA, 2004). Abner

and Lahm (2002) stated that “a critical factor in students’ use of technology is their teachers’ technological knowledge and skills” (p. 101). This quote clearly articulates how the use of AT with special needs students gives them the opportunity to integrate in daily educational activities that otherwise would not be readily accessible to them. Therefore, by providing the SPED support personnel with updated AT knowledge, service providers will be more willing to actively engage in daily AT usage, share knowledge within the community, and ultimately be an immediate resource for the military community.

Vygotsky (1998) helped to understand that social situations are a great learning platform for individuals, and through the use of professional learning communities social interactions build pertinent social situations. This project has the ability to provide teacher with the forum to enhance AT competence and construct a reliable professional learning community built around the concepts of AT, “a perspective as it were, that leads one down the road to making practical decisions about specific, devices, services and adaptations that can be used by people with disabilities, their advocates, and their family members to make independence possible” (Bryant & Bryant, 2003, p.3).

Recommendations for Remediation of Limitations

The limitation for remediation for this project is having only one person to provide training for the XYZ Pacific school district. It would be beneficial for the CSC chairs from each school within the Pacific district to have an informational session and training session prior to the staff training. These SPED school leaders help disperse the training knowledge and offer immediate resources for their school. At the beginning of each school year, I would recommend offering a professional development training; this

would ensure that teachers are knowledgeable and prepared to support student with special needs upon arrival and designate enough time for shared collaboration within the professional learning community. An additional recommendation would be to offer this training to the GE inclusion teachers who also support the SPED students.

Although many of the inclusion teachers are not certified in SPED, they are often the housekeepers of special needs students and, therefore, providing them with AT resources and AT knowledge would be beneficial to them as well. According to Mistrett et al. (2005), "AT must be child and family responsive, should require minimal training for its use, be readily available and enhance the child's participation in the routines within his or her natural environments" (p.277). This is the goal of this study: prepare all AT support staff with sufficient knowledge and resources within their learning communities to efficiently and effectively service students with AT needs. There are limitations with funding for professional development training; therefore, if the CSC chairs are absent or unable to attend the training at the beginning of the school year, alternate training days would be limited. Another limitation is working overseas and having the access to replacement equipment if any would malfunction or break during training or having the time to provide an in-depth training within 3 days. Because funding will only cover specific training days, a follow-up or refresher training will be very difficult. One suggestion, to handle the possible funding issues, is to offer before or after school professional development training days for those who would like a more guidance, simulation training, and/or small group support.

Scholarship

When conducting this study, I learned that scholarship transcended itself in many forms, from pioneer researchers, micro fiche, comparative studies, Internet sites, scholarly databases, and peer-reviewed literature to newly innovative technologies within the 21st century that allow research of multiple databases, new technologies, publications, current articles, and professional literature to make scholarship subjective and individually interpretative. It's meaning and purpose is derived from gaining information to further construct one's own knowledge to thereby gain a better understanding of the obtained information as a means to build one's own perceptual knowledge. As a scholar, I learned that scholarship is ongoing and ever-changing. A scholar reflects on past and present research and is passionate about learning to the degree that makes learning relevant, memorable and meaningful. More importantly I have learned that being a scholar is to be responsive, and eliciting responses to gain a greater understanding of others ideas and concepts and continuously being at the forefront of the new knowledge presented within their field.

Project Development and Evaluation

The project development was somewhat easy, after countless hours of research and analysis of the survey data to support the needs of the military community. The themes that emerged from the summative responses and interviews gave clarity to the research questions and helped shape the project. The data revealed the need for a professional development that focused on teacher knowledge, supports, and resources. After reviewing professional learning literature and current peer-reviewed articles about

the professional gains and pertinent social growth that accompanies adult learning, it was evident that professional development training would be the most suitable project to directly address all aspects of the SPED staff needs. The data led me develop a project that offered the SPED personnel with a social forum that was filled with AT resource information, ongoing supports, and a platform for collaboration with other SPED service provider who use AT.

Leadership and Change

The meaning of leadership has changed for the researcher throughout the development of this project. The Merriam-Webster Dictionary (2011) definition of leadership is the office or position as a leader of a group, organization, etc., but this definition is very broad and it does not share or identify the job placement of a leader. As a young scholar, this researcher thought leaders were only individuals who had administrator roles or those who had leadership titles. Over the course of this program, this researcher learned that positive change comes from one who leads others to affect positive changes regardless of their position. Educational leadership is a key component in building change within the education community on the state, district, local and national level. Change leadership should be the blueprint to create, build, explore, learn, grow, communicate and obtain support in all aspects of learning. Leadership should start with the teachers, they are the individuals who lead the education community and, thereby, are given a certain amount of power to make educational decisions for student's academic success.

The diversity of leadership spans across various grade levels, educational skills, and teaching experience. The accountability of No Child Left Behind law and the ever changing diverse needs of students put necessary pressures on the school boards and school administrators to provide data driven policies, and professional learning communities that will lead to changes in student achievement, quality of instruction, and continuous school improvements. Therefore, effective leadership can be accomplished within the military community by re-establishing a learning community that focuses on the professional needs of the SPED community, using this project to reinforce AT role and responsibilities, increase teacher knowledge and provide supportive resources through staff development training.

Analysis of Self as Scholar

In 2009, this researcher began the journey as a scholar in hopes to become a practitioner and project developer. Unfortunately, at the time, this researcher did not realize that the pendulum swung from one end of the spectrum to the other and the strengths of being a practitioner and project developer were a derivative of the foundations of a scholar. Therefore, it leads this researcher to the understanding that the developmental gains of a scholar enhance the fundamental processes of becoming a project developer and a practitioner. As this researcher analyzes himself using all three components of the pendulum—scholar, practitioner, and project developer—the researcher gets excited as he looks back at where he first started as a novice scholar. This researcher had no idea how to transition from one component to the next. As novice scholar, this researcher had no extensive exposure to the different types of research. The

researcher did not know how to search scholarly databases or how to refine his search to focus on selected literature that was tailored to his specifications; but as the years have come and gone, the researcher's consistent passion for knowledge has been heightened by reflections of how much he has actually learned from this program as a scholar.

This researcher realizes that not only has he learned the things he didn't as a novice scholar, but now the researcher has the ability to critique methodology, differentiate between methodology tools, research professional and scholarly data bases, use various quantitative tools to collect data, analyze results, implement social change, report findings, and review professional literature. It was not until the researcher had accomplished and experienced these things as a scholar that he realized that the pendulum had swung toward project developer. It was through the researcher's scholarly experiences that his knowledge was enhanced and his self-actualization occurred. This researcher can see that he is evolving into the educational leader that he had always looked up to. This researcher's educational input and research is now just as valuable as those researchers whom he read about as a scholar. This researcher feels proud to know that his work adds some value to the world of practice and is impacting social change. After data analysis and reporting the findings, the researcher became excited about developing a project that could be used within his current position and potentially be used as a model for other XYZ school districts. This researcher, like other researchers, has added value and literature to the educational community in which he plays a vital role as stakeholder. Working in different parts of the work, the researcher has come to realize that scholarship appreciation is equally as important among many countries and it is

through scholarship that a common goal can be developed and social change can be implemented.

Analysis of Self as Practitioner

As a practitioner, this researcher has come to the realization that the interchange of collaboration, communication, and community are tools needed in order to influence social change within a learning community. As a practitioner, this researcher learned how to effectively communicate the needs of his community by creating dialogues with other educational leaders who are working to develop awareness and activities to address the needs of the military community, as well. Through this collaboration, this researcher has been able to efficiently apply his knowledge with current literature as a means to generate new ideas that can be applied to other members within the education community.

Analysis of Self as Project Developer

As a project developer social change is imminent. It is through project development that others are able to grow from the seeds of knowledge obtained by the scholar. This researcher now sees herself as a leader and has learned how to effectively design a research project and efficiently address issues that may affect his state and local district. During the development of this project, the researcher found some difficulty deciding which type of project would have the greatest impact on his local community and which would have the greatest gains on a national level. As a project developer, the researcher had to learn to value the participant's time. By developing and/or comparing methodology tools, it helped the researcher to feel more personally responsible for the project he was developing. The researcher wanted to guarantee that the needs and voices

of his participants were clearly heard through the data collection. By conducting this study, the researcher affirmed his standing as a practitioner and was able to accept that this body of work had the power to influence the educational community and enhance the knowledge of the military community through practice. Now that this researcher has fully transitioned into the life of scholar, practitioner, and project developer, the researcher has grasped a clear understanding of the importance of this work and how it has influenced others, but, more importantly, it confirms the cohesiveness within this pendulum of educational leadership and its connection to a world of practice.

The Project's Potential on Social Change

Social change has a direct impact on students with disabilities, who use AT. It opens the door for education opportunities, independence, self-actualization, increased confidence, provides global interactions, aids in employment and also provides a forum for community socialization enhancement for others. None of this would be possible without the knowledge and exposure from AT service providers. Adequate AT exposure, knowledge, service and accessibility should be provided on a consistent basis to all students with disabilities by someone from the multidisciplinary team. IDEA mandates have increased expectations, but the roles and responsibilities still need to be defined.

The future of SPED will continue to change as the laws are redefined, technology is enhanced and student's needs are increased. Therefore, all school districts can use this research project as a guide towards the development of identifying the state, local and national need for unifying guidelines, and provide a clear description of the AT roles and responsibilities for service providers. If teachers continue to seek to observe gains in

student learning and consistent AT usage within the classroom, the combination of both community training and AT tools, (Newton and Dell, 2011) as a learning community will be well-equipped to serve students with diverse learning needs. These strategies ensure military families and students with special needs have service providers that display unwavering QIAT throughout the nation. This can be accomplished by utilizing mentoring programs and online training programs, such as those provided by the National Clearinghouse for Professions in Special Education, a program that has been known for reducing the attrition rates of teachers (NCEO, 2003). The research questions presented below were a guiding tool for this study and provided give depth to the research. Literature findings tell us that AT service knowledge, application, attitudes and QIAT, are areas within XYZ pacific school district that are lacking data and show a need for ongoing research.

Implications, Applications, and Directions for Future Research

The desired outcomes of this study revealed weaknesses that significantly impact students with special needs and undermine the new laws of the TECH ACT. This project revealed a unified consensus for the need of AT training, knowledge and resources. Six out of eight participants perceived their AT knowledge as inadequate. From the responses received from this study 37.5% of the respondents stated that they never received any formal training and expressed the desire to have some sort of professional development training pertaining to AT. Results from the survey strongly indicated the desire for further AT training in the areas of equipment/devices, AT knowledge, AT resources and AT services. Approximately 25% elaborated on the need for more school support in AT, not

only for case managers but also for students, as well. Initiating this project within one school at a time, instead of the entire district distribution, would make the SPED service providers feel the support from their individual learning communities. It would also provide each school with the opportunity to internally collaborate the needs to staff more effectively. Through this internal collaboration individual service provider needs can be addressed more efficiently.

The results from the study revealed that all participants acknowledged the need for improving professional development focus topics and resources. Since the XYZ school district does not currently offer professional development training in the area of AT, one recommendation would be to utilize other outside agencies that offer professional development trainings in the field of AT. Encouraging the staff to participate in online AT training programs would foster collaboration, improve resources, and improve self-efficacy. Another recommendation would be to improve development training topics that the teachers could immediately apply within their classrooms, increased AT resources within the lending library, updated technologies that support multiple learning disabilities, and foster a better line of communication with the staff that models life-long learning and a professional learning environment. Adult learners, themselves, become important resources for learning and, as reported by Merriam, Caffarella, and Baumgartner (2007), Adults' formulation of learning activities emerge from their experience and serves as a resource for others in a learning event. One final recommendation would be to provide the SPED ISS and AT consultant with professional AT training, so that they could return to their perspective districts and further disseminate

the knowledge and skills obtained from the training. This researcher recommends that the administration use this study as a guide for their professional development training and a building block towards a more cohesive learning community.

Conclusion

Many students are sitting in class missing an abundance of academic information. Would it be beneficial for all academic classrooms instructors to have AT training? AT training that focused on equipment, service, application, roles and responsibilities and resources would help those students who have not been identified with ADHD, or other learning disabilities, give additional AT support to students who need academic services and balance the learning environment of those students who have special learning needs that are still being monitored by the Student Study Team (SST). AT will also make educational materials more comprehensive for all students (Wehmeyers et al., 2003). More importantly, it provides leverage for students to have equal access to the curriculum, and offers academic success as all students (NCLB; U.S. DOE, 2002).

The Quality of Life Technology Center's goal is to "transform lives through innovation technology" (Quality of Life Center, 2006, p. 1). The above mentioned goal and mission gives validation to the law, No Child Left Behind and embody the unified direction of the Tech Act. The proposed professional development training program will focus on the entire scope of AT: service, decision making, evaluation, equipment, knowledge, collaboration resources and roles and responsibilities. In addition to the benefits, discussed within this section, a professional development training that encompasses daily staff collaboration, and will help teachers understand how AT makes

educational materials comprehensible for students with special needs, and strengthen the SPED learning community. This study recommended several ideas that would focus on the staff strengths and weaknesses and the findings from the data helped determine which project was most suitable for the needs of the XYZ learning community. The project direction is a derivative of the research findings and therefore, the project is a direct reflection of the needs of the staff. When considering all possible project ideas, collaborating with the stakeholders and analyzing the data findings were the primary tools of development. The researcher was able to develop the most appropriate project to incorporate immediate social change within the military community.

References

- Abel, M. H., & Sewell, J. (1999). Stress and burnout in rural and urban secondary school teachers. *Journal of Educational Research*, 92(5), 287-293.
- Abner, G. H., & Lahm, E. A. (2002). Implementation of assistive technology with students who are visually impaired: Teachers' readiness. *Journal of Visual Impairment and Blindness*, 96, 98-105.
- Agree, E. M., & Freedom, V.A. (2011). A quality-of-life scale for assistive technology: Results of a pilot study of aging in technology. *American Physical Therapy Association*. 91(12), 1780-1788.
- Alkin, M. C., & Chrisine, C. A. (Eds.). (2005). *Theorists' models in action. New Directions for Evaluation*. San Francisco, CA: Jossey-Bass.
- Alper, S., & Raharinirina, S. (2006). Assistive technology for individuals with disabilities: a review and synthesis of the literature. *Journal of Special Education Technology*, 21(2), 47-64.
- Alport, G. W. (1935). The Neural Bases of Attitudes. Attitudes. In C. Murchison (Ed), *Handbook of social psychology*. Worcester, MA: Clark University Press.
- Andrews, D., Nonnecke, B., & Peece, J. (2003). Electronic survey methodology: A case study in reaching hard-to-involve Internet users. *International Journal of Human-Computer Interaction*, 16(2), 185-210.
- Artiles, A., & Kozleski, E. B. (2010). What counts as response to intervention in RTI? A sociocultural analysis. *Psicothema*, 22, 949, 954.

- Ashton, T., Lee, Y., & Vega, L. A. (2005). Assistive technology perceived knowledge, attitudes, and challenges of AT use in special education. *Journal of Special Education Technology, 20*(2), 60-63.
- Ashton, T., & Wahl, L. (2004, April 1). Assistive technology: Surveying special education staff on AT awareness, use, and training. *Journal of Special Education Technology, 19*(2), 57-58.
- Assistive technology laws. (n.d.). Family Center on Technology and Disability. Retrieved from www.fctd.info/resources/ATlaws-print.
- Bailey, N. (2000). Assistive technology, accommodations, and the Americans with Disabilities Act. Retrieved from <http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=1296&context=edicollect>
- Bain, A., Lancaster, J., Zundans, L., & Parkes, R. J. (2009). Teacher education and special education. *Journal of the Teacher Education Division of the Council for Exceptional Children, 32*(3), 215-225.
- Bain, A., Lancaster, J., Zundans, L., & Parkes, R. J. (2010). The changing education landscape: How special education leadership preparation can make a difference for teachers and their students with disabilities. *Journal of the Teacher Education Division of the Council for Exceptional Children, 33*(1), 25-43.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology, 52*, 1-26.
- Bandura, A. (2006). Going global with social cognitive theory: From prospect to pay dirt.

- In S.I. Donaldson, D. E. Berger, &K. Pazdek (Eds.), *The rise of applied psychology: New frontiers and rewarding careers* (pp.53-79). Yahweh, NJ: Earlbaum.
- Bausch, M. E., &Ault, M. J. (2008). Assistive technology implementation plan: A tool for improving outcomes. *Teaching Exceptional Children, 4*(1), 6-14.
- Bausch, M. E., Ault, M. J., Evmenova, A. S., &Behrmann, M. M. (2008). Going beyond AT devices: Are AT services being considered? *Journal of Special Education Technology, 23*(2), 1-16.
- Bausch, M. E., Ault, M. J., &Hasselbring, T. S. (2006). *Assistive technology Planner. From IEP Consideration to Classroom Implementation*. Lexington, KY: National Assistive Technology Research Institute.
- Bausch, M. E., &Hasselbring, T. S. (2004). Assistive technology: Are the necessary skills and knowledge being developed at the pre-service and in-service levels? *Teacher Education and Special Education, 27*(2), 97-104.
- Bausch, M. E., Mittler, J. E., Hasselbring, T. S., &Cross, D. P. (2005). The assistive technology act of 2004: what does it say and what does it mean? *Physical Disabilities: Education and Related Services, 23*, 59-67.
- Beard, L. A., Carpenter, L. A., &Johnston, L. B. (2011). *Assistive technology access for all students* (2nd ed.). Upper Saddle River, NJ: Pearson Education.
- Behrmann, M. (1994). Assistive technology for students with mild disabilities. *Intervention in School and Clinic, 30*(2), 70-83.
- Behrmann, M. (1998). *Assistive technology for young children in special education*.

- Alexandria, VA: Association for Supervision and Curriculum Development.
- Beigel, A. (2000). Assistive technology assessment: More than the device. *Intervention in School and Clinic, 35*(4), 237-243.
- Bell, B., & Cowie, B. (2001). Formative Assessment and Science Education. *Science & Technology Education Library*. Kluwer Academic Publishers.
- Bell, J. K., & Blackhurst, E. A. (1996). Assistive technology policies of state department of education: the baseline investigation. Retrieved January 25, 2012, from National Assistive Technology Research Institute: <http://natri.uky.edu/resources/reports/polsea.html>
- Bell, S. M., Cihak, F. D., & Judges, S. (2012). The role of higher education in preparing education professionals to use assistive technology. *Assistive Technology Outcomes and Benefits, 8*(1).
- Bishop, A. G., Brownell, M. T., Klingner, J. K., Leko, M. M., & Galman, S. A. C. (2010). Differences in beginning special education teachers: The influence of personal attributes, preparation, and school environment on classroom reading practices. *Learning Disability Quarterly, 33*, 75-92.
- Blankstein, A. M., Houston, P. D., & Cole, R. W. (2010). *Sustaining Professional learning communities*. Thousand Oaks, CA: Corwin Press.
- Boehner, J. (2004). Bill summary: Assistive technology act of 2004. Retrieved January 25, 2012, from Committee on Education and Labor U.S. House of Representatives.
- Bogdon, R., & Biklen, S. K. (2007). *Qualitative Research for Education: An Introduction*

to Theories and Methods. Pearson International Edition.

- Borg, H., Lindstrom, A., & Larsson, S. (2011). Assistive technology in developing countries: National and International responsibilities to implement the conventions on the rights of persons with disabilities. *Lancet*, 374, 1863-1865.
- Bouck, E. C., Flanagan, S., Miller, B., & Bassette, L. (2012). Rethinking everyday technology as assistive technology to meet students' IEP goals. *Journal of Special Education Technology*, 27(4), 47-57.
- Brady, R., Long, T., Richards, J., & Vallin, T. (2008). Assistive Technology curriculum structures and content in professional preparation service provider programs. *Journal of Allied Health*, (36), 183-192.
- Brantlinger, E., Jimenez, R., Klingner, J., Pugach, R., & Richardson, V. (2005). Qualitative studies in special education. *Exceptional Children*, 71(2), 195-207.
- Brookfield, S. B. (1994). 'Self-directed learning' in YMCA George Williams College. *Adult and community education unit 2: Approaching adult education*, London: YMCA George Williams College.
- Brookfield, S. (1995). *Becoming a Critically Reflective Teacher*. San Francisco, CA: Jossey-Bass.
- Brotherson, M. J., McCarthy, E., & Delgado, R. (2009). An integrated research for special education leadership. *Journal of Special Education Leadership*, 22(2), 68-84.
- Brown, K. S., Welsh, L. A., Hill, K. H., & Cipko, J. P. (2008). The efficacy of embedding special education in teacher preparation programs in the United States. *Teaching and Teacher Education*, 24 (8), 2087-2094.

- Brownell, M. T., Griffin, C., Leko, M. M., & Stephens, J. (2011). Improving collaborative teacher research: Creating tighter linkages. *Teacher Education and Special Education, 34*, 75-92.
- Brownell, M. T., Sindelar, P. T., Kiely, M. T., & Danielson, L. C. (2010). Special education teacher quality and preparation: Exposing foundations, constructing a new model. *Exceptional Children, 76*, 357-377.
- Bryant, D. P., & Bryant, B. R. (2003). *Assistive Technology for People with Disabilities*. Upper Saddle River, NJ: Pearson Education, Inc.
- Bryant, D. P., Bryant, B. R., & Raskind, M. H. (1998). Using assistive technology to enhance the skills of students with learning disabilities. *Intervention in School and Clinic, 34*(1), 53-58.
- Bryk, A. S., Sebring, P. B., Allenworth, E., Luppescu, S., & Easton, J. (2010). *Organizing schools for improvement*. Chicago, IL: University of Chicago Press.
- Brzycki, D., & Dudt, K. (2005). Overcoming barriers to technology use in teacher preparation programs. *Journal of Technology and Teacher Education, 13*(4), 619-641.
- Caffarella, R. (2001). An Interactive Model of Program Planning. *Planning Programs for Adult Learners. The Jossey-Bass Higher and Adult Education Series: San Francisco, CA*.
- Caffarella, R. (2010). Planning programs for adults. *Designing and Assessing Learning Experiences. Josse-Bass: San Francisco, CA*.
- Campbell, P. H., Milbourne, S., Dugan, L. M., & Wilcox, M. J. (2006). A review of

- evidence practices for teaching young children to use assistive technology devices. *Topics in Early Childhood Special Education*, 26, 3-13.
- Candela, A. R. (2003). A pilot course in teaching skills for assistive technology specialists. *Journal of Visual Impairments and Blindness*, 97, 661-666.
- Cavanaugh, T. (2002). The need for assistive technology in educational technology. *AACE Journal*, 10(1), 27-31.
- Chin, R. (2011, September 18). *8 current technologies that will shape our future*. Retrieved from <http://mashable.com/2011/09/18/future-technology/>
- Cochran-Smith, M., & Lytle, S. L. (2006). Troubling images of teaching in No Child Left Behind. *Howard Educational Review*, 76, 698-697.
- Connelly, V., & Graham, S. (2009). Student teaching and teacher attrition in special education. *Teacher Education and Special Education*, 32(30), 257-269.
- Cook, A. M., & Polgar, J. M. (2008). *Cook & Hussey's assistive technology: Principals and practice (3rd ed.)*. St. Louis, MO: Mosby.
- Cook, C. S., & Reichardt, T. D. (1979). Qualitative and quantitative methods in evaluation research. *Sage Research Process Series in Evaluation*.
- Cook, J. S. (2009). Coming into my own as a teacher: Identity, disequilibrium, and the first year of teaching. *The New Educator*, 5, 274-292.
- Copley, J., & Ziviani, J. (2004). Barriers to the use of assistive technology for children with multiple disabilities. *Occupational Therapy International*, 11(4), 229-243.
- Council for Exceptional Children. (2003). *What every educator must know. Ethics, standards, and guidelines for special educators*. Arlington, VA: Author.

- Council for Exceptional Children. (2011). CEC releases new standards for advanced roles in special education. Retrieved from www.cec.sped.org.
- Council of Exceptional Children Board of Directors.(2004). *The council of exceptional children definition of a well-qualified special education teacher*. Arlington, VA: Author.
- Cox, J., &Cox, K. (2008). *Your opinion please: How to build the best questionnaires in the field of education*. Thousand Oaks, CA: Sage Publications.
- Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches* (2nd ed.) Thousand Oaks, CA: Sage.
- Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. (3rd ed.). Thousand Oaks, CA: Sage.
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*, (4th ed.). Boston: Pearson.
- Creswell, J. W., &Plano Clark, V. L. (2011). *Designing and Conducting Mixed Methods Research*, (2nd ed.). Thousand Oaks, CA: Sage.
- Dalton, E. M. (2002). Assistive technology in education: A review of policies, standards, and curriculum integration from 1997 through 2000 involving assistive technology and the Individuals with Disabilities Education Act. *Issues in Teaching and Learning*, 1(1). Rhode Island College: Providence, RI. Retrieved December 19, 2011, from http://www.ric.edu/itl/volume_01_dalton.php
- Darling-Hammond, L. (2009). President Obama and education: The possibility for dramatic improvements in teaching and learning. *Harvard Educational Review*,

79(2), 210-224.

Darling-Hammond, L. (2010). Teacher education and the American future. *Journal of Teacher Education*, 61, 35-47.

Darling-Hammond, L., Holtzman, D. J., Gatlin, S. J., &Heilig, J. V. (2005). Does teacher preparation matter? Evidence about teacher certification, teach for America, and teacher effectiveness. *Education Policy Analysis Archives*, 13(42), 1-48.

Dell, A. G., &Newton, D. A. (2011). Technology solutions for student with special needs. In J. Lever-Duffy & J.B. McDonald, *Teaching and Learning with technology* (4th ed.). Upper Saddle River, NJ: Pearson/Merrill/Prentice Hall.

Dell, A. G., Newton, D. A., &Petroff, J. G. (2008). *Assistive technology in the classroom: Enhancing the school experience of students with disabilities*. Upper Saddle River, NJ: Pearson.

Dell, A.G., Newton, D. A., &Petroff, J. G. (2012). *Assistive technology in the classroom: Enhancing the school experiences of students with disabilities*. (2nd ed.) Boston: Pearson: Merrill/Prentice Hall.

Derer, K., Polsgrove, L., &Rieth, H. (1996). A survey of assistive technology applications in schools and recommendations for practice. *Journal of Special Education Technology*, 13(2), 62-80.

Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Researcher*. 38(3), 181-199.

Dewey, J. (1990). *Dewey on Education*. Edited by Reginald D. Archambault. Chicago:

University of Chicago Press.

- Doughty, K. (2011). SPAs (smart phone applications) - A new form of assistive technology. *Journal of Assistive Technologies*, 5(2), 88-94.
- DuFour, R., DuFour, R., &Eaker, R. (2009). *Revisiting professional learning communities at work: New insights for improving schools*. Bloomington, IN: Solution Tree.
- DuFour, R., DuFour, R., Eaker, R., &Karhanek, G. (2010). *Raising the bar and closing the gap whatever it takes*. Bloomington, IN: Solution Tree.
- DuFour, R., DuFour, R., Eaker, R., &Many, T. (2007). *Learning by doing: A handbook for professional learning communities at work*. Bloomington, IN: Solution Tree.
- DuFour, R., &Eaker, R. (1998). *Professional learning communities at work: best practices for enhancing student achievement*. Bloomington: National Education Service.
- Dyal, A., Carpenter, L. B., &Wright, J. V. (2009). Assistive technology: What every school leader should know. *Education*, 129(30), 556-560.
- Dynovax (2013). *DynaVox tango!* Retrieved from <http://dynavoxtech.com/products/tango/benefits/>
- Education for All Handicapped Children Act (1975). 20 U.S.C. §1400 et seq.
- Edyburn, D. L. (2000). Assistive technology and students with mild disabilities. *Focus on Exceptional Children* 32(9), 1-24.
- Edyburn, D. L. (2001a). Critical issues in special education technology research: What do we know? *Advances in Learning and Behavioral Disabilities*, 96-118.

- Edyburn, D. L. (2001b). Models, theories, and frameworks: Contributions to understanding special education technology. *Special Education Technology Practice*, 4(2), 16-24.
- Edyburn, D. L. (2002a). Assistive technology and the IEP. *Special Education Technology Practice*, 4(3), 15-22.
- Edyburn, D. L. (2003b). Measure assistive technology outcomes: Key concepts. *Journal of Special Education Technology*, 18(1), 53-55.
- Edyburn, D. L. (2003c). What every teacher should know about assistive technology. Boston: Allyn and Bacon.
- Edyburn, D. L. (2003d). Assistive technology and evidence-based practice. *ConnSENSE Bulletin*, 12-17.
- Edyburn, D. L. (2004a). Rethinking assistive technology. *Special Education Technology Practice*, 5(4), 16-23.
- Edyburn, D. L. (2004b). Assisted learning. How assistive technologies developed for people with disabilities will affect learning for everyone. *Threshold*, 2(2), 22-25.
- Edyburn, D. L. (2009). Hindsight, understanding what we got wrong, and changing directions. *Journal of Special Education Technology*, 24(1), 61-64.
- Edyburn, D. L. (2011). Response to intervention: Is there a role for assistive technology? *Special Education Technology Practice*. Retrieved from <http://www.setp.net/articles/article0903-1.html>
- Eisenman, L. T., Pleet, A. M., Landry, D., & McGinley, V. (2010). Voices of special education teachers in an inclusive high school: Redefining responsibilities.

Remedial and Special Education, 32, 91-104.

- Everhart, B. (2009). Anxiety of pre-service teachers teaching students with disabilities: A preliminary investigation. *Education, 129, 704-713.*
- Floyd, K. K., Canter, L. L. S., Jeffs, T., & Judge, S. A. (2008). Assistive technology and emergent literacy for preschoolers: A literature review. *Assistive Technology Outcomes and Benefits, 5(1), 91-102.*
- Frey, N., & Fisher, D. (2004). School change and teacher knowledge: A reciprocal relationship. *Teacher Education and Special Education, 27(1), 57-67.*
- Fuchs, W. W. (2009). Examining teachers' perceived barriers associated with inclusion. *SRATE Journal, 19(1), 30-35.*
- Fuhrer, M. J., Jutai, J. W., Scherer, M. J., & Deruyter, F. (2003). A framework for the conceptual modeling of assistive technology device outcomes. *Disability and Rehabilitation, 25(22), 1243-1251.*
- Gelman, J. A., Pullen, P. L., & Kauffman, J. M. (2004). The meaning of highly qualified and a clear road map to accomplishment. *Exceptionality, 12 (4), 195-207.*
- Georgia Project for Assistive Technology (2003). The legal mandate for providing assistive technology. Retrieved from <http://www.gpat.org>
- Glesne, C. (2006). *Becoming qualitative researchers: An introduction.* Upper Saddle River, NJ: Prentice Hall.
- Glense, C. (2011). *Becoming qualitative researchers: An introduction (4th ed.).* Boston, MA: Pearson.
- Harvey, M. W., Yssel, N., Bauserman, A. D., & Merbler, J. B. (2010). Pre-service teacher

- preparation for inclusion: An exploration of higher education teacher-training institutions. *Remedial and Special Education*, 31(1), 24-33.
- Hefling, K., & Kelleher, J. S. (2011). Hawaii chided by department of education for 'unsatisfactory' use of race to the top dollars. *The Huffington Post Education*.
- Hipp, K. K., & Huffman, J. B. (2010). Demystifying the concept of professional learning communities In K. K. Hipp & J. B. Huffman (Eds). *Demystifying professional learning communities. School leadership at its best* (pp. 11-21). Langham, MD: *Rowman and Littlefield Education*.
- Hitchcock, C. (2003). Assistive technology, universal design, and universal design for learning: Improved learning opportunities. *Journal of Special Education Technology*, 18 (4), 45-52.
- Hodgson, J. S., Lazarus, S. S., & Thurlow, M. L. (2011). Professional Development to Improve Accommodations Decisions-A review of the Literature (Synthesis Report 84). Minneapolis, MN: University of Minnesota, National Center of Educational Outcomes.
- Hoover, J. J., & Patton, J. R. (2008). The role of special educators in a multitiered instructional system. *Intervention in School and Clinic*, 43, 195-202.
- Hord, S. M. (2009). Professional learning communities: Educators working together toward a shaped purpose: *Journal of Staff Development*, 30(1), 40-43.
- Hutinger, P., Johanson, J., & Stoneburner, R. (1996). Assistive technology applications in educational programs of children with multiple disabilities: A case study report on the state of the practice. *Journal of Special Education Technology*, 13(1), 16-35.

Individuals with Disabilities Education Act (1999). Assistance to States for the Education of Children with Disabilities, 34 C.F.R. § 300.

Individuals with Disabilities Education Act (2005). Assistance to States for the Education of Children with Disabilities, 34 C.F.R. §300.24(a).

Individuals with Disabilities Education Act Amendments (1997). P.L. 105-17, 108.

Individuals with Disabilities Improvement Act Amendments (2004). Pub. L. No. 108-446.

Individuals with Disabilities Improvement Act Amendments (2007).

IRIS Center (2010). Assistive Technology. Retrieved September 16, 2014 from <http://iris.peabody.vanderbilt.edu>

Johnson, J. M., Inglebret, E., Jones, C., &Ray, J. (2006). Perspectives of speech language pathologists regarding success versus abandonment of AAC. *Informal Healthcare, 22*(2), 85-99.

Johnson, R. B., &Turner, L. A. (2003). Data collection strategies in mixed methods research. In Tashakkori, A., &Teddie, C. (Eds.), *Handbook of Mixed Methods in Social and Behavioral Research* (pp.297-319). Thousand Oaks, CA: Sage.

Johnson, M. D., Edwards, C. M., Bodmer, W. F., Maini, P. K., Chapman, S. J. (2007). A scoring system for appraising mixed methods research, and concomitantly appraising qualitative, quantitative and mixed methods primary studies in mixed study reviews. *International Journal of Nursing Studies, 46*(4), 529-546.

Jones, M. C., &Rattay, J. E. (2007).Essential elements of questionnaire design and development. *Journal of Clinical Nursing, 16*, 234-243.

- Judge, S. (2006). Constructing an assistive technology toolkit for young children: Views from the field. *Journal of Special Education Technology*, 21(4), 17-24.
- Judge, S., Floyd, K., & Jeffs, T. (2008). Using an assistive technology toolkit to promote inclusion. *Early Childhood Education Journal*, 36, 121-126.
- Judge, T. A., & Bono, J. E. (2003). Core self-evaluations: A review of the trait and its role in job satisfaction and job performance. *Journal of Applied Psychology*, 17(1), 5-18.
- Karge, B. D., McClure, M., & Patton, P. L. (1995). The success of collaboration resource programs for students with disabilities in grades 6 through 8. *Remedial and Special Education*, 16(2), 79-89.
- Katzenmeyer, M., & Moller, G. (2009). *Awakening the sleeping giant: helping teachers develop as leaders*. Thousand Oaks: Corwin Press.
- Kelly, S. M. (2009). Use of assistive technology by students with visual impairments: Findings from a national survey. *Journal of Visual Impairment and Blindness*, 103, 470-480.
- Kent-Walsh, J. E., & Light, J. (2003). General education teacher's experiences with inclusion of students who use augmentative and alternative communication. *Augmentative and Alternative Communication*, 19, 104-124.
- Klotz, L. (2009). Counterfactual analysis of sustainable project delivery processes. *Journal of Construction engineering and management*.
- Knowles, M. S. (1975). *Self-directed learning: A guide for learners and teachers*, Englewood Cliffs: Prentice Hall/Cambridge.

- Knowles, M. S. (1980). *The modern practice of adult education: From pedagogy to andragogy*. Englewood Cliffs, NJ: Cambridge.
- Knowles, M. S., Holton, E. F., Swanson, R. A., (1998). *Adult learner*. 5th ed. Houston: Gulf
- Knowles, M. (1986). *Using learning contexts*. San Francisco: Jossey-Bass.
- Kroth, R., & Bolson, M. (1996). Family involvement with assistive technology into special education. *Technology and Disability, 1(1), 17-20*.
- Lahm, E. A. (2003). Assistive technology specialists: Bringing knowledge of assistive technology to school districts. *Remedial and Special Education, 24(3), 141-153*.
- Lahm, E. A., Bausch, M. E., Hasselbring, T.S., & Blackhurst, A. E. (2001). National Assistive Technology Research Institute. *Journal of Special Education Technology, 16(3), 19-26*.
- Lahm, E. A. & Nickles, B. L. (1999). Assistive technology competencies for special educators. *Teaching Exceptional Children, 32(1), 56-63*.
- Lang, M., & Fox, L. (2003). Breaking the tradition: Providing effective professional development for instructional personnel supporting students with severe disabilities. *Teacher Education and Special Education, 26, 17-26*.
- Lee, Y., Patterson, P. P., & Vega, L. A. (2011). Perils to self-efficacy perceptions and teacher preparation quality among special education intern teachers. *Teacher Education Quarterly, 38 (2), 61-76*.
- Lei, J. (2009). Digital natives as pre-service teachers: What technology preparation is needed. *Journal of Computing in Teacher Education, 25(3), 82-97*.

- Lewis, R. B. (1998). Assistive technologies and learning disabilities: Today's realities and tomorrow's promises. *Journal of Learning Disabilities*, 31, 16-26.
- Likert, R. (1961). *New patterns of management*. New York: McGraw-Hall, 1961.
- Lodico, M., Spaulding, D., &Voegtler, K. (2010). *Methods in educational research: From Theory to Practice*, 2nd Ed. San Francisco, CA: Jossey-Bass.
- Long, T. M., &Perry, D. F. (2008). Pediatric physical therapists' perceptions of their training in assistive technology. *Physical Therapy*, 629-639.
- MacGregor, G., &Pachuski, P. (1996). Assistive technology in schools: Are teachers ready, able, and supported? *Journal of Special Education Technology*, 13(1), 4-15.
- Maloney, C., &Konza, D. (2011). A case study of teachers' professional learning: Becoming a community of professional learning or not? *Issues in Educational Research*, 21(1), 75-87.
- Manning, J. B., &Carpenter, L. B. (2008). Assistive technology webquest: Improving learning for pre-service teachers. *Tech Trends: Linking Research and Practice to Improving Learning*, 52(6), 47-52.
- Margolis, L., &Goodman, S. (1999). Assistive technology services for students: what are these? Special Edition of Tech Express (ERIC Document Reproduction Service No. ED437800). Washington, DC: United Cerebral Palsy Associations.
- Marino, M. T., Sameshima, P., &Beecher, C. C. (2009). Enhancing TPACK with assistive technology: Monitoring inclusive practices in pre-service teacher education. *Contemporary Issues in Technology and Teacher Education*, 9(2).

Retrieved from <http://www.citejournal.org/vol9/iss2/general/article1.cfm>

- McLaren, E. M., Bausch, M. E., & Ault, M. J. (2007). Collaborative strategies reported by teachers providing assistive technology services. *Journal of special Education Technology, 22*(4), 16-29.
- McLaughlin, M. W., & Talbert, J. E. (2010). Professional learning communities: Building blocks for school culture and student learning. *Voices in Urban Education, 27*(35-45).
- McNaughton, G., & Smith, K., (2008). Engaging ethically with young children: Principles and practices for consulting justly with care. In G. MacNaughton, P. Hughes, & K. Smith (Eds.), *Young children as active citizens: Principles, policies, and pedagogies, pp. 31-43. Newcastle, Australia: Cambridge Scholars Publishing.*
- Mechling, L. C. (2007). Assistive technology as a self-management tool for prompting students with intellectual disabilities to initiate and complete daily tasks: A literature review. *Education and Training in Developmental Disabilities, 42*(3), 252-269.
- Merbler, J. B., Hadadian, A., & Ulman, J. (1999). Using assistive technology in the inclusive classroom. *Preventing School Failure, 43*(3) 113-117.
- Merriam, S. B. (2001). Andragogy and self-directed learning: Pillars of adult learning theory. In S. B. Merriam (Ed.), *New Directions for Adult and Continuing Education, No. 89. San Francisco: Jossey-Bass.*
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation. San Francisco: Jossey-Bass.*

- Merriam, S. B., &Cafferalla, R. S. (1991). Learning in adulthood: A comprehensive guide, San Francisco: Jossey-Bass.
- Merriam, S. B., &Caffarella, R. S. (1999). Learning in adulthood: A comprehensive guide. (2nd ed.). San Francisco: Jossey-Bass.
- Merriam, S. B., Caffarella, R. S., &Baumgarter, L. M. (2007). Learning in adulthood: A comprehensive guide, (3rd ed.). San Francisco: Jossey-Bass.
- Michaels, C. A., & McDermott, J. (2003). Assistive technology integration in special education teacher preparation: Program coordinators' perceptions of current attainment and importance. *Journal of Special Education Technology*, 18(3), 29-41.
- Miller, B. B. (1994). Knowledge development: Raising education and training to a new level. ERIC. Washington, DC.
- Mistrett, S.G., Lane, S. J.,& Reffino, A. G., (2005). Growing and learning through technology: Birth to five. In D. Edyburn, K. Higgins, & R. Boone (Eds.), *Handbook of special education technology research and practice*. (pp. 273-307). Whitefish Bay, WI: Knowledge by Design.
- Mock, D., & Kauffman, J. M. (2002). Preparing teachers for full inclusion: Is it possible? *Teacher Education*, 37, 202-215.
- Mondak, P. (2000). The Americans with disabilities act and information technology access. *Focus on Autism and Other Developmental Disabilities*, 15(1), 43-51.
- Moorison, K. (2007). Implementation of assistive technology computer technology: A model for school systems. *International Journal of Special Education*, 22(1), 83-

95.

Natalicio, D., & Pacheco, A. (2000). The future of teacher education: Two experts share their thoughts. Edutopia. Retrieved from <http://www.edutopia.org/future-teacher-preparation>

National Assistive Technology Innovation (2014, June). *Moving towards solutions*. Retrieved June 18, 2014 from <http://nationaltechcenter.org>

National Assistive Technology Research Center (2001). What is assistive technology? Retrieved September 17, 2012 from <http://natri.uky.edu/resources/fundamentals/defined.html>.

National Assistive Technology Research Institute (NATRI) (2001). AT Resources: Reports: Technology Self-assessment. Retrieved February 4, 2012 from <http://natri.uky.edu>

National Center for Educational Statistics (NCES) (2004). *Digest of educational statistics*. Washington, DC: U.S. Department of Education.

National Center for Education Statistics (2007). *The condition of education 2007* (NCES 2007-064). Washington, DCL U.S. Department of Education.

National Center on Educational Outcomes (1990). Retrieved December 12, 2014, from <http://www.cehd.umn.edu/nceo/>.

National Educational Technology Standards for Teachers (2nd ed.) (1997a; 1997b; 1999). ISTE@ (International society for Technology in Education), www.iste.org

National Educational Technology Standards for Teachers (2nd ed.) (2003). ISTE@ (International society for Technology in Education), www.iste.org.

National Educational Technology Standards for Teachers (2nd ed.) (2008). ISTE@ (International society for Technology in Education), www.iste.org.

National Educational Technology Standards for Teachers (2nd ed.) (2011). ISTE@ (International society for Technology in Education), www.iste.org.

National Information Center for Children and Youth With Special Needs (NICHY) (1996). The education of children and youth with special needs: What do the laws say? NICHY News Digest 15. 1-16. Retrieved from: www.icdi.org

National Council for Accreditation of Teacher Education (NCATE). (1954). *Professional standards for the accreditation of teacher preparation institutions*. Retrieved from <http://caepnet.org>

National Joint Committee on Learning Disabilities (1998). Learning Disabilities: Pre-service Preparation of General and Special Education Teachers. *Asha*, 40 (Suppl.18), in press.

Nelson, B. (2006). On your mark, get set, wait! Are your teacher candidates prepared to embed assistive technology in teaching and learning? *College Student Journal* 40(3), 485-494.

Nelson, B. (2010). On your mark, get set, wait! Are our teachers candidates prepared to embed assistive technology in teaching and learning? *College Student Journal*. Retrieved from <http://eric.ed.gov/?id=EJ765346>

Newton, D., & Dell, A. G. (2010). Learning disabilities and assistive technology- Learning tools across the curriculum. *Monograph of the Technology and Media Division of the Council for Exceptional Children*. Arlington, VA: Council for

Exceptional Children.

Noble, L. (2002). Federal assistive technology legislation 1988-present. *The Exceptional Parent*, 32(6), 50-53.

No Child Left Behind (NCLB) Act of 2001 (2001a). P.L. No. 107-110. Retrieved March 7, 2012 from <http://www2.ed.gov>

No Child Left Behind Act of 2001 (2001b). Pub. L. No. 107-110. (2002). Retrieved from <http://www2.ed.gov/legislation/ESEA02/>.

Office of Management and Budget, The White House (2011). www.budget.gov

Paige, R. (2004). Meeting the highly qualified teachers challenge. Washington, DC: U.S. Department of Education. Retrieved January 6, 2012, from www.ed.gov/offices/OPE/News/teacherprep/AnnualReport.pdf.

Papinczak, T., Tunny, T., & Young, L. (2009). Conducting the symphony: A qualitative study of facilitation in problem-based learning tutorials. *Medical Education*, 43, 377-383.

Parette, H. P., & Murdick, N. L. (1998). Assistive technology of IEPs for young children with disabilities. *Early Childhood Education Journal*, 25(3), 193-198.

Parette, H. P., Peterson-Karlan, G. R. (2007). Facilitating student achievement with assistive technology. *Education and Training in Developmental Disabilities*, 42(4), 387-397.

Parette, H. P., Peterson-Karlan, G. R., Smith, S., Gray, T., & Silver-Pacuilla, H. (2006). The state of assistive technology: Themes from an outcomes summit. *Assistive Technology Outcomes and Benefits*, 3(1), 15-33.

- Parette, H. P., Peterson-Karlan, G. R., & Wojcik, B. W. (2005). The state of assistive technology services nationally and implications for future development. *Assistive Technology Outcomes and Benefits*, 2(1), 13-24.
- Parette, H. P., Peterson-Karlan, G. R., Wojcik, B. W., & Bardi, N. (2007). Monitor that progress! Interpreting data trends for assistive technology decision making. *Teaching Exceptional Children*, 40(1), 22-29.
- Parette, H. P., & Scherer, M. J. (2004). Assistive technology use and stigma. *Education and Training in Developmental Disabilities*, 39(3), 217-226.
- Parette, H. P., & Stoner, J. B. (2008). Benefits of assistive technology user groups for early childhood education professional. *Early Childhood Education Journal*, 35, 313-319.
- Parette, H. P., Stoner, J. B., & Watts, E. H. (2009). Assistive technology user group perspectives of early childhood professionals. *Education and Training in Developmental Disabilities*, 44(2), 257-270.
- Parette, H. P., Wojcik, B. W., Peterson-Karlan, G. R., & Hourcade, J. J. (2005). Assistive technology for students with mild disabilities: What's cool and what's not. *Education and Training in Developmental Disabilities*, 40, 320-331.
- Patton, M. Q. (2001). Two decade of developments in Qualitative Inquiry: A personal, experiential perspective. *Qualitative Social Work*, 1(3), 261-283.
- Penuel, W. R., Fisherman, B. J., Yamaguchi, R., & Gullagher, L. P. (2007). What makes professional development effective? Strategies that foster curriculum implementation. *American Education Research*, 44(4), 921-958.

- Perry, A. B. (2004). *Deep change: Professional development from the inside out*.
Langham, MA: Scarecrow Education.
- Phillips, B., & Zhao, H. (1993). Predictors of assistive technology abandonment.
Assistive Technology, 5(1), 36-45.
- Phillips, K. J. (2010). What does “highly qualified” mean for student achievement?
Evaluating the relationships between teacher quality indicators and at-risk
students’ mathematics and reading achievement gains in first grade. *The
Elementary School Journal*, 110, 44-193.
- Polit, D. F., & Beck, C. T. (2010). *Essentials of nursing Research: Appraising evidence
for nursing practice*. Walters Kluwer Health. Lippincott Williams & Wilkins.
- Pope, M., Hare, D., & Howard, E. (2005). Enhancing technology use in student teaching:
A case study. *Journal of Technology and Teacher Education*, 13(4), 573-618.
- Pugach, B., & Correa, V. I. (2011). A historical perspective on the role of collaboration in
teacher education reform: Making good on the promise of teaching all students.
Teaching Education and Special Education, 34, 183-200.
- Pugach, M. C., & Blanton, L. P. (2009). A framework for conducting research on
collaborative teacher education. *Teaching and Teacher Education*, 25, 575-582.
- Quality Indicators for Assistive Technology Services (2004). Quality Indicators. July 28,
2009 from www.qiat.org
- Quality Indicators for Assistive Technology Services, QIAT Consortium (2005). Quality
Indicators for Assistive Technology Services: Research-based update Retrieved
from <http://natri.uky.edu>

- Quality Indicators for Assistive Technology Services (2006, December 11). Retrieved February 20, 2012, from QIAT: Quality indicators for assistive technology services: http://natri.uky.edu/assoc_projects/qiat/index.html
- Quality Indicators for Assistive Technology Services, QIAT Consortium (2008, April 3). QIAT: Documents. Retrieved January 4, 2012, from QIAT: Quality indicators for assistive technology: http://natri.uky.edu/assoc_projects/qiat/
- Quality Indicators for Assistive Technology Services, QIAT Consortium (2009, April 3). QIAT: Documents.
- Quality of Life Survey (2006). National Report. 132 (7).
- Raskind, M. H. (2008). Assistive technology for kids with LD: An overview. Our Essential Guide to Assistive Technology. Great School, Inc., Retrieved from: <http://disabilityrightsca.org>
- Reagans, R. E., &McEvily, B. (2003). Network structure and knowledge transfer: The effects of cohesion and range. *Administrative Science Quarterly*, 48, 240-267.
- Reed, P. (2003). Critical issue: Enhancing system change and academic success through assistive technologies for K-12 students; with special needs. North Central Educational Laboratory, Learning Points Associates, Retrieved from <http://www.ncrel.org>
- Reed, P. (2004). The W.A.T.I assessment package: Assistive technology assessment. Oshkosh, WI: Wisconsin Assistive Technology Initiative.
- Reed, P., &Bowser, G. (1999). Assistive technology and the IDEA. *Exceptional Parent*, 29(11), 54-57.

- Reed, P., & Bowser, G. (2005). Assistive technology and the IEP. In D. Edyburn, K. Higgins, & R. Boone (Eds.) *Handbook of special education technology research and practice* (pp.61-77). Whitefish Bay, WI: Knowledge by Design, Inc.
- Reed, P., & Lahm, E. (2004). Students' needs for assistive technology: A resource manual for school district teams. Retrieved January 2, 2012. From Wisconsin Assistive Technology Initiative: <http://www.wati.org>
- Reed, P., & Lahm, E. (2005). A resource guide for teachers and administrators about assistive technology, Wisconsin Assistive Technology Initiative. Retrieved from <http://sped.dpi.wi.gov>
- Reed, P. R. (1999). *Six steps to improved assistive technology services in schools*. Oshkosh, WI: Wisconsin Assistive Technology Initiative. (ERIC Document Reproduction Service No. ED467 725).
- Reimer-Reiss, M. L., & Wacker, R. R. (2000). Factors associated with assistive technology discontinuance among individuals with disabilities. *Journal of Rehabilitation*, 66(3), 44-49.
- Richards, L. (2005). *Handling qualitative data: A practical guide: Part 1*. London: Sage.
- Robson, C. (2007). *How to do a research project: A guide for undergraduate students*. *Qualitative Research in Psychology*. Oxford, UK: Blackwell Publishing, 4(4).
- Rosenberg, M. S., Griffin, C. G., Kilgore, K. L., & Carpenter, S. L. (1997). Beginning teachers in special education: A model for providing individualized support. *Teacher Education and Special Education*, 20, 310-321.
- Ross, D., Dodman, S., & Vescio, V. (2010). The impact of teacher preparation for high-

- needs schools. In A. Stairs and K. Donnell (Eds.), *Research on Urban Teacher Learning: The Role of Contextual Factors Across the Professional Continuum*. Charlotte, NC: Information Age Publishing, Inc.
- Salazar, D., Aguirre-Munoz, Z., Fox, K., & Nuñez-Lucas, L. (2010). *Journal of Systemics, Cybernetics & Information*, 8(4), 1.
- Scherer, M. (2004). *Connecting to learning. Educational and assistive technology for people with disabilities*. Washington, DC: *American Psychological Association*.
- Skiba, R. J., Simmons, A. B., Ritter, S., Gibb, A. C., Rauch, M.K., Cuadrado, J., et al. (2008). Achieving equality in special education: History status, and current challenges. *Exceptional Children*, 74(3), 264-288.
- Smith, D. W., & Kelley, P. (2007). A survey of assistive technology and teacher preparation programs for individuals with visual impairments. *Journal of Visual Impairments & Blindness*, 429-433.
- Smith, M. K. (2002). 'Malcolm Knowles, informal adult education, self-direction and andragogy', the encyclopedia of informal education. Retrieved from www.infed.org/thinkers/et-knowl.htm.
- Solomon, D.J. (2001). Conducting web-based surveys. *Practical Assessment, Research & Evaluation*, 7(19). Retrieved February 2, 20115 from <http://PAREonline.net/getvn.asp?v=7&n=19>.
- SPSS, Inc. (2012). *SPSS base 15.0 for Windows user's guide*. Chicago, IL: Prentice Hall.
- Stayton, V. D., Dietrich, S. L., Smith, B. J., Bruder, M. B., Mogro-Wilson, C., & Swigart, A. (2009). State certification requirements for early childhood special educators.

Infants & Children, 22, 4-12.

Stokes, S., Wirkus-Pallaske, M., & Reed, P. (2000). Wisconsin Assistive Technology Initiative. Adopted from Lynch & Reed (1997), with Incorporations from SETT framework (Zabala, 1994).

Taylor, B., & Kroth, M. (2009). Androgagy's transition into the future: Meta-Analysis of Androgagy and its search for a measurable instrument. *Journal of Adult Education, 38(1), 1-11.*

Technology-Related Assistance for Individuals with Disabilities Act Amendments of 1994 (1994). P.L. 100-407 & 103-218, 29 U.S.C. § 2201 et seq.

Technology-Related Assistance for Individuals with Disabilities Act of 1988 (1988). P.L. 100-407. Retrieved May 9, 2012 from <http://www.resna.org/taproject/library/laws/techact94.htm>

Technology-Related Assistance for Individuals with Disabilities Act of 1998 (1998). P.L. 105-394, 29 U.S.C. § 2201 et seq.

Technology-Related Assistance for Individuals with Disabilities Act of 2004 (2004). P.L. 108-364 U.S.C. § 2201 et seq.

Temple, C. (2006). Successes and barriers: Teachers' perspectives on implementing assistive technology in educational settings. Unpublished doctoral dissertation, George Mason University, Virginia.

Thompson, J., Siegel, J., & Kouzoukas, S. (2000). Assistive technology on the eve of the 21st century: Teachers perceptions. *Special Education Technology Practice, 2(3), 12-21.*

- Todis, B. (1996). Tools for the task? Perspectives on assistive technology in educational settings. *Journal of Special Education Technology*, 13(2), 49-61.
- Turnbull, A. P., &Turnbull, H. R. (2001). *Families, professionals and exceptionality: Collaborating for empowerment* (4th ed.). Upper Saddle River, NJ: Merrill/Prentice Hall.
- Turnbull, A., Turnbull, H. R., Erwin, E. J., Soodak, I. C., &Shagren, K. A. (2010). *Families, professionals, and exceptionality: Positive outcomes through partnerships and trust*. Upper Saddle River, NJ: Prentice Hall.
- U.S. Department of Education (2011). *Teacher shortage areas: Nationwide listing 1990-91 thru 2011-12*. Washington, DC: U. S. Department of Education/Office of Postsecondary Education.
- U.S. Department of Education (n.d.b). *No Child Left Behind ED.gov*. Retrieved November 25, 2011, from <http://www.ed.gov/nclb/landing.jhtml?src=pb>
- U.S. Department of Education, Office of Special Education Programs (1994).
- U.S. Department of Education, Office of Post-Secondary Education (2009). *The secretary's sixth annual report on teacher quality: A highly qualified teacher in every classroom*. Washington, DC.
- U.S. Department of Education, Office of Special Education and Rehabilitative Service, Office of Special Education Programs (2011). *26th Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act, 2008*. Washington, D.C.: Author.
- Van Laarhoven, T., &Conderman, G. (2011). *Integrating Assistive Technology in Special*

- Education Teacher Preparation Programs. *Journal of Technology and Teacher Education*, 19(4), 473-497. Chesapeake, VA: Society for Information Technology & Teacher Education.
- Vescio, V., Ross, D., & Adam, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education*, 24(1), 80-91.
- Voltz, D. L., & Collins, L. (2010). Preparing special education administrators for inclusion in diverse standards-based contexts: Beyond the Council for Exceptional Children and the Interstate School Leaders Licensure Consortium. *Teacher Education and Special Education* 33(1), 70-82.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Wallace, T., Anderson, A. R., & Bartholomay, T. (2002). Collaboration: An element associated with the success of four inclusive high schools. *Journal of Educational and Psychological Consultation*, 13(4), 349-381.
- Watson, A. H., Ito, M., Smith, R. O., & Anderson, L.T. (2010). Effects of assistive technology in a public school setting. *American Journal of Occupational Therapy*, 64, 18-29.
- Webb, B. J. (2000). Planning and organizing assistive technology resources in your school. *Teaching Exceptional Children*. 32(4), 50-5.
- Wehmeyers, M. L., Lattin, D. L., Lapp-Rincker G., & Agran, M. (2003). Access to the general curriculum of middle school students with mental retardation. *Remedial*

and *Special Education*, 24(5), 262-272.

- White, E. A., Wepner, S. B., & Wetzell, D. C. (2003). Accessible education through assistive technology. *T.H.E. Journal*, 30(7), 24-32.
- Wilkins, E., Shin, E., & Ainsworths, J. (2009). The effects of using peer feedback practices with elementary education teacher candidates. *Teacher Education Quarterly*, 36(2), 79-93.
- Wilson, S. M., & Berne, J. (1999). Teacher learning and the acquisition of professional knowledge: An examination of research on contemporary professional development. *Review of Research in Education*, 24, 173-209.
- Wisconsin Assistive Technology Initiative (WATI) (1998). Assessing students' needs for assistive technology: a resource manual for school district teams. Amherst, WI: WATI.
- Wisconsin Assistive Technology Initiative (WATI) (2006). Assessment Package. Amherst, WI: WATI.
- Wisconsin Assistive Technology Initiative (WATI) (2012). Assessment Package. Amherst, WI: WATI. Retrieved from <http://www.wati.org>
- Wong, M. E., & Cohen, L. (2011). School, family and other influences on assistive technology use: Access and challenges for special school students with visual impairments in Singapore. *British Journal of Visual Impairment*, 29(2), 130-144.
- Wynn, M. (2006). Air force policy directive 40-6: Educational and developmental intervention services. Department of the Air Force.
- Yell, M. L., Shringer, J. G., & Katsiyannis, A. (2006). Individuals with Disabilities

- Education Improvement Act of 2004 and IDEA regulations of 2006: Implications for educators, administrators, and teacher trainers. *Focus on Exceptional Children*, 39(1), 1-24.
- Yin, R. K. (2009). *Case study Research: Design and Methods* (4th ed.). Thousand Oaks, CA: Sage.
- Zabala, J. (1995). The SETT Framework: Critical areas to consider when making informed assistive technology decisions. Retrieved December 18, 2012 from <http://www.joyzabala.com>.
- Zabala, J. S. (1996). Setting the stage for success: Building success through effective use of assistive technology decisions. *Proceedings of the Southeast Augmentative communication conference* (pp. 129-187). Birmingham, AL: United Cerebral Palsy of Greater Birmingham.
- Zabala, J. S. (2007). SETT Scaffold for Consideration of AT Needs.
- Zabala, J., Blunt, M., Carl, D., Davis, S., Deterding, C., Foss, T. (2000). Quality indicators for assistive technology services in school settings. *Journal of Special Education Technology*, 15(4), 25-36.
- Zabala, J. S., & Carl, D. L. (2005). Quality indicators for assistive technology services in schools. In D. L. Edyburn, K. Higgins, & R. Boone (eds.), *Handbook of special education technology research and practice* (pp.179-207). Whitefish Bay, WI: Knowledge by Design, Inc.
- Zeichner, K. (2010). Competition, economic rationalization, increased surveillance, and attacks on diversity: Neo-liberalism and the transformation of teacher education in

the U.S. Teaching and Teacher Education, 26, 1544-1552.

Appendix A: The Project

Three-Day Assistive Technology Professional Development Training

Introduction: Assistive technology is a full day training that will provide a historical background of AT the rights of those with disabilities. Each day the training will focus on new knowledge, scaffolding the obtained knowledge, and understanding the roles and responsibilities within the application of this new knowledge. This professional development training will also offer hands-on simulation training and are source collaboration session.

Purpose:

The professional development training program is designed to increase the AT knowledge of all SPED service providers, offer current AT resources and clarify roles and responsibilities in relation to the laws of the Tech Act.

Professional Desired Outcomes:

The desired outcomes will highlight the abilities that each teacher obtained during the assistive technology training, such as their ability to grasp new technology equipment usage, and understand their function, and identify available resources and links to support students with diverse learning needs. With this knowledge all teachers will be prepared to implement the usage of various types of assistive technology equipment, without having to wait for training from the assistive technology department in-service training. In addition into the above desired outcomes, teachers will be able to confidently articulate the benefits of effective assistive technology usage, an increase student academic

success. The desired program outcomes are based upon the effectiveness of the assistive technology training program, and teachers will be able to:

1. Apply knowledge gained from training into classroom settings.
2. Demonstrate appropriate skills related to equipment usage.
3. Gain a better understanding of the importance of assistive technology equipment and select equipment that will enhance student's academic progress.

Program Outcomes:

According to Christine and Alkin (2005) in order to determine whether or not a project has accomplished its proposed objectives, a goal-based evaluation should be completed.

The 3-day assistive technology training program will:

- A. Inform teachers about the importance of appropriate and consistent daily usage of assistive technology in the classroom.
- B. Increase academic success in students, through demonstrating the ability to effectively use assistive technology equipment in a timely manner.
- C. Apply knowledge and be more equipped with the skills to trouble-shoot, utilize, and select appropriate assistive technology equipment for special needs students.

Learning Objectives: In order for the learning objectives to be successful, the outcomes must have obtainable objectives. These objectives are stepping stones to accomplishing the program planning goals. As a means to having all the teachers accomplish the training goals, three learning objectives were developed:

1. When asked to describe AT and the QIAT, the teacher will be able to give definition of AT and explain their roles and responsibilities within the QIAT independently, or until mastery with minimal prompts.
2. When presented with pictures and names of a selected group of assistive technology devices, each teacher will be able to describe its function and identify its purpose with minimal teacher assistance, and at least 80% accuracy or 8/10 questions correct.
3. When given a randomly selected student with assistive technology needs, each teacher will be able to identify an online AT resource site and equipment to support the students need with at least 90% accuracy or until mastery.

Resource

Equipment

Smart Board (Get from the Technology Specialist)

Clicker (Get from the Technology Specialist)

2. Table Supplies

Colored Paper: various colors (2-3ofthesamecolorsforgrouping)

Flash Cards

Blank White Copy paper

Poster Board Paper and Colored Markers

Dry erase board to keep record of the team scores

2-FoldersforfinalEvaluations/KWL charts

3. Pre-Produced Training Documents

Copies of the Participate Evaluation forms (Appendix KWL Chart)

(See Appendix)

4. Videos

QIAT Self-Assessment

(You Tube Video)assist@rslsteeper.com

5. Resource Links

a. www.qiat.org

b. <http://www.qiat.org/useful-links.html>

c. www.wati.org

d. http://natri.uky.edu/assoc_projects/qiat/

e. <http://www.aten.scps.k12.fl.us/>

f. <http://www.education-portal.com>

g. www.atp.ne.gov/techassist/ATcklistWATI.pdf

6. Technology Tools

Various AT devices from the Lending Library (available devices vary within each district)

(PPTSlide#12, 13)

Picture/images of various AT devices (PPTSlide#14,15,16,17,18)

List of QIAT/WATI indicators (PPTSlide#11)

List of AT Roles and Responsibilities (PPTSlide#7)

A list of AT resource links and websites (PPTSlide#19,20,21)

A list of Disabilities(Slide#22)

6. Speakers/Presenters

Contact the ISS-Assistive Technology Specialist in the District

Contact the Educational Technologist in the School

<p>Day1</p>	<p>Time:</p> <p>8:00am-12:00pm</p> <p>(include 15min Break)</p>	<p align="center">Training Sessions: Scope and Sequence</p> <p>Title: Overview of the Laws of Assistive Technology: Tech Act</p> <p><i>Activity: Professional Learning Community-Social Collaboration</i></p> <p><i>Description: Each person will fill-out one of the 2 sections of the KWL chart for Assistive Technology: Know; Want to Know. The trainer will collect the KWL chart from each participant upon completion (SeeSlide#21)</i></p> <p align="center">Question and Answer-</p> <p><i>The trainer will then ask participant's rhetorical questions about AT that will lead to the QIAT self-assessment. This is away to help participants begin thinking about and determining their strengths and needs within assistive technology.</i></p>	<p>Resources</p> <p>Smart Board</p> <p>KWL Chart</p>
--------------------	--	--	---

		<p>Professional Learning Community-Quality Indicators of Assistive Technology Self-Assessment (QIAT) Each participant will be answering the self-assessment survey using the clicker with a number on it. The trainer will upload each survey question on the Smart-Board. The trainer will know if any of the participants did not answer the question. The trainer will prompt the# clicker to respond to each QIAT question presented on the Smart-Board before proceeding to the next question.</p> <p>You Tube Video Segment-Show participants a video about assistive technology and those who benefit from its usage. www.pacer.org/stc.</p> <p>Vision Board-</p>	<p>QIAT Self-Assessment</p> <p>SmartTechnology</p> <p>List of QIAT/WA Quality Indicator</p>
--	--	--	--

		<p><i>The trainer will collect all clickers and show participants the percentages of the self-assessment survey under each category. The trainer will explain the findings to the participants and open the floor up for discussion.</i></p> <p>Adult Learning-<i>The trainer will use the Smart Board to identify what Quality Indicators of Assistive Technology that AT service providers should possess to be identified as a highly qualified teacher within the field of SPED. (See Appendix: QIAT/WATI)</i></p> <p><u>WWW.QIAT.ORG</u></p> <p><u>www.atp.ne.gov/techassist/ATcklistWATI.pdf</u></p> <p style="text-align: center;">Group will take a Break 15 minutes</p> <p>Collaboration-<i>On a blank colored sheet of paper participants will write down their definition of Assistive Technology. Participants will collaborate with another participant who has the same color paper to discuss their perception of the Tech Act and share/compare their</i></p>	<p>Colored Paper: various colors (2- of the same color for grouping)</p>
--	--	--	--

		<p><i>definition (this allows collaboration with various participants).</i></p> <p><i>Vision Board</i>-Each pair of participant groups will share their definition of the Assistive Technology and their perceptions of the AT Law. Information will be displayed on the Smart-Board as it is presented.</p> <p>You Tube video clip Title: IDEA: Individuals with disabilities education ACT: History and summary http://www.education-portal.com</p> <p><i>Professional Learning Community</i>-After collaboration the definition of Assistive Technology and the Tech Act law will be presented on the Smart-Board (SeePPTslide#4). Participants will then compare/contrast the responses to the actual definition.</p> <p><i>Questions and Answers</i>-The Trainer will then share examples and demonstrate how variation in definition impact teacher application understanding, knowledge and roles and responsibilities within AT will reviewed and</p>	Flash Cards
--	--	---	--------------------

	<p>1:00-3:00</p>	<p><i>discussed. The floor will be open for questions and answers.</i></p> <p><i>(You Tube Video Clip)YouTube-</i></p> <p><i>Understanding Assistive Technology: Simply Said</i></p> <p style="text-align: center;"><i>Lunch Break(1hour)</i></p> <p><i>Collaboration-</i><i>Participants will work collectively with a different partner to identify and define all of the roles and responsibilities of a Special Education service provider.</i></p> <p><i>Each paired group will be given a stack of flashcards that have a list of various service provider Roles and Responsibilities. They are to collaborate with their partner to sort the Roles and Responsibilities into separate piles: (ex. Family/service provider; classroom teacher/service provider).</i></p> <p><i>Professional Learning Community-</i><i>The trainer will clarify any misconceptions about the Tech Act and introduce the roles and responsibilities of AT within the law. The trainer</i></p>	<p>List of AT Roles and Responsibilities</p> <p>Poster Board Paper and Colored Markers</p>
--	-------------------------	--	--

	<p>Closing</p>	<p><i>will show the group a list of roles and responsibilities.</i></p> <p><i>(You Tube Video Clip)Title: Assistive Technologies-Let your voice be heard ATAPORG.ORG</i></p> <p><i>Vision Board-</i><i>After the participants have sorted the flashcards into different piles the group will transfer information on to poster board paper. Each paired group will share their piles and why they chose to separate the piles into the chosen roles and responsibilities.</i></p> <p><i>Title: Assistive Technology in the classroom</i></p> <p><i>(You Tube Video Clip) assist@rslsteeper.com</i></p> <p><i>Questions and Answers-</i><i>The trainer will open the floor for questions and answers. Clarify and explain the difference between the ROLE and RESPONSIBILITY of a SPED service provider.</i></p> <p><i>Adult Learning (Ticket out the Door)-</i><i>Participants will write the definition of the Tech Act and at least 4 roles and responsibilities of a SPED service provider on a blanks</i></p>	
--	-----------------------	---	--

		<p><i>Sheet of paper as a Ticket Out The Door.</i></p>	
--	--	--	--

<p>Day2</p>	<p>8:00-12:00 (incorporate 15 minute break)</p>	<p>Professional Learning Community- Adult Learning: <i>Each participant will receive a sheet of paper with the previous day training definition of the Tech Act and a list of AT Roles and Responsibilities (SeePPTslide#7).</i></p> <p>Professional Learning Community-Scaffolding: <i>The trainer will begin by scaffolding the participant’s knowledge by clarifying their understanding of the roles and responsibilities within the law of assistive technology.</i></p> <p>Guest Speaker:(ISS Technology Specialist) <i>The guest speaker will present information about the different types of technology and the historical information that supports the student benefits and teacher gains.</i></p> <p>Professional Learning Community: Simulation Training- <i>Participants will be divided into groups of three and answer 2 questions for each device: What is the name of the device and what types of students would benefit from its usage? Each group will have 20 minutes to view the different assistive technology devices. Every person in the</i></p>	<p>Preprinted Information Shee</p> <p>Various AT devic from the Lending Library (available devices vary within each district)</p>
--------------------	---	---	---

	<p>1:00-3:00</p>	<p><i>group has a role and responsibility: (1) Reader: reads information to group about device, (2) Recorder: records the information discussed within the group on a blank sheet of paper, (3) Presenter: presents the information to the whole group using a poster board display.</i></p> <p style="text-align: center;">Lunch Break (1hour)</p> <p>Vision Board-<i>The trainer will identify the names of each device; demonstrate operational components of each device and discuss what students would benefit from each device and why (See PPT slide: #14,15,16,17,18).</i></p> <p>Questions and Answers-<i>The trainer will open the floor for questions and answers. If there is anytime, allow participants to spend more 1 to 1 time with the devices.</i></p> <p>Adult Learning (Ticket out the Door)-<i>Participants will write down the names of the devices they learned about today and identify which devices they could use consistently within their classrooms on a blank sheet of</i></p>	<p>Picture/images of various AT devices</p> <p>Blank white copy paper</p>
--	-------------------------	---	---

		<i>paper as a Ticket Out The Door.</i>	
--	--	--	--

Day3	<p>8:00-8:30</p> <p>8:30-9:30</p> <p>9:30-9:45</p> <p>9:45-10:30</p>	<p>Professional Learning Community-Adult Learning: The trainer will review the information presented from the last two days. Definitions, Laws, History and the data from the QIAT self-assessment: needs and strength of the learning community. (SeePPTslide#3,4,5). Information to be added to slide once participants have completed the self-assessment as a whole group.</p> <p>Vision Board-Then the trainer will show a slide-show of the different types of devices that are available in the lending library (each school may have different resources available). As each device will be presented and the name of each AT device will be displayed, with a description of the students who would benefit from its use (PPTSlide#12,13).</p> <p style="text-align: center;">15 Minute Break</p> <p>Collaboration-Role Play: Participants will be divided equally into two teams: A and B. Each group participant will develop a dramatic scene to act out student behaviors</p>	<p>A List of Disabilities and common behaviors</p> <p>Dry erase board to keep record of the team scores</p>
-------------	--	--	---

		<p><i>and try to get the group to identify the device they could be used to support that student's disability. The game is played like charades accept the participants are acting out student behaviors and only using one word catch phrases. The name of the device is on a flashcard for only the trainer to see. The first person from either team that gets it correct gets a point. If, there are 10 AT devices, then there will be 10 points possible. The team who has the most points wins the game.</i></p>
	10:30-11:00	<p><i>Question and Answers-</i><i>The trainer will open the floor for questions and answers. The trainer will review and discuss the devices with participants, and offer positive behavioral support and praise.</i></p>
	11:00-12:00	<p><i>Lunch Break (1hour)</i></p>
	12:00-12:30	<p><i>Professional Learning Community:</i> <i>A list of AT resource links and websites will be offered to the participants with pictures of devices available within your district from the lending library (SeePPTslide:12,13).</i></p>

	12:30-1:30	Adult Learning- Allow participants the opportunity to go to the various websites and click on the AT links to get a visual picture of the different sites, new technologies and resources available. (See PPT slide:19 useful links/resources)	
	1:30-2:30	Collaboration: Allow participants to spend more 1 to 1 time with the devices and online with AT webinars, and AT support links. Have participants to share what they observed or learned from the various links, and web pages that they visited. All participants will Share their Likes and Dislikes with the group.	A list of AT resou links and websites Blank White Copy paper
	2:30-3:00	Participant Evaluation: Each participant will complete a participant evaluation form.(See Appendix L) Ticket out the Door- Participants will be given back their initial KWL charts and will complete the last section of the chart: (L)-What did you LEARN section as a ticket out the door. This will be used by the trainers as an assessment of the transfer of adult knowledge.	Copies of the Participate Evaluation forms Box or folder for evaluations

--	--	--	--

Power-Point Slides

Assistive Technology
PROFESSIONAL DEVELOPMENT
TRAINING



Slide1



Slide2

Understanding Assistive Technology

Assistive Technology (AT): "Each public agency shall ensure that assistive technology devices or assistive technology services or both are made available to a child with a disability if required as part of the child's need." 300.308-WATI

- Assistive Technology Services: Any service that directly assists a child with disabilities in the selection, acquisition, or use of an assistive technology device. As it relates to this study, assistive technology service application may vary depending on the service provider's knowledge: awareness level, working knowledge level, or transformation level (Edyburn, 2003 and WATI)
- Assistive Technology Devices: "any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of children with disabilities. The devices range from low tech to high tech equipment. 300.5 (Authority: 20 U.S.C. Chapter 33, Section 1401 (25))

Slide3

AT Laws

- When AT is written into the Individualized Education Plan (IEP), the law requires that the individuals who have reviewed, developed, or revised the IEP to provide the tools to ensure the student with disability under the IDEA, 1997 has a Free and Public Education (FAPE).
- If devices have been determined necessary for the success of the students educational performance at school and at home, then the by law the school is required to maintain, service, track, and inventory the devices and services needed

Slide4

AT History

- AT can be documented back to the stone ages when technology devices were not available but wooden crutches and wooden arm splints were made to support injures.
- Over time technologies have advanced and so have medical inventions. These new technologies have increased the independence for individuals who otherwise would not be able to function without the support of someone else. AT has given hope to families and a voice to those who were never thought to speak or even have their thoughts heard.

Slide 5

The Evolution of AT

- The American Association on Mental Retardation established in 1876.
- The Easter Seals organization established in 1907.
- The Council for Exceptional Children founded in 1922.
- Brown vs. Board of Education of Topeka, Kansas
- Individuals with Disabilities Education Act 1975.
- Education for All Handicapped Children Act of 1975.
- Rehabilitation Act of 1984 and Amendments of 1986.
- Technology-Related Assistance for Individuals with Disabilities Act of 1988.
- Tech Act Amendment 1994.
- Individuals with Disabilities Education Act Reauthorization 1997
- Assistive Technology Act of 1998.
- Americans with Disabilities Act 1990.
- Americans with Disabilities Act Accessibility Guidelines 1990.
- Developmental Disabilities Act 2000.
- No Child Left Behind Act 2001.
- Section 508 of the Rehabilitation Act 2001

Slide 6

Assistive Technology Roles and Responsibilities

- Although school districts have been required since 1990 to specifically provide assistive technology devices and services, we continue to find a range of situations across school districts from:
 - No one responsible for AT.
 - One person responsible for AT struggling to find time because he or she has little or no reduction in other responsibilities.
 - One person responsible for AT with some reduction in other responsibilities.
 - A small team (often an SLP, an OT, and a teacher) at the district level responsible for AT with some reduction in other responsibilities.
 - A larger, more complete team (usually adds vision and hearing as well as PT and sometimes different types of special education teachers) at district level with some building representation established.
 - Well trained AT teams in each building with back up from a district level AT Resource team.

Slide7

What must we have in every school district?

- A knowledgeable, supportive network of people working together to help every IEP Team choose and provide appropriate AT devices and services.

Slide8

What does that mean? It means:

- 1. Every school district employee who works with students with disabilities (including general education teachers) has at least awareness-level knowledge about what assistive technology is and what it does.
- 2. Every employee who works with students with disabilities and has contact with parents of those students, knows the law about assistive technology, knows district procedures for obtaining assistive technology and assistive technology evaluations, and how to initiate those procedures.
- 3. All administrators understand and comply with the laws related to assistive technology. They expect assistive technology options to be available in all classrooms.
- 4. Specific individuals at both the building and district level have been designated with specific responsibilities related to assistive technology and provided the necessary training, resources, and support to carry out those responsibilities.

Slide9

Action Steps

- 1. Provide awareness level training to all employees who work with students with disabilities in any capacity with an expectation of implementation.
 - 2. Provide training on the law to all administrators and monitor their compliance.
 - 3. Designate individuals at the central office and building level to work together to gain more in-depth knowledge.
 - 4. Create learning communities where general education, special education, curriculum, and instructional technology staff continually support efforts to include all students in instruction.
 - 5. Provide resources to keep staff knowledgeable including access to readily available equipment and software. Provide print supports as well as online resources and access to training.
 - 6. Designate specific responsibilities as needed so that everyone clearly understands their role.
- It is not so important that a district follow a certain model, but rather that they undertake a systematic course of action, designed to meet the needs of their students with disabilities.

Slide10

WATI/QIAT

•Wisconsin Assistive Technology Initiative (WATI)

- WATI is designed to increase the capacity of school districts to provide assistive technology services by making training and technical assistance available to teachers, therapists, administrators and parents throughout Wisconsin. WATI resources and forms are available on the web, along with a wealth of other information that can be accessed by anyone.

•Quality Indicators for Assistive Technology (QIAT)

- QIAT-PS offers tools and resources on quality implementation of assistive technology in the Post Secondary environment. QIAT-PS is a collaborative effort of hundreds of professionals from a wide variety of higher education and K-12 schools and based on the successful implementations of assistive technology indicators in K-12 public schools.

Sample of the Lending Library Items

ITEM	Intended User	Type	Quantity	Location
ASPH Illumination Magnifier 10X	VI	Equipment		
ASPH Illumination Magnifier 7X	VI	Equipment		
1-2-3 Magic for Teachers	LI/LIS/SLP	Book		
25 Minutes to Better Behavior	LI/LIS/SLP	VHS		
A Three-Part Treatment Plan for Oral-Motor Therapy	SLP	Book/VH S		
AA Battery Interrupter	LIS	Equipment		
Adapter USB to PS/2	LI/LIS/SLP	Equipment		
Adapters 1/4F-1/8M	LIS	Equipment		

Adapters1/8M-3/32F	LIS	Equipment		
Adjustable Pressure Saucer Switch	LIS	Equipment		
AFB-You Seem Like a Regular Kid to Me(Book)	VI	Book		
All the Right Type-Three	LI	Software		
All-Turn-It Spinner	LIS	Materials		
AlpahSmart3000Training Video	LI/LIS/SLP	VHS		
AlphaSmart3000	LI/SLP	Equipment		
Alpha Smart 3000 Users Guide	LI/SLP	Book		
Alpha Smart Carrying Case	LI/SLP	Equipment		
Alpha Smart Classroom Activities	LI	Book		

Alpha Smart Get Utility	LI/LIS/SLP	Software		
Alpha Smart Power Adaptor	LI/SLP	Equipment		
Alpha Smart USB Cable	LI/SLP	Equipment		
Alpha Smart Wireless Pod for USB	LI/LIS/SLP	Equipment		
American Printing House for the Blind Pamphlet	VI	Book		
American Sign Language Software	PSCD/LI/LIS/SLP	Software		
APH Audiotape- Geographical Concepts- Doobie the Brain	VI	Audio Tapes		

Appendices For Starting with Assessment A Developmental Approach to Deaf Children's Literacy	HI	Book		
Arkenstone Braille Printer	VI	Equipment		
Articulation1	SLP	Software		
Articulation2	SLP	Software		
Articulation3	SLP	Software		
Articulation Stories(Book)	SLP	Book		
Aspheric Illuminated Pocket Magnifier 9x	VI	Equipment		
Assessing Basic Competencies-Visually Impaired	VI	Book		

AT Consideration Wheel	PSCD/LI/LIS/SLP	Materials		
AT Video Series- Assessment Made Easy	CSC/Teachers	CD		
AT Video Series-AT Assessment Forms	PSCD/LI/LIS/SLP	CD		
AT Video Series-AT: More Than Computers	CSC/Teachers	CD		
AT Video Series-The IEP Team and AT Decisions	CSC/Teachers	CD		
Attention Getter	LIS	Software		
Attention Teens	LIS	Software		
Attribute Tiles	LIS/LI	Software		
Autism & PDD-Basic Questions	PSCD/LI/LIS/SLP	Software		
Autism &PDD- Categories	PSCD/LI/LIS/SLP	Software		

Autism in Action-Aspen Series "How-To "Teaching Programs	PSCD/LI/LIS/SLP	CD		
Autism in Action-Autism and ABA: A "How-To "Handbook for Teachers	PSCD/LI/LIS/SLP	CD		
Autism in Action-Birch Series "How-To "Teaching Programs	PSCD/LI/LIS/SLP	CD		
Autism in Action-Cedar Series "How-To "Teaching Programs	PSCD/LI/LIS/SLP	CD		
Autism in Action-Elm Series "How-To "Teaching Programs	PSCD/LI/LIS/SLP	CD		
Autism in Action- Instructional Objectives Handbook	PSCD/LI/LIS/SLP	CD		

Autism in Action-Maple Series "How-To "Teaching Programs	PSCD/LI/LIS/SLP	CD		
Autism in Action-Oak Series "How-To "Teaching Programs	PSCD/LI/LIS/SLP	CD		
Base Trainer	LIS/Autism	Equipment		
Basic Menu Math- Cafeteria	LIS/LI	Book		
Basic Menu Math-Fast Food	LIS/LI	Book		
Basic Menu Math- Restaurant	LIS/LI	Book		
Batteries (Rechargeable AA)	PSCD/LI/LIS/SLP	Equipment		
Battery Adapter	LIS	Equipment		
BatteryAdaptor9-Volt	LIS	Equipment		

Battery Charger	PSCD/LI/LIS/SLP	Equipment		
Battery Checker	PSCD/LI/LIS/SLP	Equipment		
Battery Tester	PSCD/LI/LIS/SLP	Equipment		
Behavior Analysis Quick Tips	LI/LIS/SLP	Book		
Behavioral Support-Teachers' Guides to Inclusive Practices	LIS/LI	Book		
Best Behavior-Building Positive Behavior Support in Schools	LIS/LI	Book		
Beyond Pataka Video	SLP	VHS		
Big Keys LX	LI/LIS	Equipment		
Big Keys Plus	LI/LIS	Equipment		

Big Keys Plus Skin	PSCD/LIS/LI/SLP	Equipment		
Boardmaker-Quick and Easy Classroom Overlays	LI/LIS	Software		
Boardmaker-Quick and Easy Home Overlays	LI/LIS	Software		
Boardmaker-Speaking Academically	LI/LIS/SLP	Software		
Boardmaker Addendum 2000-2008	PSCD/LI/LIS/SLP	Software		
Boardmaker Begin-It Dynamically Pro	LIS/SLP	Software		
Boardmaker PCS Sign Language Libraries- Volume1	HI	Software		
Boardmaker Picture Index Addendums	LIS/SLP	Software		
BoardmakerPlusV.6	SLP	Software		

BoardmakerV.5	LI/LIS/Autism	Software		
Boardmaker Video	LI/LIS/Autism	VHS		
Boardmaker with Speaking Dynamically ProV.6	SLP/LI/LIS/Autism	Software		
Book Courier	HI/vi	Equipment		
Book on Tape-Anansi & the Moss Covered Rock	PSCD/LI/LIS/SLP	Book & Audio Tape		

Assistive Technology Devices



Slide14

Assistive Technology Devices



Slide15

Assistive Technology Devices



Slide16

Assistive Technology

No Tech → Low Tech → High Tech

"technology for learning"



Slide17

AT Devices



Slide18

AssistiveTechnologyResources

The Quality Indicators for Assistive Technology (QIAT) website

http://natri.uky.edu/assoc_projects/qiat/includes the work done to date to develop a comprehensive set of quality indicators for effective assistive technology services by school districts.

NATE—the National Assistive Technology in Education Network—brings together information from the many fields and disciplines that are involved in assistive technology services in educational settings www.natenetwork.org.

Communicator Feature Comparison from Enabling Devices.

<http://enablingdevices.com/files/content/ComparisonChart.pdf>

The TAM (Technology and Media) Division of the Council for Exceptional Children offers a variety of information about assistive technology and special education instructional technology. You can learn more about its publications, conferences, and membership at <http://www.tamcec.org>.

If you have students who use a single switch to access a computer, take a look at <http://www.switchintime.com>. This website by the developers of Scan 'n Read is full of cool freebies. It is all for the Macintosh platform. There are outstanding free ware programs that you can download. They include: CD Juke box, Single Switch Bingo, Scan 'n Read, and Word Search.

Florida Assistive Technology Education Network (ATEN) Home page has tutorials that can be downloaded on a variety of assistive technology devices.

<http://www.aten.scps.k12.fl.us/>.

Trace Research & Design Center includes software toolkits and many disability related articles and papers.

http://trace.wisc.edu//world/computer_access/multi/sharewar.htm

Closing the Gap is a website offering a variety of articles, resources, and interactive activities related to assistive technology. It offers the “Question of the Week” to encourage visitors to share their knowledge and feedback with other visitors. The site now has a search capability to allow visitors to search their Resource Directory of computer related products for individuals with special needs

<http://www.closingthegap.com/index.lasso>

World Institute on Disability promotes access to the internet in K-12 schools for students with disabilities. They have a new handbook entitled “The Internet: An Inclusive Magnet for Teaching All Students”. It provides practical tips, general access guidelines, resource listings, and success stories. It can be downloaded for free from their website at:

<http://www.wid.org/publications/the-internet-an-inclusive-magnet-for-teaching-all-students/>.

Yaack, which stands for Augmentative and Alternative Communication (AAC) connecting Young Kids, is a wonderful site. You will find it at:

<http://aac.unl.edu/yaack/toc.html>. It begins with what AAC is and when does a child need AAC. Also on AAC, for great information on creating literacy based communication

boards and an excellent resource list on AAC, go to: <http://www.aacintervention.com>.

Watch this one for Tips of the Month, too.

Wis Tech (Wisconsin Department of Health Services)

<http://dhs.wisconsin.gov/disabilities/wistech/>

Slide19

Resources

- **Alliance for Technology Access (3rd Edition), (2000)**
Computer and web resources for people with disabilities,
Alameda, CA: Hunter House.
- **Reed, P., & Lahm, E. (Ed.) (2004)** Assessing students' needs
for assistive technology. Oshkosh, WI: Wisconsin Assistive
Technology Initiative.
- **WATI Assessment Package (2004).**
- **Assessing Students' Needs for Assistive Technology (2009).**

Slide20

Name:

Date:

KWL

Chart

Select a topic you want to research. In the first column, write what you already know about the topic. In the second column, write what you want to know about the topic. After you have completed your research, write what you learned in the third column.

What I K now	What I W ant to Know	What I L earned

Slide21

Types of Disabilities/Categories

Category A: Physical Impairment

1. Autism (AU)/PDD
2. Traumatic Brain Injury(BI)
3. Hearing Impaired(HI)
4. Other Health Impaired(OHI)
5. Visual Impairment(VI)

Category B: Emotional Impairment(EI)

Category C: Communication

1. Articulation Disorder(AR)
2. Fluency Disorder(DY)
3. Language Disorder(LA)
4. Voice Disorder(VO)

Category D: Learning Disability

1. Intellectual Disability(IN)
2. Specific Learning Disability(SLD)

Category E: Developmental Delay

Slide22

Appendix B: Demographic Profile w/Attached Link

Email: Demographic Link-Project Study

Walden University,Minnesota

Date: March 18, 2014

Dear Prospective Participant,

I am a doctoral candidate at Walden University. I would like to thank you for your willingness to participate in this doctoral project study that focuses on the current skills, needs, supports and resources available for special education teachers and related service providers that work for the XYZ Schools-Pacific District.

You are receiving this survey link (Demographic) because you have confirmed that you have received the participant invitation and agreed to participate in this research study, which was confirmed by your returned consent.

By clicking the link below, you will be able to open the online Demographic survey and be a part of the Quantitative research for this study.

To begin the survey click here: <https://www.surveymonkey.com/s/CTRDV6C>

Sincerely,

Doctoral Candidate

Higher Education and Adult Learning-Walden University

Address 100 Washington Avenue South, Suite 900

Minneapolis, MN 55401

Appendix C: Cumulating Question/Summative Response w/Attached Link

Date _____

Dear Prospective Participant: _____

I am a doctoral candidate at Walden University. I would like to thank you for your willingness to participate in this doctoral project study that focuses on the current skills, needs, supports and resources available for special education teachers and related service providers that work for the XYZ Schools.

You are receiving this Culminating Question/Summative link because you have confirmed that you have received the participant invitation and you are volunteering to participate in this research study, which was confirmed by your returned participation agreement statement.

By clicking the link below, you will be able to open the online Culminating Question/Summative and be a part of the Quantitative research for this study.

To begin the questionnaire click here.

<https://docs.google.com/forms/d/16AcczEyCNB-z3fWlDJwtg-VZHpcR5eIGewVrxRyhz9I/viewform>

Sincerely,

Doctoral Candidate

Higher Education and Adult Learning-Walden University

Address 100 Washington Avenue South, Suite 900

Minneapolis, MN 5540

Appendix D: Participant Consent Form

CONSENTFORM:

You are invited to take part in a research study: The Quality Indicators of Assistive Technology (QIAT) Within the XYZ Special Education Service Personnel. There searcher is inviting special education teachers and related service providers that work for the XYZ Schools-Pacific to be in the study. This form is part of a process called “informed consent” to allow you to understand this study before deciding whether to take part. This study is being conducted by Shaune’ McKinney who is a doctoral student at Walden University. You may already know there searcher as the Hearing Impaired Specialist or the Learning Impaired Teacher, but this study is separate from that role.

Background Information:

This study will focus on the Special Education staffs current strengths and needs within assistive technology, their perceptions of their roles and responsibilities within the new mandates of the Tech ACT, while seeking to understand how unifying guidelines can increase the Quality Indicators of Assistive Technology within the Pacific district. This online survey is being conducted and developed (1) to identify the Quality Indicators of Assistive Technology; (2) identify the staff AT strengths and needs; (3) identify what assistive technology resources are available for special education teachers and support staff; (4) explain the benefits of having unifying guidelines within a learning community (5) describe the need for AT training and increased knowledge and (6) influence and change teachers attitudes, presumptions, acquisition knowledge, and skills of AT

equipment, service and application. The project study is being developed to provide a microscopic view of the needs, skills, knowledge, and resources available to special education teachers, administrative personnel and related service providers.

Procedures:

If you agree to be in this study, you will be asked to:

- Complete a Demographic Profile. Please take 2-3 minutes to complete. This will be collected prior to receiving the QIAT Self-Assessment Survey Link.
- Complete the Quality Indicators of Assistive Technology (QIAT) Self-Assessment Survey. Please take 15-20 minutes to complete the survey. If for any reason you need to quit the survey before completion, you will be able to close the web browser and go back to the attached link when you are ready to resume.
- Complete the Culminating Question and Summative Response. Please take 10-15 minutes to complete. This is the only open-ended response within this study.
- Complete the Wisconsin Assistive Technology (WATI) Competency Self-Rating Follow-Up Questionnaire. Please take 20 minutes to complete questionnaire.
- Participate in an individual unstructured interview that will be audio-recorded to ensure accuracy for transcription of data and analysis.

Here are some sample questions:

1. Can you define and describe a wide a range of Assistive Technology?
2. Can you Write IEP/IFSP goals/objectives as needed to describe the acquisition of AT skills?

3. Can you identify and use a variety of math aids and low-tech AT?
4. Can you arrange the environment for increased participation and communication for all students?
5. Can you describe your daily experiences working with Assistive Technology?
6. Explain in detail how you support students daily who require Assistive Technology in your classroom?

Voluntary Nature of the Study:

This study is voluntary. Everyone will respect your decision of whether or not you choose to be in the study. No one in the XYZ Activity will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind later.

Risks and Benefits of Being in the Study:

Being in this type of study has no preconceived safety risks, and will not cause any risks greater than that in which can be countered in daily life. The self-evaluation or self-assessment may cause some frustration or fatigue but this study does not pose risk to your safety or wellbeing.

This research is valuable to the XYZ education community and the military's support staff's overall needs as a whole. It will benefit all SPED service providers by offering a platform to guide, clarify and provide some understanding of the SPED service personnel needs. Your support and educational input will impact XYZ's learning community, and your insight will offer depth and richness to this study. Additionally, it will provide each

participant with an insightful self-assessment tool that could be used to strengthen and develop personal goals, and help guide the development of this project study.

Payment:

There will be no payment or reward for participating in this survey, but please accept my sincerest gratitude and appreciation in advance for voluntarily participating in this project study.

Privacy:

If you decide to participate in this online survey, your privacy is my primary concern. I hold the highest discretion of all participants, and your input will be used solely for the purpose of developing a project that would support the needs of the Special Education Staff. Each participant will be given a security code/number to access their web-based survey and questionnaire; this will replace the names and emails. The security code will be in place to ensure privacy is maintained for all participants. Using participant numbers instead of names allows all participants to voluntarily withdraw from participating in the survey or questionnaire without researcher bias, and it also removes the linkage other individual participants. All passwords and materials will remain private and only assessable to there searcher. The final summations reports, conclusions, and findings will not include individual information relating to age, race, or financial status but rather used as demographic data for the project study.

All information will be kept in electronic format. The initial documents will be saved to a hard drive which is password protected and only assessable to the researcher. A backup copy of the data will be saved via SD-card and password locked which the researcher

only has access too. If at any time information is hand written or typed via hard copy, this information will be locked in a file Cabinet: only assessable to researcher, transcribed in to electronic format and all hard copies will be disposed after electronic transfer. All documents will be shredded and recycled. Data will be kept for a period of at least 5 years, as required by the university.

Contacts and Questions:

You may ask questions you have now or if you have questions later, you may contact the researcher shaune.mckinney@waldenu.edu. If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you, her phone number is 612-312-1210(for US based participants) OR 001-612-312-1210 (for participants outside the US). Walden University's approval number for this study is **I02-27-14-0150378** and it expires on February 26, 2015.

Please print or save this consent form for your records.

Statement of Consent:

I have read the above information and I feel I understand the study well enough to make a decision about my involvement. By replying to this email with the words "I consent," I understand and acknowledge that I am agreeing to the terms described above and agree to participate in this study.

Appendix E: Wisconsin Assistive Technology Questionnaire w/Attached Link

WATI link-dissertation study

Dear Prospective Participant

I am a doctoral candidate at Walden University. I would like to thank you for your willingness to participate in this doctoral project study that focuses on the current skills, needs, supports and resources available for special education teachers and related service providers that work for the Department of Defense Schools.

You are receiving this WATI questionnaire link because you are participating in this research study.

By clicking the link below, you will be able to open the online WATI questionnaire, which is the final component of this study.

To begin the WATI questionnaire click here:

<https://www.surveymonkey.com/s/QBY3Q8P>

Sincerely,

Shaune McKinney

Doctoral Candidate

Higher Education and Adult Learning-Walden University

Address 100 Washington Avenue South, Suite 900

Minneapolis, MN 55401

WATI Assistive Technology

Appendix F: QIAT Self-Assessment Survey Letter & Link

Email: QIAT Link-Project Study

WaldenUniversity,Minnesota

Date _____

Dear Prospective Participant: _____

I am a doctoral candidate at Walden University. I would like to thank you for your willingness to participate in this doctoral project study that focuses on the current skills, needs, supports and resources available for special education teachers and related service providers that work for the Department of Defense Schools-Pacific District.

You are receiving the QIAT survey link and Culminating Response Links because you have met the criterion for this research study.

By clicking the links below, you will be able to open the online QIAT survey and the Culminating Response link.

To begin the QIAT survey click here:<https://www.surveymonkey.com/s/LZBZ67S>

To begin Culminating Question click here:<https://www.surveymonkey.com/s/CRLWR8R>

Sincerely,

Doctoral Candidate

Higher Education and Adult Learning-Walden University

Address 100 Washington Avenue South,Suite 900

Minneapolis, MN 55401

Appendix G: Survey Reminder

Department: Higher Education and Adult Learning (HEAL)

WaldenUniversity

Address 100 Washington Avenue South, Suite 900

Minneapolis, MN 55401

Dear Participant:

A recent a QIAT survey link and a Culminating Question link were sent to you via email. Please be assured that your participation is completely voluntary. This is just a reminder letter to help you understand how much your support and educational input will impact the military's education community, and why your insight will offer depth and richness to this study, while also helping the researcher to gain a better understanding of the SPED personnel's knowledge and needs within the framework of QIAT. The project study is being developed to provide a microscopic view of the needs, skills, knowledge, and resources available to special education teachers, administrative personnel and related service providers. Your valuable input is a vital aspect for the Needs Assessment data collection process.

As the researcher, it is my sincere hope that you will find the time to complete the online surveys. Please keep in mind, if you need to quit before you have finished it, you can simply close the web browser and use the attached links when you are ready to resume. These links will connect you to the last question you left off.

QIAT survey click here: <https://www.surveymonkey.com/s/LZBZ67S>

Culminating Question click here: <https://www.surveymonkey.com/s/CRLWR8R>

If you have already completed the above surveys online, please accept my sincerest gratitude and appreciation for participating in this project study.

Thank you,

Shaune McKinney-Doctoral Candidate

Walden University

Address 100 Washington Avenue South, Suite 900

Minneapolis, MN 55401

Appendix H: Request Usage of QIAT Self-Assessment Matrices

On Nov 19, 2012, at 6:54 PM, "McKinney, Shaune L Ms. CIV OSD/DoDEA-Pacific

"<Shaune.McKinney@pac.dodea.edu>wrote:

Good morning

My name is Shaune McKinney and I am a doctoral candidate at Walden University. I am working on section 2 of my dissertation: The Methodology Section and I think the QIAT

Self Evaluation Matrices will be ideal for my data collection. I have been reading your research on QIAT and I would like to get permission to use the QIAT Self Evaluation Matrices as a quantitative research data tool for my project study. I currently work in the field of special education as a Learning Impaired teacher and Hearing Impaired Specialist and I am seeking to identify the AT needs of our special education staff here in Okinawa, Japan. The self-assessment tool would identify the needs: strengths and weaknesses of our staff, and help guide the direction of my doctoral research project.

Can you give me written permission to use this assessment within my project study, I will give full credit to the finds of your research and study. If there are specific requirements for using this tool, please let me know and I will comply with all rules and regulations.

Thank you in advance for your support.

Shaune McKinney

Hearing Impaired Specialist-Okinawa

DSN: 634-9214; 634-1550(office)

090-8502-7395

Shaune.mckinney@pac.dodea.edu

Appendix I: Response to Instrumentation Request

From: joyzabala[joyzabala@comcast.net]
Sent: Tuesday, November 20, 2012 11:01 AM
To: McKinney, Shaune L Ms. CIVOSD/DoDEA-Pacific
Subject: Re: QIAT Self Evaluation Matrices

Dear Shaune.

You are most welcome to use the matrices. Please let me know if I can be of any help.

Best of luck with your research.

Joy

Joy Smiley Zabala, Ed.D., ATP

Director of Technical Assistance

CAST and the National Center on Accessible Instructional Materials

40 Harvard Mills Square, Suite 3

Wakefield, MA 01880

Mailing: 1 Red Oak Court

Lake Jackson, TX 77566

Appendix J: Participant Follow-up Letter

Participant Interviews

Walden University

Minneapolis, Minnesota

Dear Prospective Participant

I am a doctoral candidate at Walden University. I would like to thank you for your willingness to participate in this doctoral project study that focuses on the current skills, needs, supports and resources available for special education teachers and related service providers that work for the Department of Defense Schools.

You are receiving this follow-up letter because you have volunteered to participate in this research study. An additional methodology tool for data collection has been added to the study to gather a rich and more in-depth understanding of the AT needs of the XYZ school district.

By returning this letter via email to there searcher, you are confirming your continued interest in participating in this research study. Each participant who consents to this study will be interview by the researcher. The interviews will be audio-recorded for the sole purpose of ensuring accuracy and data transcription. The interviews will take approximately 20-25 minutes. The formal staff unstructured open-ended interview is the final methodology component to this project study.

Thank you again for your continued support.

Sincerely,

Shaune McKinney

Doctoral Candidate

Higher Education and Adult Learning-Walden University

Address 100 Washington Avenue South, Suite 900

Minneapolis, MN 55401

WATI Assistive Technology

Appendix K: Staff Interview Sample

Date:

Introduction

Verbal Consent

Gratitude and Appreciation for participation

Description of the study

Review the length and time for the interview

Ensure Confidentiality

Interview Questions:

1. Describe your lived experiences working with special needs students who required AT, placement, decision making service and/or devices.
2. Reflect on what your professional training or educational experience. What type of professional AT training or education have you received that prepared you to work with students who require AT support services?
3. What resources have you used within the XYZ school district to support students with AT needs and how did you obtain these resources?
4. If you have AT needs or supports for AT questions or guidance, where would you go to get those supports and who would you contact to obtain the supports you need to support the students AT needs?

5. Can you share your opinion or perspective of your role and responsibilities within AT and in what way would clearly understanding your roles and responsibilities within AT help you to work more effectively with your students?
6. What needs do you have or how would you rate yourself as it relates to the QIAT survey?
7. Express in detail what AT guidelines that are in place within the XYZ school district that you follow consistently to ensure that all your students are receiving the newest and the most effective support services available.
8. As an AT service provider and decision maker for students who have special needs, what do you think would help better prepare you to service students with diverse learning needs within AT?

How would you rate the Assistive Technology Professional Development Training?

5 4 3 2 1

Did the professional development training help you build up on knowledge, skills and resources to help you work with students who have AT needs?

5 4 3 2 1

Did the professional development training give you more confidence to support student with special needs?

5 4 3 2 1

The trainers effectively reviewed and facilitated equipment usage through the simulation training that I can use within the class daily.

5 4 3 2 1

Was the trainer able to apply the assistive technology devices and resources to a variety of student needs?

5 4 3 2 1

Collaboration with my peers was a useful PD tool that increased my AT knowledge.

5 4 3 2 1

I would like to have more professional development trainings about AT.

5 4 3 2 1

I have a clear understanding of my roles and responsibilities.

5 4 3 2 1

Which parts of the AT professional development training was most helpful to you? _____

How do you think the content could be improved?

Comments on the professional development training, simulation training, AT laws, resources or the trainer?

Demographic Profile Example

Please answer the following questions. Circle the appropriate answer.

Are you currently employed with the Department of Defense?

Yes/No

Do you currently work in the Pacific district of the Department of Defense?

Yes/No

Are you currently working with special needs students?

Yes/No

Additionally, please answer the following questions below. Circle the appropriate answer.

1. Have you worked with Department of Defense for longer than one academic school year? Yes/No

2. Have you attended or participated in an IEP meeting? Yes/No

3. Are you certified in a field that supports SPED students? Yes/No

4. Have you ever participated in a CSC meeting? Or are you a consistent CSC team member? Yes/No

This Demographic Profile was developed by the researcher for the sole purpose of this research project study.

Participant# _____

Meets _____

Does not Meet _____

Appendix M: Culminating Question and Summative Response Example

Now that you have completed the QIAT self-assessment, please take the time to answer the Culminating question openly and freely about your lived experiences within Assistive Technology. All responses will be used solely for the purpose of this study and will not be shared with anyone other than the researcher.

Culminating Question and Summative Response:

Describe your lived experiences working with special needs students on an IEP that required assistive technology equipment, placement, decision making, services, or devices. Explain how you provided consistent services, what resources have you used, how you obtained the support service or resources and what training/education you have received to prepare you to work with students with AT equipment needs. Share your opinion or perceptions of your roles and responsibilities within AT and what needs or supports you need to exhibit according to the QIAT self-assessment, and express in detail what AT guidelines are in place that you follow consistently to ensure that all students are receiving the newest and most effective support services available. Lastly, reflect on what AT support services or training that the XYZ school district has provided you to increase, enhance, or support your adult learning needs and what you feel that you need to know/learn as an AT service provider and decision maker that would make you more prepared to service students with diverse AT needs?

WATI Assistive Technology

Competency Self-Rating

Directions:

Use the following codes when completing competency:

N=Where I am now

F=Where I want to be in the future

Read each competency. After reading a competency, use the above codes (P,NorF) in the columns that best reflect your status for each time period. The columns are headed: U,Aw,K,Ap,and M.The meanings of these abbreviations are:

U=Unfamiliar. This is new to me.I know nothing about it. I've never heard of it. What is it?

Aw=Awareness. I have heard about it, but I don't know its full scope such a sits principles, components, applications, and modifications. I need information and training.

K=Knowledge. I know enough about this to write or talk about it. For example, I know what it is, but I'm not ready to use it in my program. I need training, practice and feedback.

Ap=Application. I am able to apply this. For example, I can design, modify and use it in my program. I may need information and guidance as I modify or apply this in new situations.

M=Mastery. I am ready to work with other people to help them learn this. For example, I feel confident enough to demonstrate this to others.

Select the 10 competencies that are most important to you personally. Indicate them by placing the numbers 1-10 in the last column. Put a "1" after the competency that is

most important to you, a “2” after the competency that is second most important to you, etc. Continue until you have indicated the 10 competencies that are most important to you.

Example:	U	Aw	K	Ap	M	Top10
<i>I am(I want to be) able to:</i>						
22. Identify important features of augmentative communication (AC) devices.						

<i>I am(I want to be) able to:</i>	U	Aw	K	Ap	M	Top 10
GENERAL:						
24. Define and describe a wide range of Assistive Technology.						
26. Define and describe the Assistive Technology (AT) services that are required under IDEA.						

28. Appropriately consider the need for AT for <u>all</u> students with disabilities, not just a select few.						
30. Complete an evaluation/assessment of a student (which is focused on the student, the environment and the task) to determine if they could benefit from the use of AT.						
32. Write IEP/IFSP goals/objectives as needed to describe the acquisition of AT skills.						
34. Arrange the environment for increased participation and communication for all students.						
36. Select materials that are more universally accessible for all students.						
38. Competently operate a computer/tablet/IOS device to meet the needs of my students.						
40. Access AT resources.						
GENERAL(continued):	U	Aw	K	Ap	M	Top 10

42. Determine for an individual student when the best intervention is to train a new skill, teach a compensatory skill, use AT or use a personal assistant.						
44. Determine appropriate use of AT as an accommodation or modification in order to participate in standardized testing , including district and state assessments.						
WRITING:	U	Aw	K	Ap	M	Top 10
Mechanics of Writing:						
46. Identify and use a progression of AT solutions from low-to high-tech for difficulties in the mechanics of writing.						
Computer Access:						
48. Determine an effective way for a student to operate/access a computer/tablet/IOS device						

50. Operate/utilize alternative access methods for computers/tablet/IOS device						
Composing Written Material:						
52. Identify and use a progression of AT solutions from low-to high-tech for composing written material.						
AUGMENTATIVE COMMUNICATION (AC) Speech generating device (SGD):	U	Aw	K	Ap	M	Top 10
54. Utilize informal assessment techniques (e.g, environmental inventory, interview, observation) to determine need for AC or SGD						
56. Identify important features of AC/SGD devices.						
58. Match student needs with features of AC/SGD devices.						
60. Construct/modify simple AC/SGD devices.						
62. Operate the following:						
-Simple ,low-cost devices						
-Devices with levels						

-Devices with sequencing						
-Devices with dynamic display						
-Devices based on spelling						
64.Set realistic goals for a trial period with an AC/SGD device.						
66.Select appropriate vocabulary to promote communication.						
68.Determine the best form of vocabulary representation (pictures, symbols, words).						
70.Organize vocabulary in a usable system.						
72.Determine functional mounting for AC/SGD device.						
74.When appropriate, interface the AC/SG device with a computer, environmental control unit, or printer.						
76.Train communication partners.						
Reading:						
1. Identify need for and use an array of low-tech solutions to assist with reading text.						

1. Create and use pictures with text to support reading.						
1. Use a variety of means to provide spoken text to accompany the printed words.						
Learning/Studying:						
1. Develop and use a variety of print and picture schedules.						
1. Select and use a variety of aids to locate, highlight and track information.						
Learning/Studying (continued):	U	Aw	K	Ap	M	Top 10
1. Use software/Apps to manipulate and organize information.						
Math:						
1. Identify and use a variety of math aids and low-tech AT.						
1. Select and use a variety of voice output aids for math operations, such as counting, measuring, timing and computation.						

1. Select and utilize software/APPS to provide cuing for appropriate assistance in math operations or computations.						
RECREATIONANDLEISURE:	U	Aw	K	Ap	M	Top 10
1. Adapt toys and games appropriately.						
1. Select and use adapted toys, games and recreational equipment.						
1. Select and utilize a variety of AT for access and interaction.						
1. Select and utilize software/APPS for a variety of recreational activities.						
ARTS:	U	Aw	K	Ap	M	Top 10
Art, Music, Dance, Photography:						
1. Identify need for and use low-to mid-tech AT fort hearts.						

1. Identify need for and use software/APPS for the arts.						
ACTIVITIESOFDAILYLIVING:	U	Aw	K	Ap	M	Top 10
1. Select and utilize a variety of low-tech aids to position and stabilize items.						
1. Select and utilize adaptive eating utensils and aids.						
1. Select and utilize adaptive devices for drinking.						
1. Select and utilize adaptive devices for dressing.						
1. Select and utilize adaptive devices for hygiene.						
1. Select and utilize adaptive bathing devices.						
1. Select and utilize adaptive cooking devices.						
Mobility:						
1. Determine when a student may benefit from assisted mobility.						
1. Select and utilize low-tech AT for mobility or stabilization.						

1. Design/implement a sequenced intervention to teach a student to operate/utilize an assisted mobility device.						
1. Obtain adapted equipment for operating a motor vehicle.						
ELECTRONIC AIDS FOR DAILY LIVING:	U	Aw	K	Ap	M	Top 10
1. Identify a student's need for greater control of their environment.						
1. Design opportunities to use electronic aids to daily living and select appropriate AT.						
ELECTRONIC AIDS FOR DAILY LIVING (continued):	U	Aw	K	Ap	M	Top 10
1. Operate/utilize electronic aids to daily living including:						
-Switches						
-Call buttons/devices						
-Hands-free telephone interfaces						

-Page turners						
-Infrared and other mid-tech electronic aids for daily living						
-Computer-based/hand held electronic aids for daily living						
-Identify and use APPS that support daily living activities						
SEATING/POSITIONING:	U	Aw	K	Ap	M	Top 10
1. Recognize the impact of seating/positioning on the student's attention, energy, and ability to access AT devices.						
1. Analyze appropriateness of the student's basic position.						
1. Utilize assisted positioning devices.						
1. Recognize when AC devices, computers, seating and mobility equipment need to be integrated.						

VISION TECHNOLOGY:	U	Aw	K	Ap	M	Top 10
1. Use low-tech vision aids to enlarge text.						
1. Operate/utilize the following for computer input:						
Text-to-speech ,screen reader						
-Screen enlarger/magnification						
Braille printer, Braille translation software, refreshable Braille						
1. Operate/utilize Braille keyboard and note takers.						
HEARING TECHNOLOGY:	U	Aw	K	Ap	M	Top 10
1. Identify when hearing amplification may be necessary for a student in an educational setting.						
1. Operate/utilize assistive technology for:						
-Telecommunications						
-Assisted learning						
-Alerting						

VOCATIONAL:	U	Aw	K	Ap	M	Top 10
1. Recognize need for and use AT for general vocational tasks.						
1. Create customized jigs or other AT for specific vocational tasks.						
TEAM FUNCTIONING:	U	Aw	K	Ap	M	Top 10
1. Understand the roles of individual team members in the evaluation for and implementation of AT.						
1. Utilize an effective team decision-making process to keep our team operating collaboratively and smoothly.						
(continued next page)						

FUNDING:	U	Aw	K	Ap	M	Top 10
1. Utilize appropriate AT funding sources for an individual.						
1. Write/compile necessary documentation to support funding from third party payers.						
AT SERVICES:	U	Aw	K	Ap	M	Top 10
1. Plan and implement improved AT services in my school district.						
1. Train others (parents, support staff, etc.) to operate/utilize specific AT devices.						
1. Train others to adapt curriculum/plan AT use.						
1. Adapt, fit, customize, repair AT devices.						
1. Coordinate with other agencies, such as vocational, medical, birth to3, community and other service providers.						

1. Work with the transition team to plan for effective transition of assistive technology to new settings.						
--	--	--	--	--	--	--

Quality Indicators in Assistive Technology

After reviewing the Quality Indicators for each area, record the self-rating numbers on this self-rating summary sheet. Enter variation numbers to the right of the appropriate indicator. All sections should be completed.

Rater'sName _____ District School: _____ Date:

AREA: Consideration of AT Needs	
INDICATOR	Self-Rating#
1. Assistive technology devices and services are <u>considered for all students with disabilities</u> regardless of type or severity of disability.	
2. During the development of the individualized educational program, every IEP team consistently uses a <u>collaborative decision-</u>	

<p>3. IEP team members have the <u>collective knowledge and skills</u> needed to make informed assistive technology decisions and seek assistance when needed.</p>	
<p>4. Decisions regarding the need for assistive technology devices and services <u>are based on the student's IEP goals and objectives, a curricular and access to extra curricular activities, and progress in the general education curriculum.</u></p>	
<p>5. The IEP team <u>gathers and analyzes data</u> about the student, customary environments, educational goals, and tasks when considering a student's need for assistive technology devices and services.</p>	
<p>6. When assistive technology is needed, the IEP team <u>explores arrange of</u> assistive technology devices ,services, and other supports that address identified needs.</p>	

<p>7. The assistive technology consideration process and <u>results are documented in the IEP</u> and include a rationale for the decision and supporting evidence.</p>	
---	--

AREA: Assessment of AT Needs	
INDICATOR	Self-Rating#
<p>1.<u>Procedures</u> for all aspects of assistive technology assessment are clearly defined and consistently applied.</p>	
<p>2.Assistive technology assessments are conducted by a <u>team with the collective knowledge and skills needed</u> to determine possible assistive technology solutions that address the needs and abilities of the student, demands of the customary environments ,educational goals, and related activities.</p>	

<p>3.All assistive technology assessments include a functional assessment in the student’s <u>customary environments</u>, such as the classroom, lunchroom, playground, home community setting or work place.</p>	
<p>4.Assistive technology assessments, including needed trials, are completed within <u>reasonable timelines</u>.</p>	
<p>5.Recommendations from assistive technology assessments are <u>based on data</u> about the student, environments and tasks.</p>	
<p>6.The assessment provides the IEP team with clearly <u>documented recommendations</u> that guide decisions about the selection, acquisition, and use of assistive technology devices and services.</p>	
<p>7.Assistive technology needs are <u>reassessed</u> anytime changes in the student, the environments and/or the tasks result in the student’s needs not being met with current devices and/or services.</p>	

AREA: Evaluation of Effectiveness	
INDICATOR	Self-Rating#
1. Team members share <u>clearly defined responsibilities</u> to ensure that data are collected, evaluated, and interpreted by capable and credible team members.	
2. Data are collected on <u>specific student behaviors</u> that have been identified by the team and are <u>related to one or more goal</u> .	
3. Evaluation of effectiveness includes the <u>quantitative and qualitative</u> measurement of changes in the student's performance and achievement.	
4. Effectiveness is evaluated <u>across environments</u> during naturally occurring and structured activities.	
5. Data are collected to provide teams with a means for <u>analyzing student achievement and identifying supports and barriers</u> that influence assistive technology use to determine what changes, if any, are needed.	

<p>6. <u>Changes are made</u> in the student's assistive technology services and educational program when evaluation data indicate that such changes are needed to improve student achievement.</p>	
<p>7. Evaluation of effectiveness is a dynamic, responsive, <u>ongoing process</u> that is reviewed periodically.</p>	
<p>AREA: Assistive Technology Transition</p>	
<p>INDICATOR</p>	
<p>1. <u>Transition plans address assistive technology needs</u> of the student, including roles and training needs of team members, subsequent steps in assistive technology use, and follow-up after transition takes place.</p>	
<p>2. <u>Transition planning empowers the student</u> using assistive technology to participate in the transition planning at a level appropriate to age and ability.</p>	
<p>3. <u>Advocacy related to assistive technology use is recognized</u> as critical and planned for by the teams involved in transition.</p>	
<p>4. <u>AT requirements in the receiving environment</u> are identified during the transition planning process.</p>	

5. Transition planning for students using assistive technology proceeds according to an <u>individualized timeline</u> .	
6. Transition plans address specific <u>equipment, training and funding</u> issues such as transfer or acquisition of assistive technology, manuals and support documents.	

©The QIAT Consortium (Updated, 2007). For additional information visit the QIAT website at <http://www.qiat.org>.

AREA: Administrative Support	
INDICATOR	Self-Rating#
1. The education agency has <u>written procedural guidelines</u> that ensure equitable access to assistive technology devices and services for students with disabilities, if required for a free, appropriate, public education (FAPE).	
2. The education agency <u>broadly disseminates</u> clearly defined procedures for accessing and providing assistive technology services and supports the implementation of those guidelines.	
3. The education agency includes appropriate assistive technology responsibilities in <u>written descriptions of job requirements</u> for each position in which activities impact assistive technology services.	

<p>4. The education agency employs <u>personnel with the competencies</u> needed support quality assistive technology services within their primary area of responsibility at all levels of the organization.</p>	
<p>5. The education agency includes <u>assistive technology in the technology planning and budgeting process.</u></p>	
<p>6. The education agency provides access to <u>on-going learning opportunities about assistive technology</u> for staff, family, and students.</p>	
<p>7. The education agency uses a <u>systematic process to evaluate</u> all components of the agency-wide assistive technology program.</p>	

AREA: Professional Development and Training for AT	
INDICATOR	Self-Rating#
1. Comprehensive assistive technology professional development and training <u>support the understanding that assistive technology devices and services enable students to accomplish IEP goals and objectives and make progress in the general curriculum.</u>	
2. The education agency has an AT professional development and training <u>plan that identifies the audiences, the purposes, the activities, the expected results, evaluation measures and funding</u> for assistive technology professional development and training.	
3. The content of comprehensive AT professional development and training <u>addresses all aspects of the selection, acquisition and use</u> of assistive technology.	
4. AT professional development and training address and are <u>aligned with other local, state and national professional development initiatives.</u>	

<p>5. Assistive technology professional development and training include <u>ongoing learning opportunities that utilize local ,regional, and/or national resources.</u></p>	
<p>6. Professional Development and Training in assistive technology follow <u>research-based models for adult learning</u> that include multiple forms and are delivered at multiple skill levels.</p>	
<p>7. The effectiveness of assistive technology professional development and training is <u>evaluated by measuring changes in practice that result in improved student performance.</u></p>	