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Integrating Technology as a Student Tool for Written Language:

Middle School Teacher Views

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Abstract

As a precursor to a district's adoption of a new Universal Design for Learning (UDL) software program, Read&Write GOLD, this study investigates teacher perspectives on integration of technology used as a student tool for writing. Coding of semi-structured interviews were used to identify how Language Arts teachers were influenced to accept and encourage the use of technology as a legitimate tool for students with poor handwriting, unconventional spelling, difficulties with revision, etc. The teachers described strategies, such as using grammar and spell check, Internet for research, and keyboarding for classroom technology integration. One experienced teacher transformed from skepticism, fearing that technology would write for students, to realizing that technology is a tool that can help students write more effectively.

Design of Study

Maxwell (2005, p. 3) describes his model of qualitative research with five interactive components: goals, conceptual framework, research questions, methods, and validity as having, “a definite structure” that is both “interconnected and flexible.” Rather than static or linear, Maxwell suggests that the components constantly evolve through the qualitative process. This paper addresses the five components in relation to this study, and ends with a critique of this process.

Problem Statement

Informally, through years of teaching and co-teaching experience, I have found that it is crucial for teachers to believe that the use of technology is honorable and important for all students, especially those with identified special needs. I know teachers who believe that technology gives a student undo advantage or that it is only a crutch. Student use of technology with those teachers is inhibited. I have witnessed the powerful results when teachers understand the possibilities that assistive technology can bring to struggling readers and writers and I have observed reluctant students transformed. Teachers can become powerful advocates filling the classroom with encouragement and support. Writing sessions with technology become longer and more frequent. With more practice resulting in better products, positive attitudes become contagious and students realize their thoughts can be shared with others, often resulting in greater effort during practice sessions. Writing success and increased self-confidence foster the belief, “I am an author,” which gains momentum and truth.

I have seen technology that was requested by teachers sitting on shelves and in file cabinets of classrooms. Teachers caught up in paperwork and concerns with preparation for statewide assessments may be too overwhelmed to find time for students to use technology. There is little research available addressing the differences between teachers who use technology seamlessly and

teachers who have technology tucked away where it is useless to students who could benefit from using it in their academic pursuits?

Purpose of study.

The purpose of this study was to legitimize the use of assistive technology with students in my district. I sought to identify advantages of using technology with students that some teachers have discovered, and then described those advantages and the strategies the teachers found effective. Teachers armed with helpful strategies and testimonies of positive experiences of skilled colleagues, may be more likely to approach technology integration in a more positive and systematic way resulting in a greater number of students having access to tools that can help them demonstrate their skills as opposed to confirming their disabilities.

Our district has purchased a Universal Design for Learning (UDL) software program with features that can assist students with spelling, homophone usage, understanding word meanings, and revising written assignments through audio feedback. This software will be available during the writing process for any middle school student who has an Individual Education Program (IEP) and who has difficulties with such writing components as handwriting, spelling, word usage, grammar, and revising. If students are not allowed and encouraged to use this software program, they will continue to struggle with writing skills. Teachers who have negative perceptions of allowing students to use such software will be less likely to encourage students to use technology.

Research Questions

The following research questions were developed.

1. What persuaded language arts teachers to accept and encourage the use of technology as a legitimate tool for students with writing difficulties?

2. What strategies have been used to integrate technology as a student writing tool?

Conceptual Framework

Writing is a complex skill that is vital in many areas of a person's life. Often students with learning disabilities are plagued with tremendous writing difficulties (Newcomer & Barenbaum, 1991). The struggle to focus on fine motor skills of handwriting, illusive spelling, and confusing mechanics, often impedes higher level thinking processes (McCutchen, 1995). When the pressure of handwriting and spelling are reduced through the use of word processing, students can concentrate on those higher level thinking skills. The Technology for Learning Disabilities Project (Lewis, 2007) was a two year study with pretest – post test design that assessed writing skills of students with learning disabilities with respect to using accepted writing conventions and organization components. During both years, using technology as a tool in the writing process, students were able to reduce errors in writing conventions such as spelling, capitalization, punctuation, and sentence completion. They also increased components of organization such as keeping sentences on topic, and using details for support, as demonstrated in the post-test writing prompt. The teacher survey from the project also reported a tremendous improvement in student attitude toward writing (Lewis).

MacArthur (1996) states, “Existing research on word processing makes it clear that simply providing technology to teachers and students will not result in improvements in students’ writing.” In an article in 2000, MacArthur pointed out that, although a variety of studies indicated the positive benefits of long term training and use of word processors with special software, there is limited research on the use of assistive technology for student writing. As studies of the effects of assistive technology used by students with special needs are gathered, other questions emerge. Why do some studies show that technology makes a positive difference in writing for students with Learning Disabilities (e.g., Lewis, 2007; Zhang, 2000), while others do not (e.g., MacArthur & Graham, 1987)?

Could one possible reason for the difference be teachers' comfort level with technology? Lewis (2007) found teacher perspective of comfort level and use of the technology increased as a result of the different trainings, support, and encouragement to use software and hardware provided. She stated that, "Staff believed that if teachers deemed the hardware and software provided by the project valuable they would be more likely to use them in the classroom" (Lewis, p. 27). Through teacher and student surveys Li (2007) found that teachers may use technology with "strong students" but are less likely to see benefits of allowing students with weaknesses to use technology. "The students cry out loud for the more frequent use of technology and the adoption of more current technology in schools. ... Their teachers, on the other hand, are far less enthusiastic." (Li, 2007, p. 391). Could teacher perception also affect the integration of technology as a student tool?

Researcher Identity

As one who spent many years embarrassed by poor handwriting and dismal spelling ability, I found technology to be an essential tool. Spell check, copy and paste, delete, and insert, were all features that removed writing frustrations. Vivid memories of my students' struggles and successes continue to fuel a desire to provide tools that can facilitate academics for students. In resource classrooms I have witnessed delight as students became proud authors of poetry published in the halls and PowerPoints presented to audiences! Students with labels of Orthopedic Impairment, Learning Disabled, and Mentally Retarded became guest speakers at a university, and confidently shared tales of positive writing experiences with teachers. These experiences and more have reinforced the importance of providing students with the technology that will unleash their thoughts and talents.

As the Assistive Technology Coordinator for a local school district, my goal is to provide technology to students who need it. Without encouragement and tools, a student with unconventional

spelling and poor handwriting or other needs, may become too stressed and discouraged to share ideas through writing. Without teacher understanding and support, the technology remains unused.

After reading Schram (2006) I see myself as bending towards an interpretive perspective, basically satisfied with things, yet seek ways to making ways to make improvements. I do recognize shortcomings in the area of Special Education. I borrow a critical eye in an effort to change attitudes with respect to assistive technology.

Methods

Weiss (1994, p. 9) said, "Research aims should dictate research method." He proceeded to enumerate rationale for using qualitative methods. The description that best fit my study was "Identifying variables and framing hypotheses for quantitative research." (p. 10 & 11). I conducted semi-structured interviews to find out how teachers use technology with students. I will determine necessary ingredients in successful implementation of technology with students. A quantitative study using these findings will follow.

Procedure

Applications were submitted to George Mason's Human Subjects Research Board (HSRB) and to the Monitoring and Evaluation Department of the local school district. After minimal changes to the consent form, a representative from the university sent approval pending the school district approval. After ten weeks an official from the local district detailed changes required for approval. Because of the constraints of completing the study by early December, the study was redesigned as a class project. The research questions were adjusted to focus on general word processing technology. The interview recordings and confidential materials will be either destroyed or returned to the respondents upon completion of the class.

Participants

Participants for this study were three language arts teachers who use technology in their classrooms. Language arts teachers were selected because they will be the primary teachers using the new software program that is being introduced in the school district. Identifying and addressing teachers' reservations, challenges, ideas, strategy suggestions, and attitudes may facilitate adoption and enhance the effective use of the assistive technology. The participants and individuals named in this study are identified using pseudonyms to retain confidentiality.

Maxwell (2005) writes about four goals for selecting participants. Because this was a limited study, I focused on the first and third goals. The first goal was to interview a representative case who would be typical. ZoAnn was chosen as a representative of many language arts teachers who use technology with students fairly regularly. She teaches in a neighboring district and could help with clarification and legitimization of questions and intent of the study (Weiss, 1994). Weiss mentions the advisability of beginning with people who are available, willing, and easy to interview. As he puts it, "Have your early interviews with people who are of marginal importance to the study so that if you make mistakes it won't matter so much (p. 20-21)." Because this project had to be completed in one semester, it was also important to find participants who could be easily accessed. I was afraid that using such a convenient sample might minimize the findings. Weiss writes about convenience sampling as accepting "pretty much whomever we can get" (p. 24). He suggests that although it may not be conducive for generalization but sometimes it is a good way to start. ZoAnn was chosen to test pilot the questions because she was to be my first interview and was considered marginal only in that she would not be included in the district study. As a marginal respondent, I could learn more about the effectiveness of questions without jeopardizing the actual study (Weiss). She arrived at the interview site with her husband who is also a high school teacher. As Weiss suggested, I interviewed both teachers who were present. ZoAnn has taught language arts at the High School level for sixteen years, including classes in the International Baccalaureate Program. Her husband, Paul, also a teacher

for sixteen years, taught first and second grades for several years. He currently teaches practical arts in grades nine through twelve. Paul represented teachers at the other end of the spectrum of representative teachers, those who don't use much technology beyond a few projects every year.

Maxwell's (2005, p. 90) third goal of participant selection was to interview cases that "... illuminate what is going on in a way that representative cases cannot." Jane is a prime example of a talented teacher with a great deal of experience who, within the last five years, dramatically changed her thoughts of using technology with students. Jane was interviewed as a local expert or "key informant" (Weiss, 1994, p. 20). A language arts teacher for 22 years, Jane has been acknowledged as a highly skilled teacher by her school district and through the years has mentored many other middle school language arts teachers. She has also observed other teachers and modeled teaching strategies in both of the middle schools in the district.

The fourth teacher, who teaches in the middle school, was to have been a second representative case. She has had experience with using technology with several students in the past several years. Unfortunately, after many attempts, she was unable to meet for an interview.

Negotiation of relationships.

The local gatekeeper (Maxwell, 2005; Weiss, 1994), the district's head of Monitoring and Evaluation Department, was a formidable stumbling block. Knowing that this person has the power to accept or reject the application for study, I worked through his secretary seeking advice and inquiring about the status of the application. I told her that I did not want to negatively impact the decision. I continued to be patient yet persistent in hopes that permission to complete the study would be forthcoming. This patience was rewarded with a meeting to discuss possible acceptance of the application after required changes were made. Key District leaders also acted as gatekeepers for this

study in that they determined the introduction of this software was limited to a few teachers and students in Special Education, even though this software was licensed for any PC computer in either of the two middle schools in the district. District administrators refused to allow a more generalized spread of information and introduction of the software, which resulted in limiting the number of participants available for the study.

Data Sources

Initially, I planned to distribute a survey with open ended questions to the targeted teachers with a final question requesting volunteers to participate in the interview. Because the application for research was not granted in time, the project scope was reduced to conducting interviews only.

For the pilot part of the project (Maxwell, 2005), I chose a language arts teacher from a neighboring district to test the questions. I have known this teacher for 8 years. Through our many interactions and discussions about education, I felt that she was representative of many teachers. Because my interview skills are emerging, interviewing someone I know would help me develop those skills. I felt confident the teacher would not only have valuable insights but she would also be honest and give constructive feedback to help improve my techniques. Weiss (1994) recommended alertness to the progress of the partnership. Thus I was able to learn from her body language that an interview problem was emerging. With renewed attendance to the respondent's cues and confirming comments, I realized that the interview was too long and used her feedback to adjust the Interview Guide for subsequent interviews.

Because this project focused on the integration of new software in district where I have been employed for over 10 years and for the last three years as a member of the central office staff, I have interacted with personnel from 17 different buildings, and know a great many of the teachers. Jane,

the local expert, was chosen because of her access to inside information and demonstrated expertise (Weiss, 1994) in language arts, and because of her recent interest in ensuring that technology was available as a student tool for writing. In spite of the fact that we have known each other for over five years and there was a fear that she would be just a convenient participant, thus minimizing possibility of generalization, (Weiss), but her expertise was crucial. Although we have worked together, our relationship remains on a professional level with the key being students we have in common.

Data Collection

Two interview guides were used and are included as Appendixes A and B. The first guide was used in the pilot interview. The second was a revision and was used with the final interview. Both guides were developed with two columns: The left column had the topics and questions printed, and the right, larger column was used for field notes. The questions were developed with guidance from Weiss (1994) as a standard guide and although the intent was to create a semi-structured guide. The guide was fairly detailed with questions designed to encourage more qualitatively oriented open responses. The first interview guide included 27 content questions and several questions about the interview experience. Of those on the guide, only thirteen of the content questions were covered. The second guide focused more on technology in general rather than assistive technology and had fifteen content questions which were all covered in the final interview.

The first two respondents requested the meeting be at a local restaurant. Although a preferred setting would be private and quiet (Glesne, 2006), in order to adjust to their schedule, we met for brunch at a local diner. After the informed consent forms were presented, explained, and signed, a request to use the digital recorder was granted. The recorder was set in the middle of the table and the interview began. The setting was a bit noisy and but the interview progressed. The third respondent

was met in her office. The informed consent forms were presented, explained, and signed and the request to use the digital recorder was granted. Each interview lasted between 45 min to an hour.

Analysis

Weiss (1994) described four approaches to consider when analyzing data for a qualitative study: issue focused, case focused, concrete level, or generalized level. The decision of which approach to use depends on the study, the audience and the investigator. A combination of generalized issue-focused and concrete analysis fit this study. I wanted a description of a scenario that would help teachers validate the use of technology, visualize the benefits, and provide strategies for success. The processes Weiss attributed to this type of study are “coding, sorting, local integration, and inclusive integration.”

Shortly after each interview, the field notes were typed and the digital recordings were downloaded on a computer. Using a laptop equipped with a mouse and headset each recording was transcribed. A combination of keystrokes and Microsoft Word dictation were used in conjunction with the slow speed playback setting. After listening to the recordings, typing them, and rereading them for content, I made changes for the next interview. Questions were reduced from 31 to 19, eliminating those eliciting redundant explanations and combining those that fit together (see Appendixes A & B). Experiences, strategies and materials, and problems were highlighted using Read&Write GOLD’s study features for the initial coding and notes were extracted for each participant. The transcriptions and notes were then studied for common elements. The codes were collected, compared and analyzed. As Weiss (1994) mentioned, this was not a linear process. While coding, sorting, and analyzing other ideas emerged and the process began again. Considering the data I went back to the research questions and adjusted them until they reflected the data collected.

Results

Changing Teacher Perceptions

What persuaded language arts teachers to encourage the use of technology as a legitimate tool for students with writing difficulties? The answer to this question developed after the interview was concluded. As Jane began speaking about a past experience and how it changed her thinking, I recognized the importance of her words and she agreed that I could restart the recorder. While analyzing the data I realized that this comment held the information I had been seeking.

Jane mentioned, When I started, there were no computer labs so everything was done by hand. Then, years ago, a student came into my class. He had an extreme disability. When he talked you knew he was forming thoughts and making sense.... so the assistive technology [team] brought some software into the classroom. At the time, as a teacher, I was thinking, "No I don't want a program that's going to write for him!" I was truly concerned about getting authentic grading for him. I began to realize, it was only a tool that helped him get all of those ideas in his head on paper. It couldn't write the paper for him. He had to facilitate the tool. Our problem as teachers is, because we don't know the programs and we make assumptions that these programs do the work. The fact is, it is a tool. It can only do what he'd given it to do. It can't go beyond that.

Why should a teacher allow students to use technology for writing? One of Jane's points was, "We can deny it but there is a subjective nature to grading. What the computer did was level the playing field. . . . Everybody's paper looks the same. It doesn't mean the quality is the same or the content is same but it [computers] leveled the playing field especially for special ed kids."

Effective Strategies

What strategies have been used to integrate technology as a student writing tool? The participants had several responses. ZoAnn spoke about some of the ways she uses technology.

As a high school teacher when I think of computer technology I think of the writing process, it is generally word processing. Students can use certain aids within the software program, and the spelling and the grammar checks are certainly helpful to students at the high school level. Beyond that in terms of computer technology it is the Internet and that comes into play with research type of assignments. Students love to gather information. The Smart board is wonderful to share sites with students, show examples, for teacher created activities, interactive games, mini lessons, and review.

Paul uses the computer to show technical videos, create resumes, and complete online job application forms. Jane urged, “Keyboarding should be one of the mandatory semester classes. . . . Some kids are afraid of the computer at first; a lot of it’s their own inability to function at a keyboard”.

Future Ramifications

Having such a small field of respondents gives only a glimmer of the effects surrounding the integration of technology as a tool for students with special needs. Concentrating on middle school teachers may also give more pertinent information. There are others who could add significant data, such as student users, students who avoid technology for writing, parents, administrators, assistants, all might have a piece of the puzzle that would add to understanding the ramifications of using technology with students who have difficulties with writing.

Critique

Quality of Study

In the pilot interview, ZoAnn mentioned that students at the high school level have a greater degree of established skills and habits, which confirmed the appropriateness of the plan to target middle school teachers who are addressing students still in their formative years of writing. Students in middle school were past the basic skills yet their habits are not fully formed.

Maxwell (2005) asks us to consider how our study might be in error. I have sent each respondent their part of the transcript that was included in this paper and requested verification. ZoAnn returned her transcript with preferred corrections. Out of 240 words she adjusted four phrases which corrected oral grammar and made it more palatable for formal writing but the meaning remained the same. The changes were made. Paul did not respond even after two contact attempts. Because his material was brief and ZoAnn checked it, I did use the material. Jane responded,

Wow!!! I have really transformed as a learner of technology!!! Your capture of my statements is very accurate and I want to thank [the Assistive Technology Team] for making me stick to it and not giving up on my ability to transform for the sake of the kids. I hope that I give a little of that back to the teachers.

Design of Study

Why do qualitative research? To avoid statistics was my initial thought. To complete a mandatory course was the second consideration. Is qualitative inquiry the best way to discover the information I seek? Both Glesne (2006) and Maxwell (2005) mention action research which is of great interest to me. Action research is a way “to improve practice” (Glesne p.17). Yet it requires collaboration and more cycles than can be done in a semester.

One reason Weiss (1994) mentions that novice researchers are steered away from qualitative design is that many consider it to be less scientific and rigorous. In a time when the federal

government insists on scientifically researched methods and materials in education, qualitative research is often not accepted as valid. Weiss defends the value of qualitative inquiry.

Much of the important work in the social sciences, work that has contributed in fundamental ways to our understanding of our society and ourselves, has been based on qualitative interview studies. Qualitative interview studies have provided descriptions of phenomenon that could have been learned about in no other way (p. 12).

Weiss writes about qualitative research as not only being valid for some questions, but as the only way to contribute to the knowledge of certain questions. It can add valuable understanding to the findings of other types of research. It is critical to determine whether or not the study being undertaken truly fits qualitative inquiry or if it can best be understood using another design.

Problem Statement

While working on this study it became apparent that I have drawn many conclusions over 20 years teaching but have not found the literature to support those theories. I realized how vital it is to find what experts have found regarding the effects of increased success during writing activities, more practice sessions, and current teacher reasons for use or non use of technology, etc.

Purpose of Study

I had difficulty recognizing my goals when reflecting on the researcher goals that Maxwell (2005) identified as being best addressed by qualitative research methods. Was I looking for the process of technology integration and the components necessary for success? Perhaps that was why my study may not have fit the qualitative criteria. Was I looking for “*causal explanations*” as to why some technology integration has been more effective? Maxwell (2005) described nuances of action

research as “Improving existing practice”. Advantages of qualitative design began to emerge at the end of this study.

As I struggled with all the information gathered, the ultimate purpose of this project finally became clarified. We were to learn how to do a qualitative study, and not complete a thorough study. Weiss (1994, p. 15) describes the “*substantive frame* of the study” as being the topics to be explored. Unfortunately I did not clarify my aims before interviewing. The information gathered therefore was more in depth than I could cover in this brief study. Weiss tells about the compromise between “clarity of focus and inclusiveness” (p. 16). I realized that some of the information must be saved for future investigation. Therefore I limited my research questions to the two most important. Clearly one semester was not enough time for the breadth that a qualitative study is designed to cover.

Research Questions

Developing research questions for qualitative inquiry was very difficult. There were many versions of the questions before I settled on the final two. Glesne (2006 p. 29) says that, “A research project is an effort to remedy the ignorance that exists about something.” My underlying purpose was to confirm conclusions I had made from past experiences while using technology with students and to convince special education language arts teachers to consider the findings and use technology with their students.

Conceptual Framework

I remain confused about conceptual frameworks (Maxwell, 2005). Maxwell describes it as both a theory and a literature review. I started with a theory of how I thought technology integration worked in schools. I created a visual display that illustrated my concept of the interrelationships of administration, teachers, and students. After the interviews, I was not sure how the visual fit in my

project. With the flexibility of qualitative inquiry, as Weiss (1994) describes the cyclical development and rejection of “minitheories,” the visual still fit my idea of technology integration but, may be better suited to a future intervention study. It was no longer aligned with my new research questions. The literature cited did not necessarily fit my visual display.

Researcher Identity

I am very involved with the area of study which gives me a good working knowledge of it. Sometimes it is difficult to realize that, to “know” from experience is not enough, to recognize what requires support, and to know where to find the foundation in the current body of knowledge. Without support from the literature ideas remain conjecture. Sometimes when one is too close to a subject is difficult to find anything but what you expect. It is important to remain open to the data collected.

Methods

Procedure

Maxwell (2005 p. 85) wrote of the importance reflecting on all “decisions (conscious or unconscious.) I had previously been oblivious to many of the decisions that are part of the research process. It was only with the guidance of the authors and professor that so many previously hidden decisions were illuminated so that more thorough reflection was possible.

Weiss (1994, p. 205) writes of the value of having a writing buddy. This was indispensable advice providing feedback and a real audience during the writing process. Getting comments from several people helped with the technical aspects as well as revising some of the awkward phrasing. It provided invaluable, fresh perspective throughout the writing process, especially towards the end.

Participants

The respondents I chose were two comparison cases (Weiss, 1994) that were at opposite ends of the representative range. One teacher was fairly representative of targeted teachers who were amenable to using technology and viewed it as valuable. The second teacher represented those teachers who use technology mainly as less often, thus maximizing the range of teachers (Weiss). The third teacher was a key informant (Weiss). Because I have been engaged in the setting I have a background that facilitates understanding the respondents and their situations. Having taught Language Arts, I am familiar with the challenges, and language of the classroom.

Negotiation of Relationships

Maxwell's (2005 p. 82) description of "'gatekeepers,' who can facilitate or interfere with your study" came to life for me during this study. Two years ago, I had a power struggle with our district head of Monitoring and Evaluation and lost. Perhaps that mistake influenced the lengthy delay of consideration for permission to conduct research. I have realized the importance of careful long term planning, patience, and delicate persistence in research. I have learned the hard way, as Maxwell notes, these relationship negotiations are complex and continuing.

Although I am still awaiting local approval to conduct this study, this experience was very valuable! I now know that it takes a great deal of time, patience, and tact to deal with the gatekeepers mentioned by Glesne (2006) and Weiss (1994). Irritation and trying to pull strings can only make matters worse. The repercussions of injudicious interactions do not easily fade. Fortunately, I am learning before I need approval for my dissertation study. I will avoid rushing with a personal or external deadline. Although I would have preferred some communication about the reason for the delay, I realize that was not really ready at that point for the qualitative portion of this study. Another benefit is, without district approval this project is restricted to gathering information that may help me understand the situation better and I feel a degree of freedom knowing that I do not have to report this

information to the district. If the report were to be published I would have to carefully consider all the information and how it might affect people in my district. Not to say that information would be manipulated for a favorable report, but greater tact would be required.

Data Collection

After reading Weiss (1994) and Maxwell (2005) I considered holding a pilot interview. An important lesson was that 27 items are too many for a one hour interview. Participant body language confirmed that it was far too lengthy. In fact, it was obvious after asking less than half of the questions that I needed to get to the point, conclude the main part of the interview and ask for feedback. The experience reinforced the advisability of Creswell's (2005) suggestion to include a limited number of questions. Weiss' included an interview guide with five topics and twelve subtopics that was designed for a two hour interview and mentioned the necessity to consider whether the information needed should be narrowed or a subsequent interview requested. Weiss (p. 21) wrote about knowing when to stop and suggested stopping when information became "redundant or peripheral." Unfortunately time constraints dictated the end to this study and I am sure that valuable data is available for future investigation.

During the pilot interview, I was able to recognize some awkward parts in the introduction and when I tried to follow the guide even when the material had been covered. As Weiss (1994 p. 119) mentioned there were times when I heard the phrasings and errors that made me "wince when [I] listened to the tape later," yet because I felt comfortable with the participant I was able to continue in a productive partnership rather than dwell on the errors. Although I read Weiss' suggestions to use interview questions that keep respondents focused on precise details of a certain incident, after listening to the recordings I realized that I did not follow through. Sticking to a specific incident may have resulted in more details which would have helped readers visualize it more completely. I will

remember that when I follow up with the sequel of this project after getting full permission from the school district to research. I did remember to seek clarification several times which helped to clarify several comments.

ZoAnn and Paul suggested that participants should see the questions ahead of time so that they would be able to give more thoughtful responses. After trying this for the last interview, a concern was mentioned. Two of the three respondents seemed to anticipate questions and answer them before being asked even though only the third one had seen the questions previously. Perhaps it would be better to give a brief topic description rather than the exact questions. When the questions are developed for an expert case, it would be better to tailor the interview guide as Weiss (1994) suggests. Then the information would be more precise. Even though I had changed the questions to technology rather than assistive technology, because the respondent knows my position, many responses were about assistive technology.

I tried very hard to create interview questions that would elicit detailed responses as suggested by Weiss (1994). Although Jane complemented the questions, they could have been more broad. The attempt was to have a semi structured interview to allow for both flexibility and yet compare data across subjects as described in Maxwell (2005). My more quantitative training and recent experience in the federal and local demands for measurable outcomes in Special Education were too strong to overcome. Only in reviewing the questions a fourth time, did I realize that although I adapted the second Interview Guide by eliminating questions. I had thought and written that my focus was adjusted to the last respondent, yet after careful review, I realized that the questions that were retained were essentially unchanged. In the future I would be more careful to use information gathered to adjust the succeeding guides. In all honesty, I'm not sure that I can effectively use the information gathered to adjust and analyze in a qualitative way.

Due to reflections of the first, for the second interview I spoke less, listened more and avoided anticipating responses, as Weiss (1994) suggested. Jane mentioned in the interview feedback that she appreciated the active listening.

Analysis

I used a great variety of types of memos to find what style would work best for me – writing in margins of the books, e-mailed memos, voice mail, recorded messages, small pieces of paper, and standard paper. I found many different types were hard to organize and combine. It was hard to collect the recordings and voice mail messages and to remember to include them. The best memo system was using a variety of index cards and card strips. Author and page number were at the top of the card along with a key word. Information on each card was limited to a topic which made them easy to sort and organize. When the information was used it was easy to check it.

Before the study began, I read the required readings using highlighters and tags to help me find information to relate to this project. It was very difficult to find any of the information at the time it was needed. I then decided to try using a variety of note cards with a pen and highlighters to help find pertinent information more easily. I found that note cards worked well for both for text notes and memos. It worked well to spread them out on a large table for easy reference to connect with the appropriate places.

Weiss (1994) mentioned that interviewers may or may not want to record interviews and may or may not want to transcribe. Although I recorded all interviews, I only transcribed the major interview. I did not transcribe all the uhmms spacers and repetition. Glesne (2006) concurred that verbatim transcriptions were not absolutely necessary. Both Glesne and Weiss included a great variety of suggestions for dealing with interviews and transcriptions. I was relieved when reviewing

Weiss to find the descriptions, advantages, and disadvantages concerning the debate to edit or preserve the exact utterances of the respondent. I agree with Weiss that non-standardized speech distracts from the content and would perhaps be disregarded by the projected audiences. Because this report is about helping students develop skills in formal written language, and because I am fully aware of the tremendous difference in informal oral speech and formal written language that is characterized by much thought, editing, and revision, it would not be fair in a formal paper to include all of the extemporaneous comments exactly as they were spoken. Therefore I chose to drop the spacers and redundancies. I did not add words except when indicated by brackets. Occasionally I replaced a pronoun with its previously stated referent.

I did transcribe exactly when I thought the precise words had meaning. When I tried to work from field notes, the major ideas were there but many connecting details were missing. When I tried to code field notes and put them together in any sort of meaningful way, it was very difficult. I found the interview that was thoroughly transcribed was far easier to deal with. I also coded that article after rereading Weiss. The coding included more connectors, more details, and more interesting information. It was far easier to combine those thoughts in a meaningful way. Another difficulty with the first two interviews was that they were conducted at the same time. When I coded them and combine the information the two speakers' words became scrambled. I had to go back to the original fieldnotes and transcription and start all over again. Then I noticed that the coding for the different sets of interviews did not match precisely. Perhaps my thoughts about what was said changed with additional data.

Future Ramifications

For any future qualitative inquiry, I would plan more carefully and include more time and more participants for the study. Having only three respondents with only one key informant, greatly

limited the information. Planning for several interviews with some respondents – first establishing a partnership and returning for a more in-depth interview – would add breadth to the study (Weiss, 1994.) Observing in classrooms to gather information firsthand (Creswell, 2005), to verify statements (Maxwell, 2005), and to augment the words of the experts would add valuable information.

Before this semester I was convinced that the qualitative research would be a good match for my writing style. Writing in first person, flexibility, and being able to include my thoughts were positive aspects of qualitative research. I did not realize how systematic and exact a qualitative researcher had to become. Glesne (2006, p. 4-5) states that “Qualitative researchers, in contrast, seek to understand and interpret how the various participants in a social setting construct the world around them. To make their interpretations the researchers must gain access to the multiple perspectives of the participants.” Interpretation, reflexivity, and understanding multiple perspectives are necessary skills that must be strengthened before I can do qualitative research more effectively.

I have learned a great deal in this process. It was amazing to witness my study’s intense refining of the focus as it changed throughout the process (Weiss, 1994). It is difficult to recognize the beginning drafts when compared to the final study. If I pursue the qualitative inquiry as a part of my dissertation, I need to read, develop skills, learn even more, and practice a great deal. At this time I do not feel my natural strength is with qualitative research. However, I was very excited with some statements from Jane. Five years ago, when I introduced her to her new student with moderate Cerebral Palsy, she was skeptical. The Assistive Technology Coordinator started enumerating the software that he required for written work and she voiced great concerns. Until the recent interview, I didn’t realize just how far her perceptions have changed! That does foreshadow the treasures that may await excavation through Qualitative Research!

References

- Creswell, J. W. (2005). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (2nd ed.). Upper Saddle River, NJ: Pearson Education, Inc.
- Glesne, C. (2006). *Becoming qualitative researchers: An introduction*. (3rd ed.). Boston, MA: Allyn & Bacon.
- Hetzroni, O., & Shrieber, B. (2004). Word processing as an assistive technology tool for enhancing academic outcomes of students with writing disabilities in the general classroom. *Journal of Learning Disabilities*, 37,(2) 143-154.
- Lewis, C. (2007). *Technology for learning disabilities project*. Central Washington University, Special Education Technology Center. RMC Research Corporation. Portland, Oregon.
- Li, Q. (2007). Student and teacher views about technology: A tale of two cities? *Journal of Research on Technology in Education*, 39 (4). 467-478.
- MacArthur, C. (2000). New tools for writing: Assistive technology for students with writing difficulties. *Topics in Language Disorders*, 20(4) p. 85-100.
- MacArthur, C. A. (1996). Using technology to enhance the writing processes of students with learning disabilities. *Journal of Learning Disabilities*, 29, 344-354.
- MacArthur, C. A., & Graham, S. (1987). Learning disabled students are composing under three methods of text production: handwriting, word processing, and dictation. *The Journal of Special Education*, 21(3), 22 - 42.

- Maxwell, J. A. (2005). *Qualitative research design: An interactive approach*. (Sec. ed.). Thousand Oaks, CA: Sage.
- McCutchen, D. (1995). Cognitive processes in children's writing: Developmental and individual differences. *Issues in Education: Contributions from Educational Psychology, 1*, 123-160.
- Newcomer, P. L., & Barenbaum, E. M. (1991) The written composing ability of children with learning disabilities: A review of the literature from 1980-1990. *Journal of Learning Disabilities, 24*, 578-593.
- Schram, T.H. (2006). *Conceptualizing and proposing qualitative research* (2nd ed.). Upper Saddle River, New Jersey: Pearson Merrill Prentice Hall.
- Weiss, R. S. (1994). *Learning from strangers: The Art and method of qualitative interview studies*. New York: The Free Press.
- Zhang, Y. (2000). Technology and the writing skills of students with learning disabilities. *Journal of Research on Computing In Education, 32*(4), 467-478.