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Student Perceptions of E-Assessment Tools for Sign Language Interpretation

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Abstract

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MA, Savannah College of Art and Design, 2006

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

American Sign Language (ASL) has grown to be the 3rd largest enrolled secondary language course in the United States, and colleges and universities seek to identify effective assessment methods for this visual-based language. Although much research exists on sign language e-learning programs, asynchronous video feedback, and sign recognition software, very few studies have been conducted on using technology to as a method of assessment for sign language courses. The purpose of this hermeneutical, phenomenological, qualitative study was to document the lived experiences of students using the electronic assessment tool, GoReact, in courses. The conceptual framework was guided by engagement theory to address the student creation of sign language videos and the cognitive theory of multimedia learning to address the effectiveness of instructor-created assessment videos. Study participants were 6 students enrolled at a state college in the southeastern United States. Data were collected through interviews with ASL students in the semester before completing their associate degrees and analyzed using inductive coding analysis. Participants highlighted intuitiveness and customizability as positive perceptions of assignment completion, and video-based feedback from instructors as a positive feature of GoReact. Participants' negative perceptions included technical issues and low-quality stimuli, and inconsistencies in instructors' use of the tools. The findings of this study can influence positive social change by exploring the use of GoReact to improve the assessment and education of ASL interpreter students to better serve the deaf and people with hearing disabilities.

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Table of Contents

Chapter 1: Introduction to the Study

Introduction

Colleges offering sign language interpretation courses are facing a future where face-to-face courses are needing to be adapted to meet students' desires for online courses. One concern when adapting these face-to-face courses is how to assess a students' physical performance online when testing a visual language. In this study, I examined student perceptions of the use of electronic assessment to evaluate student performance in sign language interpretation courses. The social implications resulting from this study include the ability to offer colleges possible solutions and concepts worth exploring while facing the growing need to offer online courses and electronic assessment.

The first chapter will begin with a background for the study, including the growth of American Sign Language (ASL) enrollment and the integration of technology in ASL courses. In the second section of the chapter, I will address the problem statement as it relates to a current gap in research, and then, I will describe the purpose of the study to address students' perceptions of e-assessment. I will also provide the research questions used to understand ASL interpretation students' perceptions of using e-assessment and describe the use of cognitive theory of multimedia learning and engagement theory to build the conceptual framework for this study. Next, I will detail the nature of the study and provide definitions of key concepts and terms used throughout the study. The following section will contain assumptions necessary in the context of the study. I will then describe the scope and delimitations of the study and address the study limitations. I

will also identify the significance of the study and potential for positive social change. The first chapter will conclude with a summary of the chapter and transition to Chapter 2.

Background

As the need for sign language interpreters grows (U.S. Department of Justice, 2014), ASL enrollment has increased to meet these demands (Goldberg, Looney, & Lusin, 2015). Krashen (1982) found that the success of second language acquisition relies on constant communication rather than technology. Although technology can be used effectively in education, it is essential to have appropriate training and understanding of the technologies (Lee, 2014; Mobarhan, Rahman, & Majidi, 2015). Overall, many researchers have shown a dedication to understanding the implementation of technology in education, and increasingly more attention is being focused on sign language instruction. For example, Quinto-Pozos (2011) and Swaney and Smith (2017) explored the importance of video and computer-based technology integration in sign language instruction.

The study of technology in language learning has a history of focusing on the importance of real world communication. Krashen (1982) stressed the importance of actual communication for second language learning by dismissing the need for expensive technology. More recent studies have focused on using technology to achieve real communication. Student use of electronic portfolios and journals for second language communication have been effective for language interpreting and grammar (Chan, 2014), as has the use of video-based communication assignments (Gromik, 2015). Using student-created videos for problem-based e-assessment triggers cognitive and emotional

issues that support problem-based learning and subjective meaning-making (Lajoie et al., 2014).

Many studies have been focused on specific software solutions for e-assessment, while very few have been conducted to draw from an outlying method. For example, Lecheler, Miller, Hosack, Rose, and Hooper (2013) studied the use of Avenue ASL without a comparative method. GoReact (Smith & Harris, 2014) and SignAssess (Mann, Haug, Kollien, & Quinto-Pozos, 2014) have been reported as solutions for ASL interpreter e-assessment but lack thorough research. The understanding of how ASL interpretation students use the programs and how they perceive their use could have an impact on growing both online and face-to-face ASL courses.

Problem Statement

In this study, I concentrated on a gap in the research literature by analyzing perceptions of students using e-assessment in sign language education. Although a great deal of research exists on sign language e-learning programs, asynchronous video feedback, and sign recognition software, very few studies have been conducted on sign language assessment with technology. Lecheler et al. (2013) investigated Avenue ASL, an e-assessment system for sign language learner evaluation, without analyzing its overall effectiveness or perceptions of those using it. The successful adoption of new learning techniques can hinge on the positive or negative perceptions of the students. There appears to be no evidence of research evaluating perceptions of users of sign language assessment methods. With the results of this study, I made an original contribution to

2. What expectation did students have for how instructor feedback was presented?

3. How has the assessment method contributed to student success or limited the learning of class content?

4. What were positive aspects of completing assignments and receiving feedback through this method?

5. What were negative aspects of completing assignments and receiving feedback through this method?

Conceptual Framework

The conceptual framework of this study addressed both the student creation of videos and instructor-created assessment videos. Engagement theory addresses how students learn through their engagement in interactive learning activities, such as the creation of videos (Kearsley & Shneiderman, 1998). O'Brien (2017) added to this definition of engagement theory by stressing the importance of student use of materials or applications to complete cognitive challenges. Assessment activities in the course under study included students making videos interpreting various stimuli. Their engagement with cameras, software, and learning material can be used to explain some of the successes or failures of assessment creation.

Mayer's (2014) cognitive theory of multimedia learning can help describe the importance of video feedback. The two main channels that can be used for processing information are audio and video (Mayer, 2014). Humans can process only a limited amount of information through either channel, and by delivering content through two

channels, students can process more information; this is known as dual-coding theory (Mayer, 2014). Using this theory, instructors can enact proper sign language while students can pick up social cues and gestures with audio and video feedback. In this study, I applied Mayer's cognitive theory of multimedia learning to explain the effectiveness of instructors using both visual gestures with audio feedback. I used this combination of theories to describe perceptions of students on current assessment methods.

Nature of the Study

I chose a hermeneutical, phenomenological strategy with a clear purpose to understand students' perceptions of using e-assessment as the primary form of evaluation in a college ASL interpretation course. A hermeneutical, phenomenological design explores the collective experiences of individuals (Heidegger, 1962). These experiences were used to understand how ALS interpretation students, as a collective group, regarded e-assessment. I chose students from a state college taking ASL interpretation courses using e-assessment as participants to take part in this research. Data were gathered through interviews, focus groups, and observational field notes and then examined through inductive analysis to develop the central phenomenon.

Definitions

Epoché: The process of setting aside personal judgments by stating the researcher's experiences (Moustakas, 1994).

Text Analysis Markup System (TAMS) Analyzer: A computer-based qualitative data analysis tool for identifying themes in texts (Rath, 2016).

Assumptions

The assumptions I made in this study included the idea that instructors properly implemented and used the assessment technology. I also assumed that instructors used proven instructional strategies, were competent in their subject matter, and tried their best to add the GoReact assessment tool to their existing curriculum. Another assumption was that instructors effectively trained all participating students to use the GoReact technology. My final assumption was that all faculty and students had equal access to the technology.

Scope and Delimitations

Based on the shortage of research regarding e-assessment in sign language courses, I focused on data regarding perceptions of video-based assignments and feedback in this study. Instructors' perceptions and related pedagogical theories and frameworks were not included in this study. Additional classes that the participants were enrolled in at the time of this study and their respective assessment methods were not taken into account. I did not consider the participants' grades or progress in the ASL interpretation course. The findings from this study could be transferable to other second language courses looking to adopt e-assessment tools.

Limitations

In this research, as in all research, it is crucial to be clear and open about all limitations and weaknesses of the study. Patton (2014) recommended being prepared for and confronting any criticism involved in research. One possible limitation of this study involved the sample size of study participants. In an attempt to maximize the quality of

in-depth interviews, I limited the study to six students taking the same ASL interpretation class. One concern with a small sample size is the possibility of not determining significant relationships within the data (Patton, 2014). To alleviate these concerns, I maximized in-depth sampling in this study.

Another concern limiting this study could be the use of interviews as the principal data collection method. Data collected during interviews could be misrepresented due to the emotional condition of the participant, individual predilection, or their lack of understanding of the subject (Patton, 2014). All students involved in the research were eased into their interviews, made to feel comfortable with the process, and had a comprehensible concept of the research. Interviews can also be exposed to inaccuracies in recollection when participants cannot recall details of a topic (Patton, 2014). I reduced memory concerns with expedient interviews, immediately upon the conclusion of the class. I was employed by the college where the study took place for 7 years and was aware of the change in assessment methods used by the ASL interpretation department, although I taught at a separate campus in a different department.

Significance

The potential implications regarding positive social change guided me to propose this research. Kaufman, Guerra, and Platt (2006) emphasized a significance for concentrating on the mega-, macro-, and microlevels of educational organization. Microlevel designation focuses on students, and the potential for students to employ video-based tools to create projects and receive video feedback from instructors to facilitate learning (Kaufman et al., 2006). Student achievement suffers when students

lack motivation to complete projects and instructor feedback is limited (Kaufman et al., 2006)

If the assessment methods are meaningless to students or obstruct learning, the development of educational habits discontinues (Kaufman et al., 2006). The objective of the mega level is to obtain an ideal vision, where instruction attempts to improve societal objectives (Kaufman et al., 2006), such as decreasing unemployment. Inadequately-instructed students have insufficient proficiency and comprehension required to get hired and retain employment. To address the needs of students and their learning evolution, I attempted to identify possible challenges with the adoption of new e-assessment instruments in this study.

The results of this study will contribute a framework with which course developers can use to design and improve intuitive and meaningful assessment methods. Considering the implications beyond GoReact, the findings from this study can also be applied when analyzing students' perceptions of alternative assessment tools. The instrumentation used for data collection and analysis can contribute to further research involving other assessment methods and procedures. The contribution of GoReact analysis to the qualitative research foundation will enable researchers to leverage this study to construct future research involving GoReact and other e-assessment methods. The results of this study are also valuable for institutional stakeholders because they can be used to examine the perceptions of students not only using GoReact but any e-assessment methods currently being used or being considered for adoption.

Summary

As the need for ASL interpreters grows, enrollment in college ASL interpretation programs grows. ASL has grown to the third largest enrolled second language course in the United States (Goldberg et al., 2015). Simultaneously, the need for colleges to provide online and adaptive course structures has created a need for adaptive assessment methods. With this study, I sought to draw upon these institutional needs to provide web-based ASL courses and assessment. Electronic assessment was studied as a solution to the distance-based assessment of the gestural language. By researching students' perceptions, I communicated a bottom-up approach to e-assessment adoption in this study. In the literature review that follows in the next chapter, I will create a rich background for the theoretical and practical research behind the study.

Chapter 2: Literature Review

Introduction

Problem and Purpose

The implementation of strict federal guidelines has led to an increase in college enrollment of sign language courses. The Americans with Disabilities Act (ADA; 1990) of 1990 established a rigorous set of rules requiring places of public accommodation to provide sign language interpreters for hearing impaired individuals. The U.S. Department of Justice (2014) refined these rules by placing stricter guidelines on the requirements of qualified interpreters. A study by the Modern Language Association listed sign language as the third largest enrolled secondary language course in the United States (Goldberg et al., 2015).

One of the primary difficulties emerging from these larger enrollment numbers is that college educators are tasked with providing meaningful assessment for student learning outcomes. ASL instructors have the difficulty of creating assessment that focuses on evaluating individual student gestures and providing physical feedback. One method of assessment involves students creating video interpretation of recorded events, with instructors providing video feedback. For example, students watch an event, such as a TED talk, and record a picture-in-picture sign-language interpretation of the talk. The lengths of the talks are 15–20 minutes. Instructors end up reviewing 45-minute videos due to constant false starts and retakes and providing video feedback of misinterpreted gestures. Instructor evaluation can often take 3 to 5 weeks per course to complete (Miller

& Doering, 2014), which reduces the effectiveness of formative assessment by limiting timely reflection opportunities for students (Lecheler et al., 2013).

The inclusion of video hardware and software has also added a hurdle to learning sign language. Students are often attempting to learn a new language while overcoming technical and instructional design issues (Tran, Riskin, Ladner, & Wobbrock, 2015). With these problems, there are few clear-cut solutions to effective sign language assessment. Administrators and faculty share the responsibility of determining the best solution. My objective with this study was to interpret how students regard using particular ASL assessment methods to determine the best approach to meaningful assessment. Although there is much research that evaluates the perceptions of student and instructors toward new classroom technologies (Asterhan & Rosenberg, 2015; Cakir, Yukselturk, & Top, 2015; Gloria & Oluwadara, 2015; Green, Chang, Tanford, & Moll, 2015; Nguyen & Nguyen, 2015; Venkatesh et al., 2016), there are very few studies that evaluate the perceptions of students toward assessment tools (Henderson & Phillips, 2015; Vincelette & Bostic, 2013). Additionally, I found no studies that evaluated the perceptions of sign language students toward new assessment tools. As a result, the purpose of this study was to evaluate student perceptions toward electronic sign language assessment tools.

Chapter Preview

In the first portion of this literature review, I will cover theoretical foundations relevant to this study. Engagement theory and cognitive theory of multimedia learning

were examined to comprehend the educational processes of sign-language interpretation scholars. This theoretical exploration will follow with a review of the conceptual framework of the study as a qualitative, sociological, evaluative, and collective study. In the next section of the review, I will discusses the ADA, with a focus on specific ADA requirements and ASL interpreter guidelines. The fourth section will include research on general language instruction. I will also discuss best second language practices using technology and best practices in second language instruction; literature focusing on sign language instruction with an emphasis on instructor and administrative decision-making, best practices of sign language instruction and assessment without the use of technology, and job preparation for interpreters; the integration of technology in higher education. Then, I will review the integration of all technology in sign language instruction and the use of video assessment and feedback for sign language students' assessment. The chapter will conclude with a synthesis of the main points of the previous sections in order to show the gap in literature addressed in this study.

Literature Search Strategy

Library Databases and Search Engines

Google Scholar was the primary search engine I used in the collection of peer-reviewed articles. I used the Walden University library access links to access databases that Walden subscribes to, predominantly using the EBSCO service Academic Search Complete and to a lesser extent, ProQuest Central, ERIC, and the Thoreau search engine located on the Walden library website. For nearly all of the searches, minus my theoretical framework research, I placed a limit for articles published from 2012 to 2016.

Exceptions were also made to allow the inclusion of seminal articles in various areas. This allowed me to limit the research to current assessment and instructional practices.

Key Search Terms

The key search terms I used when searching for theoretical frameworks relevant to this study were *multimedia learning*, *online learning theory*, *video learning theory*, *theory of media richness*, *engagement theory*, and *cognitive learning theory*. I used the terms *ADA requirements for deaf* and *ASL interpreter requirements* to search for articles regarding interpreters for hearing-impaired individuals. I searched for general second language instruction using the key terms of *second language enrollment*, *best second language instructional practices*, *second language instructional practices using technology*, *language e-learning*, *electronic portfolios language learning*, and *mobile technologies language learning*.

I searched for articles on assessment methods used in sign language and second language instruction with and without technology. The key terms used included *sign language assessment*, *assessment methods sign language*, *second language assessment*, and *second language assessment technology*. I used the key terms *sign language instruction*, *best practices of sign language instruction*, *best practices of sign language assessment*, and *ASL interpreter job training* when searching for research involving general sign language instruction.

The next step was searching for technology integration in higher education, and for this, I used the search terms of *technology integration higher education*, *online versus face-to-face learning*, *blended learning*, *video problem-based learning*, *PBL*, *video*

asynchronous instruction, and *video-based instruction*. I searched *e-assessment in sign*

language instruction, *ASL e-assessment*, and *sign recognition software* to explore

technology integration in sign language instruction. I used the key terms *video*

assessment for sign language, *video feedback in sign language*, *formative assessment*

using video, and *video versus written feedback* for research regarding video assessment

and feedback. A collection of findings regarding specific sign language software led me

to searching for *SignAssess*, *GoReact*, and *Avenue ASL*.

Iterative Search Process

My iterative search process began with general searches, using Google Scholar,

regarding second language instruction. The term second language instruction was a

launching point for starting wide and from which, I eventually narrowed down topical

searches. The popularity of ASL instruction and the importance of interpreter training

were topics highlighted in second language research. These articles exposed the difficulty

in providing meaningful assessment in ASL interpreter courses. E-assessment was a key

term calling attention to video-based assessment methods used in ASL interpreter

instruction. Searching for ASL assessment uncovered two learning management systems,

Avenue ASL and SignAssess. I used these two course management system names as key

terms to exhaust the research on specific e-assessment methods used in ASL instruction

in higher education.

I found little research on the application of e-assessment methods in ASL

interpreter instruction in higher education. I handled the limited amount of research by

peeling away every piece of research regarding specific assessment practices in sign

language instruction. Specific assessment software was reviewed, although not the perceptions of students using the software. The reference lists included in these articles helped me to understand the backbone of their research and drove my further exploration. Instead of searching for student perceptions of e-assessment in sign language, I searched for video-related assessment and feedback in all higher education. Widening the search to online educational programs resulted in more angles and motivation for researching e-assessment and feedback. Searching e-assessment in general second language assessment provided research into the application of electronic portfolio development and the implementation of mobile devices. The branching of these methods was a gateway to understanding the possibilities in sign language e-assessment. I found and collected approximately 100 articles over the course of the search process.

Conceptual Framework

Engagement Theory

Engagement theory involves students engaging with learning activities and interaction with others. Kearsley and Shneiderman (1998) developed this theory as a conceptual framework designed for the integration of educational technology. They believed that technology could facilitate meaningful learning through the engagement of students. Engagement theory is based on three factors to build meaningful instruction: collaboration, project-based assignments, and a nonacademic focus (Kearsley & Schneiderman, 1998). Technology aids in the engagement by offering a medium for videoconferencing collaboration, creating video-based assessment projects, and the

application of videos to provide customer-based assessment materials (Kearsley & Schneiderman, 1998).

Kearsley and Schneiderman (1998) used engagement theory as a framework for technology-based learning environments to draw upon elements of past learning theories. Technology is used to facilitate engagement, which results in creative, meaningful, and authentic instruction (Kearsley & Schneiderman, 1998). Numerous studies have reported the virtues of learning through engagement. Yuan and Kim (2015) and Draus, Curran, and Trempus (2014) found evidence of better understanding and deeper engagement through audiovisual feedback, while Shuldman and Fontaine (2015) examined engagement theory in student video production in nonmedia disciplines. Creating videos for nonmedia related disciplines have the power to engage students throughout the learning process (Gold et al., 2015; Pinsk, Curran, Poirier, & Coulson, 2014; Rooney-Varga, Brisk, Adams, Shuldman, & Rath, 2014). In this study, I drew upon this idea by looking at student engagement through the creation of sign-language videos for instructor assessment and feedback.

The ability of students to create video-based projects allows student to engage in their knowledge acquisition. The use of video strengthens the extent to which students play a key role in their education because students collaborate with one another to complete problem-based assignments using technology (Shuldman & Fontaine, 2015) Once the instructors have the assignments, they can continue promoting the engagement through providing the students with video-based feedback. Many of the mistakes students make in sign language interpretation cannot be corrected with words on a page and

require visual feedback (Yuan & Kim, 2015). The quality and engagement of video feedback allows for direct meaningful criticism, with the intent of correcting misinterpretation visually. The results are also prompt, if not instantaneous, which also involves a higher degree of engagement (Yuan & Kim, 2015).

I developed the research questions involving perceptions of students using e-assessment in sign language interpretation to draw upon engagement theory to help explain the effectiveness of e-assessment methods. In this study, students were assessed on their ability to interpret by creating a video with a recorded event or conference along with a picture-in-picture of their interpretation of that event. These were hands-on, collaborative, problem-based assignments used to engage students. Instructors assessing the assignments had the ability to offer video-based feedback to engage the students in the criticism as well. Engagement theory helped me explain the effectiveness of these methods for both the student assignments and instructor feedback.

Cognitive Theory of Multimedia Learning

Mayer (2014) developed the cognitive theory of multimedia learning to explain the principal that words combined with pictures are more effective when learning than words alone. There are three assumptions associated with the cognitive theory of multimedia learning. The initial assumption is that oral and visual channels in working memory can be used to process knowledge concurrently, to deepen learning comprehension. The second assumption is that these channels are limited by space and time and become overloaded. The third assumption is that learning is the process of collecting, organizing, and integrating new information into what they already know.

These three assumptions are summarized as dual-channels, limited capacity, and active processing.

Studies have applied the use of all three assumptions of cognitive theory of multimedia learning. A number of studies have evaluated using webcasts that combined dual channels of audio and video to enhance learning (Fish, Mun, & A'Jontue, 2016; Giannakos & Vlamos, 2013; Luttenberger et al., 2018). Instructor feedback in this study followed similar form. Ibrahim and Callaway (2012) examined cognitive overload by applying the limited capacity theory. Over stimulation through media channels can have a negative effect on learning (David, Kim, Brickman, Ran, & Curtis, 2015). Instructor feedback was limited in this study to generate the highest levels of retention. Rias and Zaman (2013) used active processing in the role of building from prior knowledge through multimedia learning application. Song, Kalet, and Plass (2016) found that prior knowledge has a positive effect on learning performance in multimedia learning environments. Instructor feedback in this study was examined in relation to learners' prior knowledge.

The use of cognitive theory of multimedia learning is used to achieve a greater understanding of assessment feedback as it relates to video-based feedback of instructors compared to written feedback. The ability of visual gestures along with verbal feedback will utilize dual channels for complete understanding. The limited time used on video-based feedback should be optimized to reduce cognitive overload. The nature of sign language interpretation requires an understanding of visual gestures that can only be

displayed in video format. Creating video-based feedback, instructors can build upon the prior knowledge of students by integrating new information to what they already know.

The research questions involve perceptions of students toward e-assessment and feedback. The implementation of cognitive theory of multimedia learning helps establish an overarching theory that video-based feedback offers a meaningful method of assessment. This research may also challenge the current, presiding pedagogical beliefs that written feedback is just as effective as video-based feedback, and that long video-based feedback is just as effective as short. This study builds upon cognitive theory of multimedia learning to include video-based assessment, not just traditional learning materials.

Literature Review Related to Key Variables and Concepts

The growth of enrollment in ASL interpreting studies in American colleges has exposed the need for expanded research in this area. The ADA (1990) outlined the requirement of providing interpreters for hearing-impaired individuals in public spaces and further refined these rules in 2010 (U.S. Department of Justice, 2014). There is a direct relationship between this ADA requirement, the need for sign language interpreters as interpreted by the United States Department of Justice Civil Rights Division and the burgeoning growth in ASL interpreting studies programs. In context to the Internet, a study by Abrar and Dingle (2009) exposed discrimination that extended beyond the reach of the ADA. They found that deaf individuals had no tool to allow for the transcription of audio, and that they had to rely on subtitles or descriptive text to understand online video. Additionally, there were no clear guidelines regarding the experience or qualifications

required by interpreters. As a result, in 2010, The Department of Justice revised the original ADA standards with stricter guidelines and clarification to the earlier act.

The Revised ADA Requirements (U.S. Department of Justice, 2014) clarify that the interpreters be "qualified" and defined "qualified" as someone with the ability to effectively interpret, exactly, and both accessibly and expressively. The interpreter must understand what is being said by the person with the disability and must have the skills to communicate with that individual, using "necessary specialized vocabulary". The revision also places the responsibility for providing "qualified" interpreters directly on covered entities. Covered entities include state and local government along with businesses and nonprofit organizations that serve the public. These entities cannot require a person to bring someone who can interpret for them. As a result, these requirements have multiplied the demand for proficient sign language interpreters.

When there is a need for skilled labor, in this instance sign language interpretation, colleges rise up to meet workforce demands. This has been evident in the rise of sign language interpreter instruction in higher education. According to a Modern Language Association study of over 99% of eligible colleges offering languages in the United States, ASL enrollments have increased to the third largest language course enrollment in American colleges (Goldberg et al., 2015). These enrollments trail only Spanish, French, and German. ASL course enrollments in U.S. colleges increased from 1,602 students in 1990 to over 90,000 students in 2009.

An examination of best practices in second language instruction highlights the importance of communication in language acquisition. Krashen (1982) dismissed the

importance of expensive equipment and laboratories in second language teaching and placed an importance of using language for real communication. The commanding principle for best language acquisition is using language for communication. Krashen's principles focus on face-to-face conversations but can be expanded in the current landscape of educational technology.

Best practices in second language instruction using technology involve how well technology can be integrated into curriculum. Salaberry (2001) offered a critical analysis on the results of technology on second language instruction. The successful results of technology motivated projects depend on the pre and post activities, rather than on the technology itself. Salaberry dismissed students' and teachers' perceptions about the effectiveness of computer-assisted instruction, by claiming no empirical evidence supported those claims. More recent pedagogical-based implementation has furthered empirical studies involving technology in second language instruction.

The development of electronic portfolio creation in second language instruction has aided students in learning and assessment. Mobarhan et al. (2015) explored the use electronic portfolios to associate instruction and learning with assessment. They found that the development of electronic portfolios requires training and were found successful for technology literate students with necessary equipment and software. The access to proper equipment and software is essential to this study, as is the ability of students to use the technology and receive support from administrators. The Mobarhan et al. study supports the importance of those factors.

Chan (2014) conducted a study of electronic journals kept by language students over a 1-year period. Students recorded daily audio entries in a secondary language for an entire year. Chan found that after 1 year of practice using the Blackboard-based journals there was a noticeable advancement in language interpreting skills and grammar. The study did not address the ability or inability of students to access or create the journals based on technological literacy. Mobarhan et al. (2015) did address the technological literacy in electronic portfolio creation, finding that better technology training was essential for teachers and students to use the portfolios effectively.

Lee (2014) explored how students used VoiceThread, an interactive multimedia tool, to create digital news stories to promote articulation in second language learning. The students positively perceived the project, and the research found that students' pronunciation did get better due to the project. Although pronunciation was measured through audio recording for Spanish language, it is very similar to the implications of ASL gestures. Students' familiarity and access to technology has made educational integration more effective for pedagogical approaches.

In contrast to the methods used by Lee (2014), Gromik (2015) found that using video recording functions on cell phones was effective to build and evaluate second language speaking skills. Participants produced 30-second videos based on teacher-selected topics. Students found they were able to build the amount of words they communicated within the monologues, and that cell phone technology will become less of a hurdle as the technology becomes more commonplace. Although the Japanese-

speaking students found the methods effective for English language acquisition, they felt the methods were not transferable to other courses.

Bringing the focus to sign language instruction, best practices without the use of technology must be established before focusing on the use of technology. As sign language instruction grows, old ways of faculty teaching whatever they want and however they see fit give way to more structured curriculum and standardization of instruction (Swaney & Smith, 2017). They found that as college sign language programs grew they began to get more administrative support, they elevated standards, and required higher qualifications of faculty and administrators. Even as these standards grew, the study found that institutions need to increase the amount of research being done in these fields and increase the solicitation of data on the uses of technology in sign language instruction.

Knoors and Marschark (2014) support the finding of Cooper and Cripps (2015), that more research must be done on sign language interpretation. Knoors and Marschark found that deaf students recorded lower scores than hearing peers on post lecture content. When deaf students rely on interpreters for lectures, they exit with less information than their hearing peers. This study contradicts the idea that interpreter standardization supports higher quality learning, by finding that different interpreters had little effect on the results of deaf students over hearing students.

While Knoors and Marschark (2014) focused on interpreters' impact on deaf students, Walker and Shaw (2012) along with Cooper and Cripps (2015) concentrated on alumni of Deaf studies and interpreter programs. Walker and Shaw found that most

graduates of associate-level and bachelor-level interpreter programs did not feel 100%

prepared for interpreting in specialized settings. Although students felt comfortable

interpreting in academic settings, they were overwhelmed in legal, medical, and mental

health settings. Alumni felt the need to take these positions above their interpreting

competence due to the absence of qualified interpreters. This highlighted the need for

both more students in the field and better specialized training for specific interpreter jobs.

Another way to evaluate readiness beyond graduation involves standardized

assessment. Before examining electronic assessment, formal methods have been used and

researched. To assess the sign interpreter competence of student participants, Bochner et

al. (2016) discussed the use of a Sign Language Proficiency Interview (SLPI). The

assessment of participants involved videotaping conversational interviews conducted by a

proficient signer. The videotapes were rated independently using a standard SLPI scale.

The research discovered that using a standardized SLPI is flexible for assessing

interpreters with different interests, skills, and needs for communication. Sign language

assessment should reflect these distinct differences, and exhibit not only what interpreters

do, but also what they are capable of accomplishing.

Although technology integration in education is growing, not all research supports

the growth as essential to improving instruction. Russell (1999) compiled numerous

articles contending that the use of technology in education had no significant difference

over traditional face-to-face instruction. Clark and Mayer (2016) echoed these statements

and stated that practitioners should make use of less expensive technology due the

assertion that utilizing media devices is no better than any other teaching technique. Regardless of the well-supported cases, more recent research has contested these claims.

Student experience has become a factor in technology integration in higher education. Students that have little experience in using educational technology struggle to find value in utilizing Web 2.0 tools for instruction and learning (Koehler, Newby, & Ertmer, 2017). Students claimed that using technology in assessing their work should not be seen as an either/or approach to assessment (Cavanaugh & Song, 2014), but as a supplementary mechanism to improve assessment and feedback (Draus et al., 2014). The perceptions of teachers can vary as well.

Teachers addressing student needs through technology perceived they enhanced student proficiency involving computer related skills (Ottenbreit-Leftwich, Ertmer & Tondeur, 2015). Developing e-portfolios has been established as a pragmatic tool to assess student success (Vaughan, 2013; Yang, Tai, & Lim, 2016). While studies have highlighted the positive attributes of student-created e-portfolios, Silva, Delaney, Cochran, Jackson, and Olivares (2015) recommended that students can and should play a bigger role in institutional assessment. Digital technologies can be employed to effectively engage students in the formative assessment process. Video based assessment is another area of technology that has found success in higher education.

The two sides of instructional video assessment include the creation of videos by students for instructor evaluation, and the creation of videos by instructors to provide asynchronous video feedback to students. Students create videos to explain topics they learn in their courses. The creation of videos triggers cognitive and emotional issues that

support problem-based learning and subjective meaning-making (Akse & Gürman-Kahraman, 2014; Engin, 2014; Lajoie et. al., 2014). Video project assignments also assist students in understanding difficult scientific concepts (Graybill, 2016; Vaidya, 2015). Students were also able to explain the difficult topics to nonscientific friends in ways they could easily understand.

Instructor created video assessment and feedback has been found to be advantageous to both instructors and students. Video-based feedback simplified marking and increased the efficiency in responding to student work (Yuan & Kim, 2015; Seror, 2013). Students felt more engaged with the feedback and had a greater understanding of instructors' comments (Denton, 2014; Henderson & Phillips, 2015; Seror, 2013; Yuan & Kim, 2015). Students also felt a greater bond with teachers using the video technology (Borup, West, & Thomas, 2015; Clark, Strudler, & Grove, 2015; Seror, 2013; Watts, 2016), while Rassai (2017) concluded that video-based feedback can be equally effective as face-to-face feedback. Vincelette and Bostic (2013) found that students perceived the video responses to be more helpful than written comments, but not as helpful as face-to-face conferencing.

The integration of technology has made its way into sign language interpretation instruction, and it must continue to grow (Quinto-Pozos, 2011). Quinto-Pozos (2011) noted the rate of growth of ASL enrollment consistent with the study conducted by the Modern Language Association (Goldberg et al., 2015) and recommended future research regarding video and computer-based technology in ASL courses. Although recording equipment can influence language, the use of video-based technology has increased ASL

communication, and managed its way into instruction (Lucas, Mirus, Palmer, Roessler, & Frost, 2013). Video recording is not the only technology to affect sign language interpretation.

Sign language recognition software has the potential to automate sign language interpreter instruction and assessment. Sign language recognition software has been confirmed to recognize and translate sign language for users (Keskin, Kıraç, Kara, & Akarun, 2013; Singha, & Das, 2013) with relative accuracy. Using video sequences, hand gestures can be analyzed by computer software and classified into preprogramed languages. As these recognition systems are being developed, video-based assessment performed by students and instructors is growing.

Recently, many programs have been developed to provide a solution to web-based ASL interpreter assessment. Avenue ASL was developed as a complete, network-based software program to evaluate ASL students' progress. Students felt positive about the switch from videotape-based to computer-based video recording but did not report a positive effect on improved interpreting skill (Hooper, Miller, Rose, & Rook, 2013). Electronic feedback delivered through Avenue ASL, however, had a direct impact on learning as the number of voluntary self-assessment practices rose with its use (Miller et al., 2012).

Other issues with video-based assessment were explored in relation to computer and video hardware. Improper compression and streaming made it hard to discern the delicacy and nuances of sign language gestures, making it hard for students to learn and instructors to assess sign language interpretation (Tran et al., 2015). In addition to

compression and streaming knowledge, the need for Flash and Flash-based webcams reduce the probability of participation (Lecheler et al., 2013). Sign-Assess and GoReact are two programs that have been developed to address issues similar to these (Mann et al., 2014; Smith & Harris, 2014), although no research, to my knowledge, has been done to evaluate their effectiveness.

Summary and Conclusions

As the need for sign language interpreters grows (U.S. Department of Justice, 2014), ASL enrollment has grown to meet these demands (Goldberg et al., 2015). Krashen (1982) found that the success of second language acquisition relies on constant communication rather than technology. Although technology can be used effectively in education, it is essential to have adequate instruction and comprehension of the technologies (Lee, 2014; Mobarhan et al., 2015; Richards, 2015). Overall, much research has shown a dedication to understanding the implementation of technology in education, and increasingly more attention is being focused on sign language instruction. For example, Quinto-Pozos (2011) along with Swaney and Smith (2017) explored the importance of video and computer-based technology integration in sign language instruction.

Many studies focused on specific software solutions for e-assessment, while very few have been done to draw from an outlying method. For example, Lecheler et al. (2013) studied the use of Avenue ASL, without a comparative method. GoReact (Smith & Harris, 2014) and SignAssess (Mann et al., 2014) have been reported as solutions for ASL interpreter e-assessment, but lack thorough research. The understanding of how

ASL interpreter students use the programs and how they perceive their use is important for growing both online and face-to-face ASL course.

The attempt of this study was to attend to a void in research literature by analyzing thoughts of students' assessment of sign language education. Although much research exists on sign language e-learning programs, asynchronous video feedback, and sign recognition software, very few studies were found on sign language assessment with technology. Lecheler et al. (2013) investigated Avenue ASL, an e-assessment system for sign language learner evaluation, without analyzing its overall effectiveness or perceptions of those using it. There appears to be no evidence of research evaluating perceptions of users of sign language assessment methods. This study makes an original contribution to research by examining student perceptions of sign language interpretation assessment methods used in higher education.

Currently, sign language students are tasked with having to learn both sign language and video capture tools to complete assignments, while instructors must spend weeks assessing student videos. Written feedback does not meet the complete needs of students for relevant feedback, while creating video feedback is extremely time consuming for instructors (Miller et al., 2012). However, the ADA (1990) requires interpreters for hearing-impaired individuals in public places. Colleges must meet this positive social development by effectively training students for jobs in sign language interpretation.

Research that investigates instructional methods that are effective in providing formative assessment for students is essential to facilitate the growth of sign language

education. In order to make informed decisions on e-assessment tools to adopt for sign

language interpretation courses, it is vital to understand how students perceive e-

assessment. A qualitative, hermeneutical phenomenological study was performed to

understand perceptions of students.

Chapter 3: Research Method

Introduction

The purpose of this study was to document the lived experiences of students using GoReact to complete coursework for sign language interpretation courses. I chose a phenomenological research design to understand how students perceived the adoption of GoReact as their primary assessment method. The purpose of phenomenological research is to make sense of a phenomenon from a participant's perspective (Englander, 2016). My goal with this study was to capture and understand the individual and shared perceptions of the group of students using the technology. I sought to learn how individuals experienced the technology and the meaning behind their perceptions.

The first section of this chapter will include an explanation of the hermeneutical, phenomenological research design and my rationale for choosing it. Then, I will explore the role of the researcher to address ethical issues regarding my role in the study and define the methodology of the study, including the method for participant selection, instrumentation, and data collection and analysis. I will also address methods of ensuring trustworthiness and ethical procedures in this chapter. Finally, I will draw the chapter to a close with a summary of the methodology and a segue to the outcomes of the research reported in the following chapter.

Research Design and Rationale

This research study was an effort to obtain a comprehension of the lived experiences of students using the same assessment tool in their ASL interpretation courses. The central question of the study was: What are students' collective perceptions

of their current ASL interpretation assessment method? The following subquestions

helped me describe the overriding theme of the overarching question:

1. What expectations did students have for the tools they were provided for

   completing their coursework?

2. What expectation did students have for how instructor feedback was

   presented?

3. How has the assessment method contributed to student success or limited the

   learning of class content?

4. What were positive aspects of completing assignments and receiving feedback

   through this method?

5. What were negative aspects of completing assignments and receiving

   feedback through this method?

With the initial two subquestions, I sought to identify any preconceived notions of

how participants expected to complete their coursework and receive feedback. With this

background, I could begin to understand the comfort level or familiarity with the method.

Determining students' understanding built a foundation from which I could describe their

perceptions against or alongside their expectations. Proposing positive and negative

attribute inquiry initiated a dialogue for exposing their genuine perceptions of the current

assessment tools. This feedback includes how well the tools worked for completing

coursework and receiving instructor feedback.

The central concept of this research was to discover the students' collective

perception of using the e-assessment tool, GoReact. Each study participant engaged in the

same phenomenon, using the same assessment tools. In this study, I explored individual experiences of the phenomena and analyzed study data to determine participants' responses to see if students had common or shared responses to the phenomenon or if individual differences created unique responses to the phenomenon.

A hermeneutical, phenomenological study is the exploration of shared participation of individuals as acquired by the researcher (Heidegger, 1962). Personal experiences involve interpretation influenced by the individual's history (Heidegger, 1962). A person's background becomes a structure for being and the context from which meaning and understanding are created (Heidegger, 1962). Heidegger (1962) claimed that individuals could not be separated from their experiences because a person would be unable to exist without the other. My intention with this research was to communicate student impressions of the e-assessment tool, GoReact. In this study, I combined the views from a group of students to articulate the phenomenon of using GoReact. The questions helped me to identify the response of students to the phenomenon, and their responses provided insights as to how to improve the system in future implementations.

The desired result of this research was to distinguish the essence of the collective experience in this particular learning exercise. Moustakas (1994) identified the process elements of epoché, phenomenological reduction, imaginative variation, and synthesis to ensure phenomenological research validation. Epoché, a Greek word meaning to hold back from criticism, involves setting aside all prejudgments through the bracketing of a researcher's personal experiences (Moustakas, 1994). As a professor that has supported the adoption of technology, I relied on epoché bracketing to remain unbiased throughout

the analytical process. I listed and shelved all of my personal views throughout the duration of the study.

The next step of the research process involved imaginative variation, varying the perspectives of the phenomenon. Imaginative variation describes the process of varying frames of reference and perspectives and exploring opposite meanings (Moustakas, 1994). In this study, my use of imaginative variation allowed for the exploration and induction of structural themes in the research and the finding of new or alternative meanings behind students' responses.

Synthesis concludes the phenomenological methodology, bringing together the meanings and essences of the study. Synthesis is the intuitive, reflective process of integrating the textural and structural descriptions of the phenomenological experiences (Moustakas, 1994). My integration of each element of the process in this study illustrated the conditions and qualities of how students perceive the technology. This synthesis of the study unveiled the overall discovery of the research.

Role of the Researcher

Throughout the research, I did not serve a role as a participant or observer-participant. I personally carried out and performed all data collection and research as well as recorded field notes throughout the process. Researchers must be clear about their roles and explain those roles to others (Patton, 2014). Although I did not have any direct relationship to the participants, at the time of the study I worked for the college where the participants took their courses in sign language interpretation using GoReact. I was the executive director of Organizational Development, entirely separate from academics and

the Sign Language Interpretation department. I had no power or influence over the participants or their instructors. Beyond the roles of data collection and researcher, I performed all transcription, coding, and analysis.

One ethical issue worthy of addressing was conducting the research at the college where I worked at the time of the study. There were no personal incentives for conducting the research at my workplace or conflicts of interest, nor were there any incentives or disincentives for participants. In an attempt to ensure transparency, I assembled complete transcriptions and made them available for review to document the entire data collection procedure. To safeguard the anonymity of the participants, all names were removed from the transcripts.

Methodology

Participants

My intention with this research plan was to analyze student insights pertaining to their use of the e-assessment tool, GoReact. Comprehending the perspective of the students is crucial to assessment utilization and determination. To conduct this study, I collected data from students enrolled at a state college in the southeastern United States who had concluded an ASL interpretation class that used GoReact for assessment. This summative examination of students' use of the assessment tools increased the depth of understanding regarding the value of the assessment tool.

In this study, I applied purposeful criterion sampling to recruit student participants. Criterion sampling is recommended to ensure validity when all subjects

satisfy a predetermined criterion of importance (Patton, 2014). This sampling strategy was a good match for a phenomenological design due the requirement of participants having all shared the same experience. All participants met the eligibility criteria for having used GoReact as their course assessment tool. The eligibility criteria supported the phenomenon that all student participants used identical assessment methods.

In order to satisfy the overarching research question, I centered the sampling on information rich instances. The objective of studying information rich cases is to acquire a considerable amount of knowledge about the central issues of the study (Patton, 2014). I selected the sample from students enrolled in ASL interpretation courses in order to represent genuine perspectives and insights. Participants were selected from the course based on their use of GoReact as the primary tool for completing course assignments and receiving feedback.

The sample size for this phenomenological study on student perceptions of e-assessment tools for ASL interpretation courses was six participants. The value of this number depended on the transferability of results, while maintaining a manageable number of interviews. Studies by Reynolds and Mayweather (2017) and Brew, Shannon, Storey, Boyd, and Mulholland (2017) limited the number of participants to nine and five, respectively, to focus on understanding the phenomena shared by their groups of participants. A smaller sample size allows a hermeneutical, phenomenological researcher to focus on the intensity of contact needed to collect sufficient data regarding the experience (Gentles, Charles, Ploeg, & McKibbon, 2015).

In this study, I maximized both issues of breadth and depth to determine an effective sample size. Breadth represents a large number of participants, while depth focuses on the careful consideration of rich data collection (Patton, 2014). Interviewing a small number of participants for a longer duration adds depth to a study (Patton, 2014). Limiting the number of participants in this study allowed for a more in-depth pursuit of understanding of the phenomena experienced by the participants.

A sample of six participants allowed me a considerable amount of time to explore an extensive scope of student instances. Patton (2014) proposed identifying a small sample size and establishing a justification for that size. In this study, I remained flexible to enlarging the breadth of the sample size based on peer review for possible future recommendations. The objective was to learn a considerable amount about the central phenomena regarding the students' use of e-assessment rather than an empirical generalization of students' use.

Instrumentation

I served several roles throughout the duration of the study, including as the principal instrument in data collection. The data were gathered first hand and did not rely on existing instruments developed by other researchers. Merriam and Tisdell (2015) described the researcher as the principal instrument in collecting and analyzing data. During data collection, I documented the experiences of students using the same assessment tool. I focused on gathering the comprehensive summative student experience following the use of GoReact as an assessment tool over the course of an entire semester. The interview questions (see Appendix A) were developed to address the overarching

research question. Focus group questions were assembled based on the phenomena discovered through initial interview analysis.

Interviews. I used open-ended interviews as the data collection tool to capture a collective understanding of the students. Vagel (2016) recognized interviews as the principal data collection tool for phenomenological research. The primary tools for collecting data were made up of in-depth, semistructured, open-ended interviews that allowed for a range of additional exploration as the interviews developed. Merriam and Tisdell (2015) described the importance of how questions are asked as crucial to obtaining the desired information. I started the interviews with a set of initial general questions, followed by a series of specific, open-ended, interview questions. The 10 interview questions (see Appendix A addressed the overarching research question; however, I also followed up questioning as needed to expand upon the initial responses.

Focus Groups. I also conducted a focus group interview with participants upon completion of the initial interview data analysis, which included 5 of the 6 participants. Although Webb and Kevern (2001) indicated domineering personalities could sway the opinions of other participants in focus groups, the participants' opinions were already established through their individual interviews. In the focus group interview, I concentrated on the participants' relationships to the collective perceptions of the group. Focus group questions were assembled based on the phenomena discovered through initial interview analysis. Initial interview data were provided to the participants to confirm its quality and accuracy and begin the dialogue necessary to establish focus group participation.

Timeline. Students were selected at the beginning of the semester they enrolled in a sign language interpretation course using GoReact. They were interviewed once near the completion of the course, with a focus group meeting after course completion. Data management procedures were ensured throughout the entire process. This entire timeline was 15 weeks.

Procedures

Data collection for this study began with the selection of participants from students enrolled in a sign language interpretation course. Selected students were contacted via e-mail to schedule a face-to-face initial meeting. During the initial meeting, I introduced the study, the nature of the study, and the criteria for participant selection. I also clarified my role as the researcher and differentiated myself from the Sign Language Interpretation program of study at the college. At this initial meeting, I distributed consent forms, and scheduled dates and times to conduct individual interviews.

An allotted time of 30 minutes was used to accommodate face-to-face individual semistructured interviews at the library learning commons on a centrally-located campus of the college. Pseudonyms were used in place of personal and school names to maintain confidentiality of participants and the participating school. All of the consent forms were scanned and saved on a computer and the hard copies were saved in a file folder. The interviews were audio taped and transcribed word for word.

Students participants were asked a total of five questions related to their participation using GoReact as their primary tool of assessment in their sign language interpretation course. After the initial transcript analysis, I scheduled a focus group

through e-mail. Prior to the focus group meeting, students were supplied a copy of their interview transcripts to review for accuracy. Focus group questions were assembled based on the phenomena discovered through the initial interview analysis.

At the conclusion of the focus group meeting, participants received a debriefing form. The debriefing form restated the purpose of the study and described the details of the confidentiality agreement. Students were given contact information to request a final report of the study and a list of citations of further readings to learn more about the research topic.

Data Analysis

Data Management. The management of data began during the first interview. All of the interviews were recorded with a portable digital audio recorder to establish the accuracy of the participants' responses. Additionally, the use of a portable recorder enabled me to concentrate entirely on the participants and field notes. These audio interviews were then transcribed, which included typing all of the interview responses into a Word document. The field notes written throughout the interviews were also typed into a Word document.

As I typed each of these documents, I saved them to the computer along with all audio files. I backed these files up to an external flash drive. Corti, Van den Eynden, Bishop, and Woollard (2014) suggested using superior recording instruments, backing up all computer files, and creating a collection matrix to keep all data. All of the data collected was itemized and cataloged in well-labeled folders and subfolders for each student. I duplicated and stored all of these files to the external flash drive. All of the

consent forms and other written materials were scanned and incorporated into the afore mentioned folders.

Qualitative Data Analysis Software. At the conclusion of data collection and management, I stored and analyzed the document files within the qualitative data analysis software TAMS Analyzer. Corti et al. (2014) suggested using a computer software program to collect, arrange, and find data without difficulty. Software programs also allow researchers to examine data closely and to carefully analyze each concept or idea. Using data analysis software also enabled the coding of similar responses from participants in order to categorize phenomenological occurrences among students.

Coding. All of the typed documents along with the audio files were imported directly into TAMS Analyzer. I created six files, one for each participant and gave them pseudonyms for the purpose of safeguarding confidentiality. Once all of the data were inputted, I alphanumerically coded individual characteristics related to functions within GoReact. Alphanumeric coding was determined through consistent themes discovered throughout the interview process. The coding enabled me to present relationships between interviews and sort similarities between students. These functions were used to exhibit tendencies and generate outlines of phenomenological associations.

The first step I took after transcribing all of the data was to read all of the transcripts repeatedly and highlight and note any statements of significance. Moustakas (1994) discussed the method horizontalization, by developing a list of significant statements and grouping them into themes. This method provided an understanding of the participant experiencing the phenomenon.

After reviewing all of the statements of significance, I determined the basis of similarity, and give that basis a name. Using this analysis, I looked for themes in an inductive way. By allowing themes to emerge from the data, results allow for insight and developing a meaningful guide for analysis (Mayoh & Onwuegbuzie, 2015). Additional coding and themes were explored throughout the entire data management and inductive analysis process. When discrepant instances existed, they were coded as such, and the findings were reported for readers' evaluation. Reflective journals were used to keep track of data and emerging understandings.

Issues of Trustworthiness

Quality, trustworthiness, and credibility were used to establish the validity of the research. Introducing the researcher's bias is the first measure to gain the confidence of those reading a study. Readers gain an understanding of the researcher's position through complete disclosure and transparency (O'Leary, 2017). I aimed for complete neutrality in all data analyzed. I disclosed all details to readers when I brought other predispositions to the research.

Credibility

Multiple forms of triangulation were used to strengthen the credibility and overall quality of the research. Analysis through triangulation drew upon several people to evaluate the findings. Triangulation from others fortifies credibility in interpretations by using two or more people to separately examine the same data and collate their conclusions (Patton, 2014). Denzin (2017) labeled this use of multiple researchers to investigate a particular phenomenon as investigator triangulation. I employed peer

reviews to look over the data and compare their results with my findings. A consensus between researchers can be used to reinforce the validity of the outcome of the research.

Combining multiple data sources is another method of triangulation, attempting to strengthen the rigor of the research. Data triangulation uses multiple data sources in a single study to improve analysis and interpretation of findings (Denzin, 2017). Data collection combined individual participant interviews, a focus group, and reflective journals. Throughout the study, reflective journals were kept to interpret my experience of the entire process and immediate reactions to every phase of data collection. The results of the interviews were used to construct the focus group strategy and ensure the accuracy of the individual interview data and subsequent analysis.

Dependability

Expert audit reviews were the final form of triangulation for the study to ensure accuracy and validity. Audit reviews by a committee of experts are an additional type of triangulation involving an unbiased expert judging the standard of analysis (Patton, 2014). Researchers unsure of the quality of their work can employ expert reviews to increase their credibility. I used a dissertation committee for qualitative research analysis as the expert audit review.

Transferability

I searched for data that encouraged alternate interpretations and negative cases that could promote, expand, alter, or challenge my assumptions. Padgett (2016) recommended using negative case analysis to search for falsifying evidence to test

emerging theories. I reviewed and detailed all alternate themes and descriptions to establish trustworthiness. I employed intellectual rigor to maximize the quality of the study. Patton (2014) described intellectual rigor as the process of returning to data repeatedly to confirm a researcher's interpretations. Regularly examining themes and explanations with real data created a sound foundation for exploration.

Confirmability

Participating students had the chance to thoroughly review their experiences and be open and honest with their responses. Conducting interviews promptly after the completion of the course helped ensure the relevancy of the replies. The identity of the participants remained confidential to assume the honesty of the replies. All of the participants completed the same video-based assignments and received video-based instructor feedback relating to their assignments.

Data collection and data analysis followed the same descriptive phenomenology to ensure accuracy. The phenomenological research process must be methodologically communicated through the entire data collection and analysis process to handle the rigorous demands of scientific research (Englander, 2016). While focusing on the subject-phenomenon relationships crucial to the study, I maintained a subject-subject relationship between myself and participants. This approach allowed me to be present in the subject-subject relation while maintaining a presence towards the research phenomenon.

Ethical Procedures

Due to the participation of human subjects in my research, I obtained authorization from Walden University's Institutional Review Board, number 12-23-16-0285384 to conduct the study. In addition, I obtained the National Institutes of Health Protecting Human Research Participants Certificate of Completion: Certification Number: 707600. I also obtained Institutional Review Board site permission approval from the host college shortly after obtaining Walden University's approval.

I addressed ethical concerns in this study by ensuring the credibility of the research process along with providing informed consent to participants. Holloway and Galvin (2016) called attention to the ethical issues concerning participant consent, preserving privacy, as well as safeguarding the identity of study participants. All students enrolled in the class had the opportunity to accept or decline a participant role in the study. Consent forms were distributed to the students agreeing to the study. By signing the consent forms, they confirmed their acceptance to participate in the study. Participants' names were not recorded or shared.

Summary

I used a hermeneutical phenomenological approach to structure this research. I described the lived experiences of students enrolled in a sign language interpretation course, using GoReact as their primary assessment method. This study was void of any bias and contributes to the expanding body of knowledge regarding educational technology being used in sign language interpretation courses. I use the following

chapters to analyze the outcome of this phenomenological study and provide the results

of the study through synthesis and evaluation.

Chapter 4: Results

Introduction

The purpose of this hermeneutical, phenomenological, qualitative study was to describe the lived experiences and common perceptions of college ASL interpretation students' use of e-assessment tools. Colleges must continually find ways to meet the technological expectations of students. In this study, participants enrolled in ASL interpretation courses used GoReact, an online video assessment and feedback tool, to complete assignments. I sought to discover the collective perception of their shared experiences using the tool.

The central question of the study was: What are students' collective perceptions of their current ASL interpretation assessment method? I used subquestions to describe the overriding theme of the overarching question. I develop initial subquestions to identify any preconceived notions of how participants expected to complete their coursework and receive feedback. With this background, I could begin to understand their comfort level or familiarity with the method. Determining students' understanding built a foundation from which I could describe their perceptions against or alongside their expectations. With the additional subquestions, I sought to explain students' positive and negative perceptions of the completion and instructor feedback methods used in the e-assessment tool.

In the first section of this chapter, I will explain the setting, including personal and organizational conditions that could have influenced the participants at the time of the study. Then, I will present the demographics of the participants and describe the data

collection methods. In the fourth section, I will address data analysis, including code, categories, and themes that emerged from the data. The chapter will also include a description of the evidence of trustworthiness through credibility, transferability, dependability, and confirmability and a presentation of the results. I will conclude the chapter with a summary of the results and a segue to the interpretation of the findings reported in the following chapter.

Setting

The setting was a college in the southeastern United States, serving over 50,000 students. Of the total number of students, 57% are women, with 80% of students enrolled part-time, and the average age of 28 years old for students. Sixty-seven percent of students receive financial aid, and 62% of students are employed full-time.

I conducted phenomenological, face-to-face and group interviews with ASL Interpretation associate in science (AS) degree seeking students during their final semester in the program. I found no evidence that any personal or organizational conditions influenced the participants or their experiences at the time of the study. Throughout the duration of the study, there were no organizational or personal changes that would influence my interpretation of the study results.

Demographics

I drew all participants from AS degree seeking students completing their final semester in the ASL Interpretation program. This demographic was important to capturing the perceptions from students with identical academic histories using the same e-assessment tool. Although the participants had differing levels of experience using e-

assessment tools in past courses and programs, the students that participated in this study all had 2 years of experience using the same tools within the same AS degree program. The participants were given the pseudonyms of Alex, Brenda, Erin, Evan, Karen, and Lena to safeguard their confidentiality. I applied the term, nontraditional student, to a number of participants, defining this term as students generally over the age of 24 with a break at some point in their education from high school to college completion. The participants were:

- Alex was a nontraditional student, who started the program in 2011, and after taking a few classes, failed out of the program. In January of 2016, he came back to the ASL Interpreter program and was able to experience the difference of using GoReact compared to the VHS method of assessment from his earlier studies.

- Brenda was also a nontraditional student who started college in an associates program in 2008, then transferred to another college. After a break, she came back to the ASL Interpreter program when GoReact was first adopted.

- Erin was a traditional student who started the ASL Interpreter program directly out of high school. Erin completed a number of ASL courses in high school before entering college.

- Evan was a nontraditional student who started taking classes in ASL in 2007. Evan continued to take classes part-time, until fully committing to the ASL Interpreter program in the fall of 2015.

- Karen was a nontraditional student who took various classes part-time over the course of 20 years. She started working with the deaf over 10 years before going back to school full-time in 2016 to complete her AS degree in ASL Interpretation.

- Lena was a traditional student who joined the program after completing high school in a homeschool setting.

Data Collection

Data collection consisted of individual, face-to-face interviews with all of the six participants and a face-to-face, focus group interview with 5 of the 6 participants. I asked the same questions of all six participants in the individual interviews. All five participants in the focus group interview were given an opportunity to respond to each interview question. I collected my observations in a journal throughout the interview data collection process.

I used an empty faculty office in the ASL interpreter program building to conduct all of the individual interviews. The individual interviews were conducted once per participant and took 30–60 minutes each, over the course of 3 days. The focus group interview was conducted in the group study area of the primary classroom for ASL interpretation courses. This interview took 65 minutes and was administered 2 weeks following the final individual interviews. I recorded all interview data with a digital audio recorder, while using a paper journal to record my observations.

Overall, the data collection process was consistent with the plan I presented in Chapter 3. Eight students were given the opportunity to participate in the research, with

six agreeing to be a part of the study. I interviewed all six participants for individual data collection interviews, while only five were present for the focus group. All the individual interviews were scheduled for 30 minutes, although four of them took nearly 60 minutes. This allowance was built into the original plan by scheduling the interviews 60 minutes apart. While I planned on keeping a data rich, reflective journal, I often was deeply engaged in the interviews and neglected the journal. No additional unusual circumstances were encountered.

Data Analysis

In the interviews, each of the participants talked about their experiences with e-assessment, how they completed video-based assignments in GoReact, how they received feedback from their instructors, and how they felt about the entire process. I identified codes through the consistent mention of specific aspects throughout the entire assessment process. Categories were inductively developed based on codes appropriate to the different stages of assignment completion and feedback. I then designated these categories to themes based on common perceptions identified among the individual participants as well as the group.

The first code that emerged from data collection was Blackboard as the primary learning management system used by participants. This code was based on participants' previous experiences with e-assessment. Video recording, video playback, stimuli, QuickTime, YouTube, Photo Booth, Facebook, DVD, and VHS were codes related to videos that participants had to watch and interpret as well as videos they had to create for

assessment. For example, Alex reported that they "have stimuli they that they want us to use, and the quality of the stimuli isn't great. It's recordings from the 80s."

Quizzes, tests, assessments, consecutive interpreting, and simultaneous interpreting were codes that I used to identify types of assignments. Educational Interpreter Performance Assessment and National Interpreter Certification were codes identified as test-based certification that can be taken once they complete their studies. Video feedback, written feedback, comments, discussions, time marks, and time stamps were all codes related to instructors' assessment. Alex explained the process of feedback, "I can watch my video, click a specific feedback, and the video will go to where that time mark is."

I subsequently grouped these codes into categories based on prior lived experiences, students' expectations, other tools used to complete assignments, and future suggestions. Video recording, video playback, stimuli, QuickTime, YouTube, Photo Booth, Facebook, DVD, and VHS were grouped into separate categories for historical context, assignments, other tools, and feedback. I grouped other codes into categories based on the stage of assignment creation, completion, and feedback. Educational Interpreter Performance Assessment and National Interpreter Certification were codes further categorized into assignments, along with quizzes, tests, assessments, consecutive interpreting, and simultaneous interpreting. Video feedback, written feedback, comments, discussions, time marks, and time stamps were all categorized as feedback.

Specific themes emerged from these categories, including assignment positives, assignment negatives, feedback positives, feedback negatives, and suggestions. I then

broke the categories of assignments and feedback into two themes based on the perceptions of the students, either positive or negative. Suggestions followed as another theme that emerged through the discussions of each category. Evan suggested, "I'd like to see the option of synchronization." This would not have fit into the positive or negative themes, so instead I established a new theme related to category of feedback. The data revealed that the participants largely had similar experiences and perceptions using GoReact. I did not identify any discrepant cases with the six participants who were interviewed as part of the study.

Reflective Field Journal

I used a reflective field journal with notes to record nuances and gestures of participants during both individual interviews and the focus group interview. During individual interviews, many of the participants would sign their responses, especially when remembering the processes they used to complete assignments and receive feedback. One distinct note came from my interview with Evan. After I stopped recording he stayed seated in the interview room, and after a long pause, mentioned that the video-based method of assessment was not appropriate for what he wanted to do. I asked to turn the recorder back on, and once I did, he explained his negative perceptions recorded in the assignment negatives section.

Additionally, I noted that the group interview confirmed a lot of the overall perceptions the participants discussed in the one-on-one interviews. In the focus group, participants could elaborate on many of the perceptions they previously discussed in their

individual interviews. There was a lot of agreement on the overarching perceptions, both positive and negative.

Evidence of Trustworthiness

Credibility

I established and then used three strategies to ensure the credibility and overall quality of this study. Consistent with the methods proposed in Chapter 3, I transcribed all interviews recorded with a digital audio recorder. A colleague confirmed the accuracy of all transcripts in relation to the recordings. All transcripts were also sent to the participants, who confirmed their accuracy, establishing another layer of credibility. I added another layer of credibility to the findings by combining data from individual interviews, a focus group interview, and a reflective field journal. This consensus was employed to confirm the validity of all interview data.

Transferability and Dependability

I used negative case analysis to refine my operational hypothesis based on opposing data discoveries. I searched for alternative interpretations and negative cases to challenge my assumptions. I reviewed and detailed all alternative themes and descriptions during analysis to increase the trustworthiness of the results. I also returned regularly to the data to confirm my interpretation of the findings. Expert audit reviews were conducted through my dissertation committee as well as a local research support committee to ensure accuracy and validity.

Confirmability

Participants were all given the opportunity to review their experiences and be open and honest with their responses. Interviews were conducted during their final course using the e-assessment tools ensuring relevancy of their replies. All participants completed the same assignments using the same tools. The identity of all participants remained confidential to assume honesty of all replies. Finally, I maintained a subject-subject relationship with all participants, allowing me to focus on the subject-phenomenon relationship crucial to the study. Each of these strategies was consistent with the confirmability measures proposed in Chapter 3.

Results

The following results of the study are categorized by the themes historical context, prior experience with electronic feedback, expectations of the assignments, the method of completing assignment using GoReact, the method of receiving feedback using GoReact, grading, assignment positives, assignment negatives, feedback positives, feedback negatives, and suggestions. Historical context, prior experience with electronic feedback, and expectations of the assignments were used to establish the lived experiences of the participants to help define the hermeneutical context of how participants interpret the use of the new assessment tool. The method of completing assignments, the method of receiving feedback, and grading are themes used to illustrate how students completed assessments using GoReact. Assignment positives, assignment negatives, feedback positives, and feedback negatives are themes used to detail the perceptions of the participants use of GoReact. The theme, suggestions, is used to report how participants would alter the assessment process.

Historical Context

In this section, I will establish the experience participants had using electronic assessment prior to joining the ASL Interpreter program. None of the participants had ever used GoReact prior to enrolling in ASL Interpreter courses. All six participants had used the learning management system Blackboard to submit assignments and receive grades and feedback. Alex explained his experience using Blackboard, "In all my previous online or hybrid courses, they have not had a program like this. Typically, they just have something assigned on Blackboard and you just submit paperwork via that way." Alex explained that discussions, quizzes, and tests on blackboard were the extent of submitting content for his online classes. Brenda explained the process similarly, "all of our quizzes, all of our tests, and all of our blackboard discussions are online. And I like that because usually leaves a paper trail for me to go back that's already electronic."

In addition to the experience participants had using Blackboard, two participants had experiences using electronic assessment for ASL courses. Alex explained, "prior to having GoReact, we had a signing lab and that was where we could record ourselves for some of the assignments. Quality wasn't the best, because they were on these huge camcorders, VHS tapes, so it was awesome." He also explained that he would not want to go back to that. Karen added, "I have had some coursework where we had to use QuickTime, but we had to use just a recorder for the actual computer and it was awful. It is really hard to do and get a good quality recording." She explained the process as a "nightmare", with lots of pauses, static, and often not working.

None of the participants had ever received video feedback on their assignments. Erin described her experience, "most of my grading and review was done online, so a lot of papers online, and rubrics filled out online, so you can see teachers leave comments, nothing videoed, but a lot of written critique and grading."

Expectations

Four of the 6 participants had expectations of what type of assessments they would be doing, although three of them were off track from coursework they were required to complete. Alex did not expect a recording aspect, "I thought I would be in class and I would be learning a language one-on-one, or in person with the rest of the class." Brenda did not know so much would have to be completed online, "I thought it was going to probably be more face-to-face, but it is not." Erin did expect a lot of time making videos but did not expect "so much paper writing and book work, which was not bad, just not expected."

Two of the participants had no expectations of what they would be doing. Lena stated "I honestly did not really have any expectations to start with. I just kind of went along with it." Karen remarked, "I had no clue we would be doing all these videos. At first, it was really weird to watch yourself on video, much less hear yourself."

GoReact Method of Completing Assignments

In this section, I will detail the common phenomenon all participants experienced in completing assignments within GoReact. Participants described four types of assessment used within the tool. Lena discussed the early assignments, "usually just some simple assignments, like, here are some finger spelling drills you need to do and then

there are more complex assignments." Erin added, "we also voice through Go React, so it would be some sort of presentation by a deaf person that we watch and then voice the signing. That's usually more cultural, when we have to voice." She described some of the presentations as board meetings or other events surrounding deaf culture.

Brenda talked about assignments where students would summarize events they attended, "you would go to a deaf event and then you go to GoReact and summarize it to five minutes and we would express in sign language what happened." As they got further into the program, they started getting stimuli directly in Go React.

Evan completed the description of the most common assignments, "here is some stimuli of video ranging between 2 to 12 minutes. You are going to watch this, and you are either going to attempt to simultaneously interpret it, consecutively interpret it, or you are just looking for comprehension." After completing the simultaneous portion, they would have to sign the written transcript, while voicing what was happening. All of this would be recorded for submission. Alex indicated how the professor presents the assignments, after creating an assignment shell within GoReact, "we click that, and it gives me two options. If we have already made a video that we can upload or if it already has some built-in stimuli that we have to record side by side."

GoReact Method of Feedback

Participants described three types of feedback they received within GoReact, buttons, written comments, and video comments. The buttons are automated responses the instructors use to make quick remarks in real-time while reviewing the students' videos, which mark the videos with little comment squares. Brenda explained all three

types of feedback, "teachers watch the video, and then they write comments down. If they need to, they will provide an example in sign language, so you have comments on the videos as well as a video that they will add in." Brenda also described the ability of instructors to add comments to mark each utterance in ASL as either equivalent, nonequivalent, grammatical, or nongrammatical. The comments appear as little squares that continually pop up when the students review their assignments. Erin went into further detail regarding instructors' video comments, "every now and then they can post their own video comments, so they will show you a more conducive way to do that portion of the assignment and make corrections in ASL" This allows students to review the completed work later, with comments on the right of the screen, alongside their interpretation.

Grading

All participants explained that grading was not performed within GoReact. Brenda summed up the grading, "Grading was on Blackboard, and the assessment was done in GoReact." There were no additional comments related to grading.

Positive Perceptions Using GoReact for Assignment Completion

Each of the participants had positive perceptions of the GoReact tool, from intuitiveness and customizability, to the ability to reviews one's own performances and the performances of others. Brenda stated, "there is definitely an intuitiveness to it." Evan added, "I am not super computer savvy, so it was nice to have something I can easily interact with, without too much difficulty." Erin expanded on the features, "you can control how much of the video you see, like the size of the screen of the video, and the

size of you. So, I like that because I don't want to watch me." Students can shrink the size of the video of themselves to focus better on the stimuli. Erin also liked leaving her own comments as she reviews the video, "oh I messed up here and just let them know while they're watching, it will pop up and be like well, I restarted this video or this sentence in ten seconds or whatever."

Alex offered a similar and discrepant view, "I like the fact that I can minimize myself and enlarge the consumer or vice versa, where I just have to rely on hearing and where myself has to be seen." He liked the ability to look at himself larger to make sure he was producing the interpretation correctly. Karen liked how she could go back and complete the assignments again, "you can do it again and again, and you can delete it. It is not just a one-time thing, which is really good."

The participants all mentioned the benefits of being able to review the assignments after completion. Evan remarked that videos present a good way to review his work, and "see what needs to be fixed. Maybe I am moving around in my chair a lot. Maybe my eye contact is not very good, or my facial expressions are really off, or my sign clarity is bad." He remarked that was one of the greatest benefits of the program.

Many participants mentioned the benefit of reviewing their peers as well. Alex stated, "it has helped us all. We learn from each other, and we can see each other's product right there." Brenda added, "it helps us gauge each other."

Alex described the benefit of creating assignments in a similar way graduates of the program will be assessed when seeking ASL Interpreter certification, "the National Interpreter Certification and the Educational Interpreter Performance Assessment. Both

of those are video based, so they're gearing us up for that." Evan was the only student to mention the cost of using GoReact, "it is 20 dollars, and I think that is a really good price for a service as well defined as GoReact."

Negative Perceptions Using GoReact for Assignment Completion

The negative perceptions expressed by participants can be grouped into three main groups, technical issues, poor stimuli, and the challenging nature of the assignments. The negative statements regarding stimuli had less to do with GoReact as an assessment tool, and more to do with the stimuli chosen by the instructors, for students to interpret. Alex described the negative quality of the stimuli, "It's recordings from the eighties that are not directly on the individual. They're from a side profile, so we're having to understand that or it's fuzzy, and hard for me to make out." He called the overall quality a hindrance to his success. Erin further addressed the stimuli, "we use very old videos for our stimuli, so it looks like they turned off all the lights and lit one candle. That is the videos, not GoReact."

Every participant mentioned technical issues completing the assignments. Alex described his experiences creating an assignment where the video stimuli starts before he is ready, as well as, "stimuli that is signed is frozen and is not moving, and I'm just being recorded and there is a time limit on the test." Alex would just sign or voice that the stimuli is frozen.

Brenda mentioned instances where students were kicked out of assignments because they start too soon or pause, "I had never seen Go React. I did not know anything

about it, so it was hard to learn how to manage it and not sacrifice your grade or your assignment. It was challenging."

Erin described another negative scenario where GoReact doubles the sound after it posts, "you can hear the stimuli and you can hear you, so it overlaps and gets really hard to hear, so you have to finagle it a little bit to kind of turn one off, turn the other off." She also mentioned the overlap issue occurring with the video as well. Having the system crash is another issue Erin explained, "So, I am at home two days before it is due, and GoReact crashes. My computer crashes and I cannot get back into it." Erin continues to describe how the instructors handle these issues, "if your GoReact crash, you know, too bad, so sad, because they want to mirror a true testing environment."

Finding adequate technology was another hurdle for students. Lena explained, "My computer is super old, and my camera does not work anymore, so I have to come to school to complete the assignments." Erin elaborated, "having to come to school after a long day and film, because I cannot film at home is a bit stressful." Alex added, "whenever they would give us timed assignments, it is going to be open from 8 to 4, and you have that window, and I'm like, well my internship is from 8 to 3." He explained this being a problem since his internship was over an hour away from campus.

Beyond the technical issues, two participants elaborated on the challenging nature of the assignments. Brenda found the assignments time-consuming and intense, "It was heady material. A lot of times we would look at something and be like, I am really not at that level. So, they were very challenging. As we grew in the program, they got very

challenging." Brenda recounted a time when she had a hard time during a test, "Just do not cry. That becomes your new goal, just not breaking down."

Evan provided another negative perception due to challenges not identified by the other participants. Evan preferred live interpretation face-to-face, for the ability to interact with the clients. He mentioned that video tests were a struggle and something he did not look forward to. He wanted the ability to stop someone while watching them sign, "I could not stop them. I could not ask them to clarify, especially in instances where there might need to be some expansion on a certain topic or if it was material that I was not given prep for." This was particularly an issue when he was not able to find prep material on his own, or not given time to do so.

Evan added, "I personally dislike video recording, especially for testing. I do not think that it is a fair and equal way to test, especially in our field. In the field I am going into, interpreting." Evan likes the ability to stop his client if absolutely necessary, and figure things out based on their body language, and how they look. He also cited the ability to interact with customers to gain comfort and give and receive input on the interpretation.

Evan also commented on the challenge of consecutive interpreting compared to simultaneous in a video format, "simultaneously interpreting is a little bit better, because I do not have breaks. The breaks in person, when I have had to turn to consecutive, to better clarify for my client in my internship, has been fine." Evan found the pauses in consecutive video recording very unnatural and disjointed:

In video, it is really weird because it does not feel natural at all because there's this pause. And the pauses, I understand why their length varies, and why it is like, oh you have ten seconds between this, but they sometimes reference things before that pause happened, and then the pause happens, and the next chunk comes, and interpreting that chunk is weird because it immediately connects to the previous chunk, and because there was that pause, I am taking that moment to try to figure everything out and then give it quickly, so it feels very disjointed.

Evan continued to explain that he did not have similar issues with simultaneous, since there were no pauses.

Positive Perceptions Receiving Feedback Through GoReact

All participants had a positive perception of the use of video-based feedback created by their instructors. The video-based feedback allowed students to locate a portion of their performance that needed improvement and view a video of the instructors correcting their gestures. Erin pointed out that receiving feedback in this way was helpful because "it was not just a list of all the things you did wrong and a list of all things you did right on paper, and you have got to figure out what it was." She also referred to the ability to see the feedback alongside the assignment. She was able to pinpoint where she needed to improve and what she needed to work on. She also elaborated on the benefit of having visual feedback, "I like visual learning, so I like being able to see everything mapped out really neatly. I thought was helpful."

Evan added, "GoReact having the ability to show me the videos of my professors going, here are your other options, was very helpful." Karen described the advantage of

being able to pinpoint exact moments where she needed help, "If you want to go back to that point, it logs it. If you say you want a comment here, it gives you the time, you can see exactly what he was talking about." She liked the ability to pull the video back to watch it and practice it repeatedly. GoReact creates a time stamp every time the student or instructor places a comment. This allows the student the ability to click on any given section of the video.

Karen also mentioned the benefits of video-based feedback versus written, "a lot of times if there is just written feedback, you are like all right what exactly does he mean by that? Here he is actually showing you what you need to do." Erin added that she liked that she could put her critiques next to the instructors' critiques and agree or disagree. Brenda highlighted the advantage of having a video record of all the work and feedback provided by the instructors, "We have our trail of work, so we can go back through all the semesters and see where we were, where we are now. We have all that experience, plus the comments stay there."

Negative Perceptions Receiving Feedback Through GoReact

Although three participants described negative perceptions relating to technical aspects of feedback, all six participants relayed that the instructors were largely responsible for negative experiences receiving feedback through GoReact. The use of the feedback features within GoReact was used inconstantly and did not always maximize the benefits of the tools available. Alex mentioned that "I do not think we used the record feature in the feedback as much. I think instructors do occasionally, but not as often as it could be." Brenda added that she feels slighted by the amount of comments she receives

from her instructor, "he gives everybody a lot of comments, but I have like four. The instructor is just like, good, fix all of this, goodbye. When I see someone else's 24 comments, I get jealous."

Brenda also mentioned the negative quality of the instructor's video-based feedback, "Sometimes they would be recording in their homes, so it would be blurry and really hard to see them. A lot of times the lighting is really challenging. It is quite annoying." Karen also mentioned the inability to get timely feedback, "The negative side, it's not really GoReact's negative, is trying to get the feedback from the teacher sometimes they're overwhelmed with so much to do." Lena highlighted a negative aspect of instructors over-using the comment buttons, "if it is used too much it is just maybe too vague." In the past, she would receive detailed comments, but with the new feature it highlights mistakes, but does not provide solutions.

Some of the negative perceptions regarding feedback involved technical issues. Erin recalled one instance where she submitted a video and only received "Uh Oh, in the comments. So, I pull up this video and all it says is Uh Oh. So that induced a little bit of panic, but it got resolved so it has never really hindered anything."

Brenda explained a challenge getting the comments to appear, "you have to figure out where to click to make the comments come up, and not take the video away. That's challenging for me." Evan described the difficultly of lining up the feedback with his original assignment, "my frustration was with the timer on my video as it goes, because the way that they input their video comments or their video feedback, it is not exactly as the part that they are analyzing starts." He explained that he has to go through the video

numerous times to find where the spot is, that the instructors are addressing in their comments.

Suggestions

In the focus group setting, Erin, Brenda, and Alex all expressed that it would be helpful if GoReact could do screen recording. Karen expressed a desire to have the ability to hide yourself out of a video while recording, "especially when you are first learning, it is very hard to keep yourself signing and trying to mentally grasp everything, change it over, swap it over, and you are watching yourself at the same time." She taped a piece of paper over her picture on the screen, so she could focus on what the subjects are saying. She mentioned it would be even harder without the use of mirroring, "because you think you are moving this hand, and the hand over here moves. It is opposite. So, you are going, wait a minute, am I doing this wrong?"

Evan suggested an option for concurrent video feedback, "if I could see them happening at the same time, and that the feedback here goes away, and then I go back to mine, having that option, I feel would be very helpful for me." He does not like the constant need to go back to look at it, just to go back to the end to sign. He would like the option to have it run at the same time. Evan added that he would like a feature in GoReact for live feedback, "if I was sitting at home, and doing an assignment, and I was capable of testing with someone who is live and in-person, and I can go, you know, hold, let us back up, let us clarify here." He would also like the ability to stop a speaker while interpreting.

Evan also recommended the addition of an in-person element to the recorded feedback within GoReact. He suggested that the instructors could sit down with them after they perform their assignments, and show them what they got wrong, and how to correct their mistakes. Ideally, these sessions could be recorded and posted back to GoReact, "all our professors are trained interpreters, who have multiple years under their belt. They know what to look for, but even they might miss something while they are writing or notating." With only six students in the program, Evan did not feel the limitations and time constraints would be an issue.

Discrepant Cases

Overall, the participants were largely in agreement with their perceptions of the assessment tool. Evan described the only discrepant case against using GoReact for ASL interpretation assignments, with the inability to interact with the subjects. Karen offered the only discrepant case against the ability to see herself during recording. She was the only participant to dislike the live playback feature of her own recording.

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Summary

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The use of a historical context was used to describe common lived experiences of the participants. All participants had used the Blackboard Learning Management System as a means for submitting assignments and receiving electronically written feedback. Although some participants had expectations of the type of assessments they would be completing in GoReact, none of them could predict exactly what that would entail. All participants were consistent with the methods they completed assignments and received feedback. The section on assessment methods illustrates the assignments and feedback to

gain an understanding on the collective phenomenon of the collective group. Based on the data, grading was not a part of using GoReact.

Intuitiveness and customizability were highlighted as positive perceptions of assignment completion. Technical issues and low-quality stimuli were the basis for much of the negative perception in completing assignments. Video-based feedback was collectively perceived to be a clear positive aspect of feedback though GoReact. Feedback negatives largely hinged on the inconsistencies of the instructors to utilize the tools to the best of their abilities. Suggested improvements included adding synchronous video options and utilizing screen recoding capabilities within GoReact. In Chapter 5, I will summarize the data and present conclusions and implications for this research.

Chapter 5: Summary, Conclusion, and Recommendations

Introduction

The purpose of this study was to document the lived experiences of students using GoReact to complete coursework for sign language interpretation courses. I chose a phenomenological research design to understand how students perceived the adoption of GoReact as their primary assessment method. The purpose of phenomenological research is to make sense of a phenomenon from a participant's perspective (Englander, 2016). My goal with this study was to capture and understand the individual and shared perceptions of the group of students using the technology. I sought to learn how individuals experience the technology and the meaning behind their perceptions.

Participants highlighted intuitiveness and customizability as positive perceptions of assignment completion within GoReact. They also perceived video-based feedback from instructors to be a positive feature of GoReact. Participants indicated technical issues and low-quality stimuli as negative attributes of completing assignments. Negative perceptions regarding feedback hinged on the inconsistencies of the instructors to utilize the tools to the best of their abilities.

In this chapter, I will describe the summary of the study and my interpretation of findings. The limitations of the study will also be described along with recommendations for further action and research. The chapter will conclude with my reflections on the study and closing comments.

Interpretations of the Findings

While intuitiveness and customizability were highlighted by the participants as positive perceptions of assignment completion within GoReact, technical issues and low-quality stimuli were the basis for much of the negative perception in completing assignments. Mobarhan et al. (2015) found that the development of electronic assignments requires training, and technology literate students with necessary equipment and software were successful. This study resulted in similar findings because technologically savvy students with better equipment were better able to complete the assignments with less technical issues.

Gromik (2015) found that using video recording functions on cell phones was effective to build and evaluate second language speaking skills. Students from Gromik's study felt that cell phone technology will become less of a hurdle as the technology becomes more commonplace. The more experience that participants in this study had with technology, the greater ease they had with assignment completion.

Participants in this study collectively perceived video-based feedback to be a positive aspect of feedback though GoReact. Previous research supported the idea that video-based feedback simplifies marking and increases the efficiency in responding to student work (Seror, 2013; Yuan & Kim, 2015). Students feel more engaged with feedback and gain a greater understanding of instructors' comments (Henderson & Phillips, 2015). Students also feel a greater bond with teachers using the video technology (Borup et al., 2015; Watts, 2016).

Feedback negatives in this study largely hinged on the inconsistencies of the instructors to use the tools to the best of their abilities. This finding aligns with those of Mobarhan et al. (2015), who addressed the technological literacy in electronic portfolio creation, finding that better technology training was essential for teachers and students to use the portfolios effectively. To create meaningful feedback, instructors need more robust training on the use of tools within the assessment program.

Kearsley and Schneiderman (1998) used engagement theory as a framework for technology-based learning environments to draw upon elements of past learning theories. Creating videos for nonmedia related disciplines has the power to engage students throughout the learning process (Shuldman & Fontaine, 2015). Participants in this study supported the findings of other research regarding engagement theory by applying the lessons of ASL interpretation into practice. The use of video strengthens the extent to which students play a key role in their education (Shuldman & Fontaine, 2015). Once the instructors have the assignments, they continue the engagement through video-based feedback.

The engagement of video feedback allows for direct and meaningful criticism with the intent of correcting misinterpretation visually. The results are also prompt, if not instantaneous, which also involves a higher degree of engagement (Evans, 2013). Participants were able to view each other's work, learn from it, and offer constructive criticism in peer-to-peer reviews. Participants also credited the ability to review their own work as another method of discovery, self-reflection, criticism, and corrective learning. Corrective feedback challenges students to further extend and refine their understanding

and engages students in productive learning (Evans, 2013). Through scaffolding of assignment execution, self-reflection, peer-to-peer reviews, and instructor feedback, participants stayed engaged throughout the learning process.

Mayer (2014) developed the cognitive theory of multimedia learning to explain the principle that words combined with pictures are more effective when learning than words alone. The initial assumption of the theory is that oral and visual channels in working memory can be used to process knowledge concurrently to deepen learning comprehension (Mayer, 2014). Participants receiving video-based feedback were able to see instructors' corrective gestures and listen to explanations of what they performed incorrectly and how to fix those mistakes. The ability to receive visual gestures along with verbal feedback accessed the participants' oral and visual channels for a more complete understanding.

Limitations of the Study

One possible limitation I identified involved the sample size of study participants. The ASL interpretation program at the participating college has a limited number of students, so offered a limited number of students completing their coursework using GoReact. Based on the phenomenological approach to the study, I solicited interviews from all seven of the cohort of graduating students. One student declined the opportunity to take part in the study, while another participated in the one-on-one interview but declined the focus group interview. One concern with this small sample size is the possibility of not determining significant relationships within the data. To alleviate this concern, I maximized the use of in-depth interviews in this study.

Another concern limiting the study was the use of interviews as the principal data collection method. Data collected during interviews could be misrepresented due to the emotional condition of the participant, individual predilection, or their lack of understanding of the subject (Patton, 2014). I eased all participants involved in the research into their interviews, made them feel comfortable with the process, and gave them a comprehensible concept of the research.

Interviews can be exposed to inaccuracies in recollection when participants cannot recall details of a topic. I addressed these memory concerns with expedient interviews, holding them immediately on the conclusion of the class. Additionally, I was employed by the college for 7 years and was aware of the change in assessment methods used by the ASL interpretation department, although I taught at a separate campus in a different department.

Recommendations

This study was limited to six student participants using GoReact e-assessment to complete their coursework to receive ASL Interpretation AS degrees. To understand the full scope of using e-assessment in ASL Interpretation courses, I would recommend researching additional tools and interviewing instructors to understand their perceptions of using the tools to receive completed assignments and provide feedback to student. Lecheler et al. (2013) studied the use of Avenue ASL without a comparative method. GoReact (Smith, & Harris, 2014) and SignAssess (Mann et al., 2014) have been reported as solutions for ASL interpreter e-assessment but lack thorough research.

Additional research could investigate the issue of proper technology training for students and instructors using e-assessment tools. Although technology can be used effectively in education, it is essential to have appropriate training and understanding of the technologies (Lee, 2014; Mobarhan et al., 2015; Richards, 2015). While participants of this study referenced the instructors' improper use of the tools, I did not counter these findings with instructors' input. Based on the limitation of using interviews as the primary source of data collection, future research could include quantitative methods to assess the connection between students' perceptions and students' success and ask the question: Do the e-assessment tools contribute directly to student success?

Implications

The potential implications regarding positive social change as a result of this study concentrate on the individual, institutional, and societal levels of educational organizations. The individual impact focuses on students and the potential for students to employ video-based tools to create projects and receive video feedback from instructors to facilitate learning. Student achievement suffers when students lack motivation to complete projects and instructor feedback is limited (Kaufman et al., 2006). If the assessment methods are meaningless to students or obstruct learning, the development of educational habits at the institutional level discontinues (Kaufman et al., 2006). The objective of the societal level of impact includes decreasing unemployment. Inadequately-instructed students have insufficient proficiency and comprehension required to get hired and retain employment. To address the needs of students and their

learning evolution, I identified possible challenges with the adoption of new e-assessment instruments in this study.

With the results of this study, I contributed a theoretical framework for course developers to use to design and improve intuitive and meaningful assessment methods. Considering the empirical implications beyond GoReact, the findings from this research can be applied when analyzing students' perceptions of alternative assessment tools. The instrumentation can also be used for data collection and analysis can contribute to further research involving other assessment methods and procedures. The contribution of GoReact analysis to the qualitative research foundation will enable researchers to leverage the results of this study to construct future research involving GoReact and other e-assessment methods. This research is also valuable for institutional stakeholders in terms of my examination of the perceptions of students not only using GoReact but any e-assessment methods currently being used or being considered for adoption.

My recommendations for practice include involving students in hardware and software adoption decisions. If students perceive the technology to be meaningful to their learning, it has the potential to increase student enrollment, retention, and success. These successes can lead to greater institutional efficacy and a better prepared workforce for meeting the societal needs defined by the Department of Justice through the ADA (1990). Furthermore, the graduates of our colleges and universities gain the ability to better serve deaf and hard of hearing persons through improved learning opportunities.

Conclusion

A study by the Modern Language Association listed sign language as the third largest enrolled secondary language course in the United States (Goldberg et al., 2015). In addition to the increase in recent enrollment, the U.S. Department of Justice (2014) refined the ADA of 1990 by placing stricter guidelines on the requirements of qualified ASL interpreters. One of the primary difficulties emerging from these larger enrollment numbers and stricter guidelines is that college educators are tasked with providing meaningful assessment for student learning outcomes. ASL Interpretation instructors have the difficulty of creating assessment that focus on evaluating individual student gestures and providing physical feedback. The assessment method reviewed in this study involved students creating video interpretation of recorded events with instructors providing video feedback.

The inclusion of video-based technology has added a hurdle to students learning ASL interpretation. Students are often attempting to learn how to interpret using a new language, while they must also overcome technical design issues. These obstacles present few distinct solutions to efficacious sign language assessment. Administrators and faculty share the responsibility of determining the best solution. The objective of this research was to interpret how students regard using particular ASL interpretation assessment methods to determine the best approach to meaningful assessment.

I used a hermeneutical, phenomenological approach to describe the common lived experiences of the participants. All participants were consistent with the methods they used complete assignments and receive feedback. Participants highlighted intuitiveness

and customizability as positive perceptions of assignment completion within GoReact. Video-based feedback was collectively perceived to be a clear positive aspect of feedback through GoReact. Technical issues and low-quality stimuli were the basis for much of the negative perception in completing assignments. Feedback negatives largely hinged on the inconsistencies of the instructors to use the tools to the best of their abilities. Participants' suggested improvements included adding synchronous video options and using screen recoding capabilities in GoReact.

      As colleges continue to adopt electronic methods for everything from potential student applications, registration, financial aid, and text books to online course delivery, students must be at the center of the technology selection process. By understanding student perceptions, administrators can clearly guide technology adoption to meet the needs and demands of students. By starting with students and including instructors' perceptions, users of the technologies can create a clear picture to administrators and other stakeholders.

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Appendix: Data Collection Tool – Interview Questions

Pseudonym:

Online Course:

Assessment Method:

Q. 1: What experience do you have with online coursework?

Q. 2: Prior to taking the course, what expectations did you have for the types of assignments you would need to complete for the course?

Q. 3: What experience do you have with electronic feedback?

Q. 4: What feedback did you expect to receive in this course?

Q. 5: What assignments were required to be completed during the course?

Q. 6: What was the method of feedback and grading regarding your submitted assignments?

Q. 6: How did these methods contribute to or limit your success in this course?

Q. 7: What were some positive aspects of the assignments given throughout the course?

Q. 8: What were some positive aspects of the feedback and grading given to your assignments?

Q. 9: What were some of the negative aspects of the assignments given throughout the course?

Q. 10: What were some negative aspects of the feedback and grading given to your assignments?

Q. 11: Anything you would like to add?