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Supporting KSU English Instructors in Meeting the Access Needs of Deaf and Hard and Hearing Students

by

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A capstone project submitted in partial fulfillment

of the requirements for the degree of

Master of Art in Professional Writing

in the Department of English.

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Acknowledgements

Abstract

The lack of instructors prepared to work with deaf and hard of hearing (DHOH) students in higher education causes course accessibility barriers (Palmer et al., 2019; National Deaf Center [NDC] of Postsecondary Outcomes, n.d) and increased stress for students and instructors (Valle-Flórez et al., 2021; Salko, 2023). These obstacles inhibit DHOH student graduation rates and workforce entry (Garberoglio, 2019). Instructors require more training to effectively support DHOH students with best practices beyond basic accommodations. This qualitative research study presents phenomenological data from six interviews conducted with participants from one large, southeastern, R2 public university (Kennesaw State University, [KSU]) and one Instructional Design consultant from Gallaudet University. The interviewees included DHOH students, English instructors, and student and faculty support service providers. The researcher's autoethnographic reflection as a hard of hearing student intersected with interview data to construct a model for instructor-student collaboration on comprehensive accessibility. These findings echoed the trends identified in current literature: instructors and DHOH students agreed that instructors require more training and resources on DHOH student needs. Universal Design for Learning (UDL) offers a gateway for instructors to design comprehensive accessibility within their courses (Dolmage, 2017; Cumming & Rose, 2022). This study generated a professional development workshop and an open-access digital guide for KSU to train its English Department instructors. Those materials and the findings offer a model for continued expansion of instructor-focused, UDL-based DHOH student support through trainings, guides, and increased service connections for universities across the US.

Keywords: deaf, hard of hearing, professional development, Universal Design for Learning, accessibility

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Chapter 1
Introduction

Accessibility is vital to Deaf/deaf/hard of hearing[1] (hereafter DHOH) students' success in higher education and in developing professional skills. That raises the complex question of how to effectively provide accessibility so that DHOH students participate in their education as their hearing peers without feeling othered, pitied, or coddled. University contexts vary in their awareness of accessibility needs and in providing accessibility training to their instructors. This capstone's research focuses on one large, R2, public university in the southeastern United States: Kennesaw State University (KSU). The location choice stems from my own experiences and familiarity with KSU and the further need of clear, consistent, and detailed accessibility training provided to instructors there. Additionally, as a hard of hearing student who has obtained both bachelor's and master's degrees from KSU, I am uniquely positioned to investigate this topic and actively apply the research within this university's context to benefit other DHOH students who attend, while providing a model that other universities' students and instructors can follow.

My background as a hard of hearing student with a deaf sister has driven my research because DHOH accessibility has been integral for my own academic and professional success. Since high school, I have been hard of hearing. Even before that I watched my younger sister struggle to adjust to going deaf in a school system that rarely cared about her equitable access and educational security. We both attend KSU and have experienced individual journeys of understanding our rights to accessibility, what accessibility means for each of us, and how to navigate those conversations with the instructors meant to support us. Those topics are challenging, and the conversations can become exhausting. Instructors and students need guidance to collaboratively problem-solve accessibility issues and to circumvent inaccessibility

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[1] This capstone uses the term DHOH all-inclusively because of the array of identities for people who are deaf or hard of hearing. These include DeafBlind, part of Deaf culture, late-deaf, and hard of hearing among others.

before it arises in course contexts. It is profoundly important that this research becomes active practice for instructors at KSU and other universities.

Research on how best to prepare instructors to support DHOH students must extend beyond conjecture and into actionable steps that solve the problem. This capstone draws qualitative research data from a literature review, interviews, and autoethnographic experience of the researcher. The survey of the literature examines DHOH accessibility law, university accessibility trends, DHOH student needs, and instructors understanding and training on these topics. That survey allows a greater understanding of the perspectives of individuals enmeshed in the struggle for accessibility. Further phenomenological insights draw from interviews that include three instructors teaching at or providing support to DHOH students at KSU, one instructional designer from Gallaudet University, and two deaf students currently attending KSU. This spread of experiences provides a nuanced introduction to one university's gaps in DHOH accessibility, advocating for improved instructors training and providing a model for further inquiry at a greater scope. Inclusion of my autoethnographic experience as a hard of hearing master's student and how my participation in a course led to the professor restructuring classroom procedures for the better education of all students provides an example of these practices in application. This research has enabled me to create two deliverables: 1) a digital, open-access guide for instructors, and 2) a professional development workshop, both providing necessary training, options, and explanations to instructors so that they can confidently ensure the success of all their students. These deliverables stemming from this research establish foundational materials that can serve as models for other departments within the focal university and for other universities.

As my home department is KSU's English department, where I earned my bachelor's and am now earning my master's in the Master of Arts in Professional Writing (MAPW) program, this project aims to provide training specifically to KSU English instructors. Although the

presented research operates in a limited scope, that does not detract from its generalizable value. Accessibility improvements must start somewhere to provide a model of long-term training and support. Beginning that conversation and action through phenomenological and autoethnographic research in a place of familiarity to me and in particular need for such resources is the most logical step to combining my applied and creative writing focuses to benefit my community. Before examining the literature and theoretical foundation for this research that inform this research's methodology, it is necessary to consider the meaning of accessibility, the gap this research addresses, the questions posed in this research, and the deliverables that have been created from all the previous.

Background

Higher education should be accessible for all participating students, but accessibility barriers often undermine DHOH students' efforts. These barriers include listening fatigue; lack of captioning, interpreters, or accessibility tools; unrealistic expectations and inflexible classroom operations; and ostracization from professors and peers (Palmer et al., 2019; National Deaf Center [NDC] of Postsecondary Outcomes, n.d). Inaccessibility makes notably fewer DHOH individuals successfully attain higher education outside Deaf schools. A study of 2019 data found that, while DHOH students and hearing students completed high school at relatively similar rates (83.7% for DHOH and 89.4% for hearing), the gap widened at higher education (Garberoglio et al., 2019, p. 4). The data showed 12.7% less of DHOH than hearing students had "some college" while around 15% less of DHOH students completed an associate's or bachelor's degree (Garberoglio et al., 2019, p. 4). The lower rate of degree completion shown by DHOH students indicates that universities need to investigate education accessibility gaps and create student and instructor support to close them.

Universities prepare students professionally beyond class content. Students have a right to education (Lee, 2020) and are aware of this right (Perry-Hazan, 2021). Part of the right to

education means students with disabilities having equitable access to participate in that education. Accommodations are essential tools for achieving that equitable access and the successful graduation of students with disabilities (Allarakhia, 2017). Effective, widespread accessibility is complex, and a one-size-fits-all approach ignores individual needs and abilities (American Psychological Association (APA), 2012; Weis et al., 2016; Dobson, 2021) and limits instructor awareness of accessibility to a one-and-done instead of a flexible, adjustment-based pedagogical approach that ideally starts from a course's inception. This complexity further challenges instructors less familiar with accessibility and disability.

All universities should be, in actual practice rather than merely in theory of law, accessible to DHOH students rather than assuming historically Deaf[2] universities will cover the gap. This capstone occurs in the U.S. context. Most of U.S. society and its workplaces are hearing, and DHOH individuals will become professionals in those spaces. Therefore, DHOH students attaining an accessible education at any university is essential for their educational rights, U.S. American Disability Act compliance, and these students' preparation for navigating workplaces. It is important for DHOH students to learn not only what tools are available to help them, but also the self-advocacy skills needed to cultivate accessibility in their workplaces. Practicing self-advocacy in a university environment where there are supports like Student Disability Services is therefore valuable professional preparation. This experience is especially vital for students from backgrounds where they are not a child of a Deaf adult (CODA) or a spouse/sibling of a Deaf adult (SODA), or who were not able to attend a majority deaf high school, or who became deaf later, or who are hard of hearing and may feel ostracized both from Deaf and hearing groups. Providing accessible university education to DHOH students offers

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[2] It is necessary to acknowledge the distinction between deaf and Deaf. While deaf refers to the condition and can refer to some people who are deaf, Deaf specifically is claimed by people who are a part of Deaf culture and that community. Not all deaf people identify as Deaf.

lifelong self-advocacy benefits that intersect with professional skills to create work-ready individuals who can skillfully navigate the majority-hearing US society.

While a plethora of supports, organizations, individuals, and other factors determine a university's accessibility for DHOH students, this capstone focuses on the instructor-student relationship within the classroom. Instructor-student cooperation is necessary to effectively discuss, create, and provide accessibility that makes a course itself function flexibly to accommodate student abilities and needs for engagement styles. Literature has shown that training administered in a context-aware, individualized, and campus-based way has given instructors both understanding what students with disabilities need and the tools to support them (Pure et al., 2018). Instructors enormously influence students' motivations, knowledge acquisition, and completion of a university education (Komarraju et al., 2010; Hoong Wong & Chapman, 2023). However, instructors also come from varied experiences, and university training of them varies in competency. Training that prepares instructors to confidently work with students with disabilities may not always be consistent, problem-solving focused, or up to date (Silverman, 2023). Furthermore, instructors themselves need support from third parties like student disability advocates to gain the awareness and skills necessary to transform their courses and classrooms into fully accessible spaces (Griesmeyer-Krentz et al., 2022). Effective conflict resolution requires a collaborative perspective that harnesses agreeableness to foster mutual empathy and understanding in both parties (DeChurch & Marks, 2001) and builds upon an open exchange of ideas, knowledge, and thoughts between parties to better develop a mutually satisfying resolution (Afzalur Rahim, 2002). Accessibility improvement cannot be examined from one direction; both sides of the instructor-student equation must be respected, heard, and united for accessibility to be successfully applied.

As a school that has been growing in student body for its fifth consecutive year (KSU, 2023/24), KSU needs more resources to help its instructors support its students. Fall 2023 saw

a total of 45,152 students, a record number for the university (KSU, 2023/24,). That surge in attendance could include more hard of hearing students than might be realized, as hard of hearing individuals often but not always may be more accustomed to having to compensate for their disability to the point of not being acknowledged or even realizing they have options for accommodations and support (Lenyszyn, personal communication, 2018). Therefore, KSU's expansionist mindset demands an equally open and growth-focused initiative for instructor accessibility training. A potential hamper is limited data and understanding of students with disabilities (Farah et al., 2022). Furthermore, conversations of improving higher education accessibility have often centered on technology (Moriarty, 2018), although more recent work emphasizes accessibility as an infrastructural improvement to campus operations, from building design (Parise, 2024) to course and pedagogical considerations (NDC, n.d.), and campus-wide mindset (NDC, n.d.). This capstone's work seeks to spread these national initiatives for improved DHOH student access to the local university community, KSU. Most instructors want to make their classes more accessible and to embrace the idea of access being more than basic accommodations (Palmer et al., 2019), but they may not know the steps to take (Moriarty, 2018). To address the gap in KSU's instructor training on understanding and creating accessibility for DHOH students, it is imperative to develop and introduce resources specifically outlining best practices, steps to take, and further support for instructors to in turn support their students.

Research Questions

The qualitative research presented in this capstone focuses on two primary questions. These are as follows:

1) How do DHOH students at KSU perceive current classroom and university accommodations?

2) What essential knowledge, tools, and strategies do KSU English instructors require to effectively collaborate with SDS in support of deaf and hard of hearing students?

The created deliverables apply this research's generalizable knowledge to improve instructor-student support in KSU classrooms. Deliverable 1 (D1) is a digital, open-access guide for instructors that details what DHOH students want them to understand, how to implement and adapt accommodations, and where they can find further resources. Deliverable 2 (D2) is a professional development workshop that I have presented to KSU's English department instructors in collaboration with KSU's Digital Learning Initiative (DLI) department and Bonna Lenysyzn, KSU's Deaf and Hard of Hearing Services Coordinator. A link to the digital guide is included in Appendix A, and the PowerPoint slides and script are included in Appendix B. These deliverables make knowledge and good practice about accessibility for DHOH students accessible to instructors seeking resources on how to improve their pedagogy and prepare courses for these students. Moreover, both deliverables provide examples to the wider academic sphere of models for instructor training and support.

Document Organization

This capstone includes six chapters and appendices of the interview tools (consent forms and questions). Chapter 1 provides the introduction, background, rationale, and research questions and objectives for this project as well as a summary of the other chapters. Chapter 2 presents a literature review of disability law, DHOH accessibility and accommodation needs, accessibility and accommodation best practices, and instructor training and preparedness to work with student accessibility. Chapter 3 overviews the research methodology utilized in this capstone. Chapter 4 displays the interview data filtered through researcher coding to identify trends. Chapter 5 discusses the data and how they inform the deliverables. Chapter 5 also details the researcher's autoethnographic experience as a hard of hearing student in a classroom transformed to be more accessible to illustrate the effectiveness of instructor-student relationships and collaboration in generating meaningful improvement. From the discussion and illustration of applications in Chapter 5, the chapter ends with implications for current

proceedings and future work. Chapter 6 finalizes this research with a conclusion that identifies

the most valuable applications of this research and its created deliverables before posing further

questions that need to be addressed to further contribute to transforming higher education into a

truly accessible space. The appendices demonstrate the interview tools and consent forms used

to collect the qualitative data for this research and the application of the data through the

deliverables.

Chapter 2
Literature Review

To understand the next step in higher education support for deaf and hard of hearing

(DHOH) students, it is necessary to define accessibility and how to achieve it as well as to

survey current DHOH student and instructor concerns. Present disability laws and protections

enforce minimum accommodations needed for basic participation but fail to actively endorse

pedagogies that embrace more integral accessibility as part of the academic environment

(Hickox, 2011; Pappas, 2020; Karger, 2021; Mosley, 2022; Doyle, 2022). Researchers agree

that instructors need and want more training and resources to prepare them to work with DHOH

students (Rao & Gartin, 2003; Papadakaki et al., 2022; Salko, 2023; Sniatecki, 2015; Valle-

Flórez et al., 2021). Moreover, DHOH students perceive a lack of instructor preparation

(Salisbury, 2017; Alshutwi et al., 2020; Withey, 2023). For DHOH students to receive more

effective and empathetic support in higher education, instructor support must go beyond basic

accommodation and adopt a mindset and practice of more comprehensive accessibility.

This literature review first conceptualizes the nature of what I am calling comprehensive

accessibility to ground the subsequent discussion on instructor perceptions of training and

support to work with DHOH students. Included in this conversation are studies on Universal

Design (UD) and Universal Design for Learning (UDL) (Cumming & Rose, 2022). Additionally, this review examines DHOH student perspectives regarding higher education to parallel the consideration of instructor perspectives and acknowledge both sides of the instructor-student relationship and their concerns. Examining where current DHOH protections fall short and why instructors feel unsupported allows greater understanding of how UDL and further training and resources can be introduced to instructors. In turn, empowering them to provide DHOH students with the robust, responsive, accessible, and equitable education they are seeking and deserve.

Defining Accessibility Beyond Disability Laws

Accessibility and Disability Laws

In the United States (U.S.), disability laws and protections do declare accommodations and accessibility as a need for individuals with disabilities but are restricted by population and finite federal support. Many protections focus exclusively on K-12 students, including the Individuals with Disabilities Education Act (IDEA) of 2004 (Council of Chief State School Officers [CCSSO], 2019; Congress, 2004) and Individualized Education Programs (IEP) (Pola-Money et al., December 2005, September 2020). Beyond high school, the 504 Plan of 1973 enables people with disabilities to attain support and specialized services when they reach adulthood but is hindered by staffing and funding shortages (Pola-Money et al., December 2005, September 2020). The Americans with Disabilities Act of 1990 (ADA) is the broadest disability law and does address higher education access, but even it leaves gaps. Over a decade of research has shown that the ADA is not enough to *ensure* access due to conflicting definitions of disability and life impact (Hickox, 2011), continued ableist mindsets (Pappas, 2020), delayed support or lack of comprehension on the necessity of immediate access to educational materials (Karger, 2021), and a focus on minimum compliance rather than innovative (Mosley, 2022; Disability Advocates of Kent County, 2024) or universal design (Doyle, 2022). General opinion has echoed these findings, with some underlining that nondisabled perceptions of what accessibility

is remain stagnated and minimalist rather than innovative (Ratcliffe, 2023) and others perceiving that protections are limited by individual wealth and court access (Wilson, 2023). Accomplishing accessibility requires an empathetic, innovative mindset that reframes or redesigns spaces and the conduct within them more universally. Laws focus on minimal requirements and checklists rather than holistic integration of students with disabilities (SWD).

Furthermore, disability laws are only as effective as their enforcement. Section 504 of the Rehabilitation Act explicitly prohibits any discrimination based on disability in federally funded programs—including public universities. Nonetheless, while federal agencies, like the Department of Justice and Department of Education, explain and define laws like ADA, they do not always consistently explain how to implement accessibility in varied contexts or provide direct support for schools hampered by funding shortages (U.S. Government Accountability Office [GAO], 2020). Lack of clear guidance on creating and maintaining accessibility as a natural element of an environment leads to minimum standards of compliance. A substantial part of the Americans with Disabilities Act (ADA) Title II and Title III Regulations (2017) focused on removing physical barriers and noted that courses must be modified in modality and tools to ensure accessibility. The NAD (2002) demanded university accountability for providing equitable DHOH access, aligning with Section 504 of the 1973 Rehabilitation Act, which requires that institutions receiving federal funding comply fully with accessibility regulations. However, students who are hard of hearing or have been taught to "get by" without proper support may perceive themselves as "unworthy" of accessibility and fail to come forward (Lenyszyn, personal communication, 2019). Coupled with this reluctance to come forward is the reluctance of some universities to comply with accessibility needs. The NAD v. Harvard and NAD v. MIT cases in 2015 marked increased scrutiny of university's lackluster obedience to "industry standard" captioning (NAD, n.d.-b). While the court settlement, reached in 2019, enforced MIT's compliance with providing effective, approved captioning, it also highlighted university

irresponsibility due to MIT's attempts to dismiss the case and prior lack of accessibility (NAD, n.d.-b). If laws and advocacy place responsibility on universities, but institutions considered prestigious neglect those standards, that raises the question of how less prestigious universities perform their duties. Disability laws alone are not enough to ensure genuine higher education access because accessibility extends beyond minimum accommodations required by law.

Defining Comprehensive Accessibility

Accessibility requires flexible and innovative tools and practices in varied contexts. The United Nations ([UN], 2013) noted from Valdes (June 1998, updated March 2004) that accessibility is flexible accommodation of "user's needs and preferences" and that accessible environments included "any place, space, item or service, whether physical or virtual, that is easily approached, reached, entered, exited, interacted with, understood or otherwise used by persons of varying disabilities," leaving little room for misunderstanding. Additionally, accessibility includes both access that can be unassisted, such as a DHOH student who lip reads others, or assisted, such as a DHOH student who uses cochlear implants or captioning or other assistive technologies (Lawton Henry et al., 2014). The Assistive Technology Act of 1998, passed by the United States (U.S.) Congress, positions assistive technology, including things like screen readers, as integral to people with disabilities accessing the world. Comprehensive accessibility in the context of this research can therefore be understood as a DHOH person being able to use whatever methods and tools necessary for them to engage with others, content, or an activity or to enter and use spaces that hearing people use.

The problem with current implementations of accessibility is that they often take an added-on approach rather than an integrative one. Because accessibility has not been a priority in the design and usage of most buildings or societal structures and services in the U.S., accessibility-creating elements must be added later—meaning the present time (Morris, 2023). At times, those add-ons even create further barriers by being unreliable, shortsighted, rushed,

convoluted, or otherwise clearly jammed into an existing structure or process (Morris, 2023).
Therefore, according to Rebekah Taussig, a wheelchair user, making places and things like
classes accessible to people with disabilities creates a presence of disruption for both abled and
disabled users (as cited in Neiman, 2023); the accessibility comes across as an afterthought.
That sense of a patch job distances people with disabilities from society rather than integrating
them into everyday life and activities (Taussig, as cited in Neiman, 2023). To truly support
DHOH students equitably in higher education, the notion of creating comprehensive
accessibility for them must adopt an approach of integrated and adaptable problem-solving that
anticipates DHOH students and actively responds to their needs.

Comprehensive accessibility is intrinsically linked to equity for DHOH students in higher
education. While the fight for educational equity spans over a hundred years, it has been during
the past few decades that the *idea* of equity in education has been studied and pursued in
earnest (Jurado de los Santos et al., 2020).An equitable educational environment requires
intentional design, and the educators in such an environment are not only teachers but are
designers themselves (Boudreau, 2021); they have the power to shape how students access
and engage with their course materials. Although focused on K-12 rather than higher education,
the CCSSO (2019) provided a definition of educational equity still relevant to universities: "every
student has access to the resources and educational rigor they need, at the right moment in
their education across race, gender, ethnicity, language, disability, sexual orientation, family
background, and/or family income" (p. 3). Equitable outcomes in the context of DHOH university
students accessing their course content and activities means simply that the content, projects,
and activities in those courses must be provided in a way that the student(s) in question can
truly, fully access them at the same level as hearing students. An example would be a video that
has audio and captioning. A hearing student can follow the audio, and a DHOH student gains
the same content knowledge because accurate captions transcribe the audio. Both students can

physically access and attain knowledge of the content at the same level but in differing methods (captions vs. audio) due to their differing educational needs. Such a level of normalization of DHOH students in the classroom requires classroom designs and practices to be reimagined for a user base beyond the average hearing student.

Accessibility and Universal Design

When accessibility is *integrated*, it becomes part of an environment that employs universal design. Universal design (UD) aims to create resources, services, and structures that are usable by the widest possible range of abilities and potential user situations (Lawton Henry et al., 2014) and originated specifically to advocate for disability needs being inherently, innately, and intentionally addressed by architecture and design rather than as an afterthought (Dolmage, 2017). Recent research has demonstrated positive reception and high satisfaction among students and instructors regarding implementation of a Universal Design for Learning (UDL) (Cumming & Rose, 2022). The concept of UDL has existed for over a decade. Courey et al. (2013) saw UDL as "a set of principles and techniques for use in the classroom along with the design of instructional materials," positioning it as an all-inclusive approach to teaching that maintained flexibility for any students to learn in a variety of modes (p. 8). Furthermore, UDL "provides a blueprint" for designing courses and instruction in a way that avoids a "one-size-fits-all solution" and employs "flexible approaches" that again serve all students—not just those with disabilities (Meyer et al., 2014). UDL prioritizes every student's methods of learning, participating, growing, and contributing by offering an adaptable and responsive environment for learning. As Dolmage (2017) put it, universally designing education practices allows differing students to take differing paths to arrive at a shared outcome: demonstrating their knowledge acquisition and application. UDL's value for every student makes it an effective and equitable solution for DHOH student integration into higher education because UDL focuses on redesigning the academic space to innately possess highly accessible qualities.

UD principles construct a new mindset for approaching and critiquing educational environments from the perspective of a DHOH student. DHOH students are aware that hearing instructors often perceive them as a surprise or disruption to contend with (Salisbury, 2017; Withey, 2023). Abled people and abled-oriented spaces are often perceived by people with disabilities as seeing the disability as an unanticipated "emergency" within a space or interaction (Taussig as cited in cited in Nieman, 2023). While The Center for Universal Design at North Carolina State University (NCSU) developed design principles that addressed how architecture could be designed to accept and include people with disabilities in its userbase (NCSU, n.d.), the 7 Principles have also been applied more widely to practices and environments including private business (Section508.gov, 2017) and higher education (Dolmage, 2017). These principles address ease and feasibility of usage from a variety of abilities and perspectives:

1) Equitable Use: The design is useful and marketable to people with diverse abilities.

2) Flexibility in Use: The design accommodates a wide range of individual preferences and abilities.

3) Simple and Intuitive Use: Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills or current concentration level.

4) Perceptible Information: The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

5) Tolerance for Error: The design minimizes hazards and the adverse consequences of accidental or unintended actions.

6) Low Physical Effort: The design can be used efficiently and comfortably and with a minimum of fatigue.

7) Size and Space for Approach and Use: Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility (The Center for Universal Design, 1997, as cited in NCSU, n.d.).

This mindset of advance planning and problem-solving for inclusion removes the imposition of

DHOH students as disruptors to abled people and abled-oriented spaces. Adopting a UDL

makes higher education more efficient for DHOH students because their individual

accommodations needs can also be integrated rather than becoming an awkward retrofit

jammed into an unyielding instructional space.

Current accommodations for DHOH students push them into a hearing-oriented

environment rather than reimagining an environment that can be participated in even with little

or no hearing. The APA (2012) drew on the U.S. Department of Education's 2007 definition of

reasonable accommodations to emphasize accommodations as "adjustments" to how or where

people with disabilities perform tasks and participate in academics. This wording positions

reasonable classroom accommodations as not radically transformative, although it touches on

the idea of innovative design previously discussed. Reasonable accommodations for DHOH

students have been fought for in many recent landmark cases, including *NAD v. Harvard (2015)*,

NAD v. MIT (2015), *Sierra v. City of Hallendale Beach (2021)*, and *Perez v. Sturgis Public*

Schools (2023). These accommodations can include preferential seating, real-time captioning,

closed captioning, assistive listening devices, and American Sign Language (ASL) interpreters,

among other tools. In a classroom based around hearing students, these accommodations must

be wedged into place. Classrooms universally designing the learning experience may proceed

with a physical setup that more effectively positions DHOH students so they can better hear or

lipread their peers and instructor or may provide captioned resources for all students (Dolmage,

2017), thus making some accessibility elements that broadly support the DHOH population an

integral classroom component. If a course's space and materials are designed to be inherently

DHOH-accessible, such as with full and accurate captions (Erler, 2012), visual learning aids,

and moderated class discussions (Downs et al., 2000), accommodations cease to be bandages

on educational support gaps. Instead, they become normalized parts of that student—no

different than hearing students who bring computers to take notes versus notebooks or who

bring a skateboard to class because that is their transport rather than the campus bus. As

educational spaces adopt UDL, accommodating individual DHOH students' unique

accommodation needs becomes simpler for instructors, if they are also given proper support.

Unsupported Instructors Cannot Effectively Support DHOH Students

Instructors Need Help

For universities to achieve such equitable access of class content and classroom

procedures for DHOH students, universal design must shape everything from class construction

to instructor mindsets. It is not enough to tell instructors that they will have a DHOH student in

their class in a given semester and then to expect them to independently follow up on that with

full accountability and quality because instructors often lack the proper background or training to

know where to begin. For decades it has been shown that there is a lack of extensive and

effective training on student disability needs for university instructors (Rao & Gartin, 2003;

Salko, 2023). While there have been more recent efforts to better prepare instructors for

accommodating diverse students, instructors already "in-office" may not be given the tools or

professional development necessary to ensure they can effectively collaborate with and support

SWD. Research has found that faculty see a serious need for increased disability training at

community colleges (Pepic-Koubati, 2020) and universities (Valle-Flórez et al., 2021). Faculty

may be unprepared or unsupportive towards SWD due to "turmoil" in their academic offices

(Kraska, 2003, p. 17), lacking appropriate knowledge of disabilities and their supports (Rao &

Gartin, 2003; Sniatecki, 2015; Valle-Flórez et al., 2021), or insufficient time and training to

prepare them (Pepic-Koubati, 2020; Salko, 2023). If instructors are not given the opportunity to

understand, learn, and be heard, how can they effectively provide that to SWD?

For universities to truly pursue student success initiatives, they must provide their

instructors with the tools, knowledge, scaffolding, and time to ensure the success of DHOH

students too. Otherwise, such initiatives are shortsighted and treat DHOH as collateral of a

system that focuses on hearing only and pays lip service to increased efficiency, equity,

knowledge, and development. That DHOH students are still not graduating at the same rate as

hearing students despite increased university attendance rates (Garberoglio, 2019) suggests a

continued gap in overall student initiatives to support them, with instructor readiness potentially

being a substantial influence based on the plethora of literature having identified instructors as

not feeling prepared or heard regarding working with student with disabilities. Researchers have

identified a plethora of remedies to current faculty perceptions of low, inconsistent, or lacking

support and training: increased training on working with SWD (Taylor et al., 2021; Polk, 2021;

Papadakaki et al., 2022; Salko, 2023), a process for instructors to raise objections or concerns

and be fairly heard (Taylor et al., 2021; Salko, 2023), and fair and involved collaboration

between instructors and students to discuss accommodations and accessibility (Taylor et al.,

2021; Salko, 2023). What the way forward is for instructor and DHOH success is plain; what

remains is for it to be more widely implemented. Focusing on true accessibility brings instructors

closer to a mindset of universal design and an understanding that they are all architects of

building truly accessible courses and classrooms. However, for instructors to absorb this way of

thinking about and actively leading and guiding education, they must be aware of and

understand DHOH student concerns and needs.

  A final inhibitor to effective instructor support of DHOH students worth noting is that

current resources, such as captioning resources, may be actively flawed. Effective captioning

requires exactitude and efficiency, but results of instructor captioning compared to accuracy

recommendations in research cast doubt on these tools as reliable accessibility points without

further faculty training. In an examination of caption samples with no errors, 10 percent error

rate, and 20 percent error rate, Automatic Sync Technologies found that more than 3 percent

errors substantially eroded basic concept comprehension of caption viewers (Erler, 2012). When

captioning accuracy reached 90 percent or lower, the comprehensibility was so poor the

captions were essentially useless (Erler, 2012). A study specifically on primary causes for the

substantial gap between deaf and hearing individuals on postsecondary outcomes identified

improper communicative technology as a serious detriment to deaf student learning and

success (NDC, 2018). Thus, even current instructor services and tools for supporting DHOH

students may lack the quality necessary to truly provide for those students' needs.

      Kennesaw State University (KSU), an emerging public R2 institution, reflects these

broader findings in its own captioning shortcomings. The university notes three factors as vital to

lawful captioning regulation which reflect the National Association of the Deaf (KSU, n.d.-a)

Captioning for Access requirements: synchronization to the audio, equivalence to the spoken

word, and accessibility at any time to any student relying on captioning. To facilitate instructors

meeting these standards, KSU (n.d.) offers two options on their website for caption creation.

The first is DIY caption creation via MediaSpace (Kaltura), but it is a flawed system, only

returning 85 percent or higher accuracy captioning and requiring instructors to edit the captions

to reach the standard 95 percent accuracy (KSU, n.d.-a). Given the prior proof of universities as

a whole neglecting to provide effective captions (e.g. *NAD v. Harvard, 2015; NAD v. MIT 2015*),

little confidence can be awarded to the notion that every instructor will ensure appropriately

accurate captioning. Without instructors' interference, the KSU captioning is either nonexistent

or riddled with 15 percent inaccuracies, at least with MediaSpace. KSU (n.d.-a) does offer a

second option through Digital Learning Innovations (DLI), which offers professional captioning

services. Even this does not guarantee effective captioning, however, due to its limited

application: only videos 15 minutes or less in length can be submitted, and the service costs

inhibit widespread captioning outside of specific requests for documented students. Evidence is

irrefutable that further instructor training is necessary to provide instructors with the necessary

knowledge and skills to understand DHOH students' needs and effectively use available

technological tools and pedagogical practices to support them.

DHOH Students Feel Neglected

DHOH students currently perceive a lack of instructor support. People with disabilities are familiar with being an afterthought (Taussig as cited in cited in Nieman, 2023) and DHOH students in particular feel isolated in a majority-hearing and hearing-catered world (Salisbury, 2017; Withey, 2023). Many studies have identified active and intentional inclusion of DHOH students (Alshutwi et al., 2020) and purposeful faculty preparation to work with them (Kelly et al., 2020) as critical to DHOH student success in higher education. Centering DHOH student voices to understand their perspectives and needs is necessary because their lived experiences need to be considered when instructors and other support services craft solutions for DHOH obstacles in higher education (Johnson & Fann, 2016; Cawthon & Garberoglio, 2021). Studies have even argued for instructor and student discussion and collaboration as one of several remedies for the current higher educational gaps faced by DHOH students (Taylor et al., 2021; Salko, 2023). Achieving a more inclusive, educationally equitable, UDL-based environment for DHOH students means including them more in the process of creating that environment.

At the same time, historically poor support of DHOH has left many, especially hard of hearing students, less aware of the accommodations available to them or caused them to perceive genuine, empathetic, and informed support from instructors as an unlikely outcome in the higher education environment. Hard of hearing students are particularly vulnerable to cultural pressure to view their disability as not substantial enough to be taken seriously or be given accommodations or accessibility (Lenyszyn, personal communication, August, 2019; Toutain, 2019). Reports gauge that SWD overall may hesitate to seek the accommodation services they need: only about one-half (Gierdowski et al., 2020) to two-thirds of SWD (National Center for Education Statistics [NCES], 2022) informed the university and sought services. Furthermore, the NCES (2022) also found a disparity between support levels that students who disclosed disabilities received, based on the university type: two-year colleges only provided

supportive accommodations to 57% percent of students in need while four-year colleges

provided such accommodations to 85% of students in need. If DHOH students lack the

knowledge to describe their needs and seek appropriate support, they are at risk of missing

critical student success services like reasonable accommodations and may struggle to

communicate gaps in support to instructors who are likewise underprepared to meet these

needs.

Conclusions

DHOH students perceive a lack of support and knowledge from instructors, and the

instructors themselves often feel the same lack. Both students and instructors desire and would

benefit from more training and support from their institutions. It has been proven that disability

law alone does not secure accessibility for DHOH students in higher education beyond

minimum legal requirements. Nonetheless, those laws have established the necessity of

accessibility and accommodations in education, paving the way for greater accessibility to be

constructed by looking to pedagogical mindsets and practices like UDL. Although this topic is

complex, the solution is straightforward. Adopting intentional UDL as a backbone for increased

instructor training and supportive resources and centering DHOH student perspectives as a

model for a more universally inclusive classroom would unite the literature's recommendations

on assuaging the identified accessibility gap. Transforming universities into truly accessible

spaces requires instructors to adopt and practice UDL, which prioritizes instructor adaptability to

ensure a wider demographic of students can participate in, construct, and absorb knowledge in

higher education. This action in turn empowers instructors within their courses and classrooms

to become architects of true accessibility who can genuinely collaborate with their DHOH

students—and all other students—to provide more efficient and effective education. Instructors

and students share a reciprocal bond of learning when both are supported in their needs.

This research goes beyond theory and debate to provide a solution to the shortcomings of current instructor preparedness to support DHOH students in their classrooms. If DHOH students are going to be accepted and supported in universities, the best practices for teaching them as identified in the literature must be implemented in instructor preparation. To change instructors' understanding and support of DHOH students who are and will continue to be in their courses, the concept of accessibility must be expanded from a minimum adhering to a legal checklist to comprehensive accessibility through an evolving, intentional educational environment. Therefore, it is necessary to create and introduce a professional development workshop that, by department, addresses instructor concerns and training needs to work with DHOH. My familiarity with the KSU English department has led me to choose that context as the starting point for this new instructor resource and development initiative.

However, the literature has shown that training without follow-up is not the solution. Instructors and DHOH students need to feel heard, included, and connected to supportive resources throughout their journey together. To address this additional need, it is essential that institutions provide instructions at least a brief guidebook as a *starting point* for how they can accommodate DHOH students in their classrooms and gradually reframe, reimagine, and redesign their classrooms and pedagogical practices to harness the core principles of UDL. Because departments differ in context, content, and physical space, this guide also needs to be addressed by department. While these proposed interventions for this instructor support gap are not a one-size-fits-all solution and may not address every potential issue, they are an essential beginning. Moreover, as the literature has shown, a one-size-fits-all approach to disability accommodation and accessibility development is inadequate. Collaboratively constructing a UDL-based academic environment that is more accessible for DHOH students and others requires a thoughtful, intentional partnership with individual instructors and their departments to create a more enduring and thorough solution than current resources provide.

A DHOH student first needs accommodations to access their courses in real time; then, they are on equal footing of opportunity as the hearing student and can likewise either fully participate (because they are now able) or be as disengaged as the average student without a disability. It is my hope that my research will be another step towards achieving that level of DHOH student normalization and integration in higher education.

Chapter 2 Summary

Chapter 2 has presented a review of the current literature's perspectives on ongoing access gaps for DHOH students in higher education and support deficits for potential and current instructors of those students. Through this examination, I have concluded that collaborative and department-targeted training and follow-up will begin addressing the previously stated issues in the KSU context, starting with the English Department. The rest of this capstone details: A) the methodology used to acquire the qualitative data from the Kennesaw State University context that show it follows the trend of needing more instructor support and training, B) the data itself and the themes identified within it, C) a discussion of the data and its implications when placed in comparison to an auto-ethnographical study that models how UDL could be implemented in an English classroom, and D) a conclusion of this study's findings and recommendations. Two deliverables, including professional development workshop slides and a digital guide, are also provided in Appendix A and B of this capstone as further resources.

Chapter 3

Methodology

This chapter presents the research methods necessary to conduct my own investigation into how instructors can be effectively trained in the skills and pedagogical approaches to effectively, holistically support their deaf and hard of hearing (DHOH) students. That investigation in turn has generated tools to support instructors—and thus their DHOH students—in the Kennesaw State University (KSU) context. I used a qualitative, interview-based approach as well as an autoethnographic reflection of my own experiences to answer the following primary research questions guiding this study:

1) How do deaf and hard hearing students at KSU perceive current classroom and university accommodations?

2) What essential knowledge, tools, and strategies do KSU English instructors require to effectively collaborate with student disability services in support of deaf and hard of hearing students?

These questions are essential to providing an active solution to the ongoing teaching problems acknowledged in this study's background and literature review. Given that DHOH students graduate at lower rates than hearing students and their classroom accommodations often are added-on rather than truly integrated, instructors need more training and support to create a truly accessible education environment. In turn, instructors often feel in need of further

structured guidance on how to find the knowledge to be prepared to work with DHOH students the most effectively. To create resources that consider both student and instructors perspectives to solve these issues long-term, a qualitative study that interviews both groups is necessary.

Addressing and Mitigating Researcher Bias

Acknowledging the perspectives, experiences, and concerns of both students and instructors also helps reduce potential researcher bias. Because I am a hard of hearing university student who has experienced frustrations with my disability in the classroom and who has seen others who are deaf encounter even more obstacles, I am aware that I have a bias towards DHOH students in that I know they have struggled or are struggling and that there is more that instructors could do to help them.

Tempering my feelings is the reflection, further proven by the literature, that instructors are rarely intentionally trying to alienate DHOH students. Instructors want to have greater knowledge and know they need it. The real problem is that university administrations do not always provide effective, sustained training for instructors. That training must go beyond a one-time event to include ongoing guidance. Instructor resources must be available to address the instructor knowledge gap that harms the educational prospects of DHOH students.

Therefore, I view this research as a joint conversation between DHOH students and instructors to pinpoint what gaps exist in a specific university context and how both sides would like to see those gaps addressed. This plural way of thinking provides a balanced perspective to counter my potential biases and allows me to harness conflict management theories as a framework for analyzing how I had to undertake my research to achieve a lasting solution.

<div align="center">**Research Context**</div>

Study Location

This study takes place at a large, Carnegie-designated doctoral research institution (R2), southeastern, public university: Kennesaw State University (KSU). Kennesaw Campus was the university's main campus until the consolidation of KSU and Southern Polytechnic State University in January of 2015. The merger added the Marietta Campus to KSU and expanded the student body to include a more diverse field of students and majors. Eleven colleges comprise KSU's academic spread.

University Demographics

KSU is a fairly diverse university. According to KSU (n.d.-b), their Fall 2023 semester data, the university had 45,152 students. Of that total, 51 percent were female and 49 percent were male. Most students were undergraduates, at 40,591; graduate students totaled just 4,561. The 2023 data showed a racial and ethnic breakdown of American Indian/Alaskan Native 0.001, Asian 0.057, Black or African American 0.26, Hispanic or Latino 0.15, Native Hawaiian/Pacific Islander less than 0.001, and White 0.43. Additionally, the data included three other categories: international students at 0.03, students reporting two or more races or ethnicities at 0.05, and students who chose to report no race or ethnicity at 0.02.

As of February 2024, KSU currently has 80 DHOH students registered through SDS Owl Accommodate, the platform by which students with disabilities (SWD) secure accommodation notifications (Bonna Lenyszyn, personal communication, 2024). Between the 2022 and 2023 academic years, the Nation Survey of Student Engagement (NSSE) listed small increases in enrolled DHOH students for KSU (NSSE, 2022; NSSE, 2023). While numbers of identified DHOH students at KSU are low, the limited data suggests possible reporting issues that could obscure the actual number of DHOH students at KSU. The NSSE surveys had a category for

students who chose not to disclose if they did or did not have a disability, suggesting some students may not be disclosing their DHOH status because of concerns about privacy or fear of discrimination. Additionally, hard of hearing students may not be diagnosed due to a habit of self-compensating for their disability or being overlooked by diagnosis safety nets in K-12 schooling. Furthermore, KSU is not a historically Deaf university. Because many universities were not and continue to not be designed to comprehensively integrate DHOH students into courses, such students may be less likely to enroll due to present resources.

Research Scope

Because of the low numbers of DHOH identified at KSU, the present study scope is modest. Rather than mass surveying instructors and DHOH students at KSU, this study focuses on a small number of interviews for DHOH students and specific instructors.

Student Scope

While the intended number of DHOH student participants was three, only two agreed to be interviewed. When recruiting participants for interviews, research has noted that participant candidates may be reluctant to agree to participate for a variety of reasons related to political, social, or marginalized positions or concerns (Deane, 2019). This difficulty of "gaining access to and recruiting a demographic group that is underrepresented" (Deane, 2019, p. 1) is compounded by institutional review board (IRB) restrictions on how participant recruitment messages can be sent. I have no direct contact with any DHOH students at KSU besides my own sister. Therefore, I relied on Bonna Lenyszyn, the Deaf and Hard of Hearing Services Coordinator at KSU's Student Disability Services (SDS) to help me contact students.

Lenyszyn could not directly send recruitment messages but could reach out and contact individuals to ask them if they would be interested in participating. Only one student was recruited this way. The other student recruited was my sister, whom I recruited because I knew her and the obstacles she had encountered in higher education helped form part of the

motivation for this research. To augment the two DHOH interview participants I recruited, I have added my own autoethnographic reflection as a hard of hearing student. Because of this study's small scope, presenting the perspectives of three DHOH out of 80 total at KSU during Fall 2023 still provides insight to their diverse perspectives and experiences and has created the student side of the data conversation that will be presented across Chapters 3 and 4.

Instructors Scope

The faculty (instructors and support services staff) interviewed lend unique ethos to this research because the larger body of knowledge they have contributed to in working with and supporting DHOH students in university. Therefore, I approached these faculty individually to ask them if they would be willing to participate in my research. The participants included two tenured instructors from KSU's English Department, the KSU Deaf and Hard of Hearing Services Coordinator (DHOHSC) at SDS, and an instructional designer from Gallaudet University. I am familiar with and have worked with all the selected instructors except for the one from Gallaudet. Although only four faculty participants were recruited, their responses offer insights into the perspectives of instructors teaching DHOH students as well as others who support DHOH students, either by working in SDS or by advising a historically Deaf university.

Methodological Approach

This research study draws on qualitative research procedures in the form of individual interviews conducted and coded by me in conjunction with an autoethnographic reflection of my own experiences as a hard of hearing student in a KSU classroom.

Interviews

Interviews intrinsically individualize participants' voices and provide a platform for the studied demographic to speak directly. Alshenqeeti (2014) described interviewing as a method that "builds a holistic snapshot, analyses words, reports detailed views of informants" (p. 39). Unlike surveys, which lack the space for depth of responses and ability to in the moment

rephrase or clarify a question to a participant (DeCarlo, 2018, Chapter 11.2), interviews allow

participants to "express their own thoughts and feelings" (Berg, 2007, p. 96) naturally, verbally,

and with much less space restriction. Instructors and DHOH students may need extra time to

sound out their answers because of hesitancy to be direct about obstacles or frustrations they

have encountered. Time is essential to provide a truly reflective, authentic perspective of

participants' experiences. Effective interviews create a natural flow of conversation, focus on

detail (Dörnyei, 2007), and stem from a neutral researcher (Alshenqeeti, 2014) focused on "the

particular" (Richards, 2003, p. 53). In a study synthesizing the complex perspectives of

instructors and DHOH students as a framework to determine the information within and

presentation of resources for instructors to better help their DHOH students, the depth and

human connection in interviews is essential and draws on the conflict management theory

elements of agreeableness and integration previously discussed.

Autoethnographic Reflection

Autoethnographic reflection enables a researcher who has a background or experience

in the subject they are studying to compare and analyze their experience with the wider scope.

Adopting an autoethnographic component for this study allows this study to compare my own

experiences with those of other DHOH students (Bochner & Ellis, 2016) and particularly to look

at my representation of experience as part of the DHOH community rather than as outsider

observations (Adams et al., 2017). However, my autoethnographic experience, while placing me

within the DHOH community, can become a tool to demonstrate hard of hearing experiences to

instructors who may not be themselves DHOH.

Thus, the autoethnographic component of this study generates a further layer to the

conversation between instructor and student experiences already being created by the interview

data. My experience as a hard of hearing student in one KSU English department MAPW

instructor's classroom for a semester provides a model for how instructors and their DHOH

students can collaboratively redesign how a course operates within the classroom. That

example is critical for this study's practical applicability because it moves the conversation and

demonstration beyond merely course content (such as materials like captioned videos) or basic

accommodations (like live captioning or interpreters) and towards holistically redesigning in-

class procedures and activities (like how group discussion is structured and moderated).

Including a dimension of personal experience and an example of a classroom designed to be

more comprehensively accessible through instructor-student collaboration is integral to this

research's goals.

Data Collection

Most data were collected through interviews; the rest were derived from my

autoethnographic experience. These data sources emphasized my study's qualitative,

individualized, and semi-phenomenological nature.

Data collected for this capstone project were collected under two IRB-approved studies:

IRB-FY24-92 "Supporting Instructors in Meeting the Access Needs of Deaf and Hard of Hearing

Students at KSU" and IRB-FY24-340 "Supporting KSU English Instructors in Meeting the

Access Needs of Deaf and Hard and Hearing Students." The reason for two study submissions

is that the original study, IRB-FY24-92 had methodological flaws due to an unrealistically large

scope of surveying hundreds of instructors and all DHOH students at KSU in addition to the

focused interviews. By contrast, IRB-FY340 focused specifically on the interviews, although the

purpose and guiding questions of the studies stayed mostly consistent.

Interviews

I conducted a total of six interviews, split between two DHOH students and two English

instructors, as well as one Deaf and Hard of Hearing Services Manager at KSU and one

Instructional Design Manager at Gallaudet University. The interviews utilized consistent

interview tools that took the form of five questions lists: one for DHOH students and one each for the four different faculty participants. The question lists can be found under Appendix A. This study focused on individual experience, expertise, and perspectives; therefore, it was imperative to individualize questions for instructors who represented different roles within the university context being studied and to synthesize DHOH students' perspectives and concerns on specific topics to convey their needs most effectively to the KSU instructors.

Each interview lasted 20-30 minutes and was conducted in a manner selected by the participant. Throughout the interview, I transcribed (by typing) what the participant said so that I could later refer to those notes during my coding and refresh myself on the participants' exact words to best understand their concerns and priorities. I recruited all participants through email; the Deaf and Hard of Hearing Services Manager, Bonna Lenyszyn, connected me with one DHOH student, who I subsequently emailed independently. Each participant had to sign an interview consent form (Appendix C) to participate in the interview. Consent forms were sent to the participants via DocuSign. At the start of each interview, participants were again reminded of their rights to consent or withdraw consent at any time without penalty. During email discussion about the interview procedures with the participants, I let them choose the method of interview that they preferred, as shown in Table 1.

Table 1

Interview type and participant choices.

Interview Type	Description	Participants
Email Interview	The question list was emailed to the participant as a Word document and could be returned with their written responses to each question.	• 1 DHOH student • Gallaudet faculty **Total: 2**
Virtual Interview	The interview was conducted via Microsoft Teams.	• 1 DHOH student • 1 KSU instructor • DHOHSC **Total: 3**

In-person Interview	The interview was conducted face-to-face on the KSU campus of the participant's preference.	• 1 KSU instructor **Total: 1**

Participants were included based on several factors. Students had to identify as some form of DHOH and currently attend KSU. Faculty participants were selected based on their individual work (teaching students in the KSU English Department, working at KSU's SDS department, or being a representative of Gallaudet University) and my ease of access to them. KSU English Department instructors were selected because I have a bachelor's in English from KSU and am part of KSU's graduate Master of Arts in Professional Writing (MAPW) program, also based with many English department instructors. This study is not the definitive study on DHOH university student experiences or needs but is a start to the conversation in a context currently rather lacking in such conversations. While the participant scope is limited, a start somewhere enables a step forward everywhere to further research that can build upon what I am doing now.

Autoethnographic Reflection

My autoethnographic reflection focused on my experience as a graduate hard of hearing student in one KSU instructor's classroom during a single semester. Specifically, this autoethnographic reflection analyzes my experience entering a course seeking basic accommodations and then, through collaboration with an instructor who wanted to transform her pedagogical knowledge to better support DHOH students, redesigning that course and its classroom into an environment of comprehensive accessibility throughout the semester. I wrote the reflection based on my notes and memory of conversations between me and that instructor during that class semester. Inclusion of this autoethnographic knowledge is essential. Not only does it add a third voice to the DHOH student perspective (specifically, a hard of hearing voice to compare to the two deaf voices from the two student interviews) but also it provides a model

of instructor-student collaboration to transform classroom practices through universal design principles. This research hinges on practical application. Without a specific model as an example of one potential way forward, this research would drastically lose value.

Data Analysis

I coded all interview data collected during this study to identify its common themes as well as any disagreements between participants' perspectives. Then, those themes and perspectives conversed with the model provided by the researcher's autoethnographic experience. Identifying specific data themes was essential to transforming the knowledge of lived experiences into a reflective conversation of perspectives and practices.

Interview Data Analysis

Analysis Approach

Dating coding enables a researcher to analyze data with greater detail, reflection, and synthesis. It allows researchers to create new understanding across data from pieces within it (Elliott, 2018) and provides a framework to label the innumerable themes, understandings, and patterns found in qualitative data (Saldaña, 2021). I employed a process of tiered code narrowing (Litchman, 2013) so I could reflect on the ideas, concerns, desires, tensions, successes, and gaps in knowledge of DHOH students and instructors presented by the interviews conducted and synthesize their meaning into actionable steps that can help instructors understand the needs of DHOH students.

Data Coding Process

By conducting several rounds of coding throughout the data collection process, I followed Lichtman's (2013) process of gradually transitioning through coding layers to find the data's essential. The first round of coding occurred soon after each interview. During each interview, I typed out a transcription of what the participant said. After each interview, I reviewed

that transcription to better retain its information. Before coding, I spent several days post-interview reflecting on the interview and the knowledge that participants shared. After this reflection period, I read through the transcription again before re-reading it and annotating it with inserted comments. Codes at this point included "confident about taking on new knowledge," "insecure about others' perceptions," "frustrated," "open minded," "lack of knowledge of where to start finding resources," "positive experiences with accommodations," and similar terms. This round of coding provided a baseline for the themes within the data.

The second and third rounds of coding occurred after all interviews had been completed and focused on coding student interviews together and then instructor interviews together. Doing so highlighted the commonalities and contrasts within each group's interviews. At this point, codes began to coalesce into more defined concepts: the broader code of "frustrated" turned into concepts like "frustrated at coddling" or "frustrated at lack of resources." During these rounds of coding, harmony began to emerge between student and instructor interviews. It became clear that both parties echoed similar sentiments, enabling the researcher to progress to the fourth and final round of coding.

The final coding unified the data from student and instructor interviews, building the framework of a conversation between them. This data showed where student and instructor concerns overlapped and where gaps between student and instructor knowledge or awareness exist. Final coding occurred a few weeks after the second and third rounds of coding, enabling the researcher to further process and reflect on the data. That reflection further refined the data into six main categories that will be deeply explored in the next chapter 1) DHOH Perceptions, 2) Positive Instructor Perspective, 3) Instructor-Student Collaboration, 4) Flexible Accommodation Implementation, 5) Instructor Burden, and 6) Universal Design.

Autoethnographic Data Analysis

After completing all the coding rounds for the interview data, the researcher then coded the autoethnographic reflection to compare how it discussed or demonstrated similar themes to those identified in the interview data. This coding process was only two rounds because the researcher's own intimate awareness of the meaning within the reflection made identifying codes easier. The first round of coding involved the researcher coding the autoethnographic reflection on its own. With the second round, the researcher coded the reflection considering the themes determined by the fourth round of coding the interview data. Overall, the coding focused on how the autoethnographic reflection provided a real-life example of some of the coding themes in action, such as an adaptive instructor mindset, true accessibility in classroom operations, and instructor-student collaboration.

Chapter 3 Summary

Chapter 3 provided a thorough declaration of the methodology used to answer the primary research questions: 1) How do deaf and hard of hearing students at KSU perceive current classroom and university accommodations? 2) What essential knowledge, tools, and strategies do KSU English instructors require to effectively collaborate with SDS in support of deaf and hard of hearing students? This methodology utilized a qualitative research approach via both interviews and the researcher's autoethnographic reflection to create a conversation between instructor and DHOH student perspectives, experiences, and concerns. I then coded the interview data to identify consistent themes as well as contrasts between perspectives. This qualitative approach foundationally supports a collaborative, thoughtful resolution to the issue of instructor unpreparedness to provide comprehensive accessibility to DHOH university students.

The subsequent chapters illustrate how this data expands knowledge of the best way to train and continue to support instructors in creating truly accessible courses and classrooms for DHOH students in the context of one university as a model that others can follow. While Chapter 4 merely lists the results of the interviews conducted about the above research questions,

Chapter 5 places the results in conversation with the model of experience demonstrated by the researcher's autoethnographic reflection and the surveyed literature. These next two chapters synthesize the perspectives of KSU instructors and DHOH students to make recommendations that directly shaped the construction of the digital guide and professional development workshop that are the deliverables for this capstone.

Chapter 4

Results

This chapter presents the results of this qualitative analysis of six phenomenological interviews. These results attempt to answer the primary research questions: 1) How do deaf and hard hearing students at KSU perceive current classroom and university accommodations? 2) What essential knowledge, tools, and strategies do KSU English instructors require to effectively collaborate with SDS in support of deaf and hard of hearing students? The interviews demonstrated cohesion on the topics they covered. Six themes emerged from the data through four rounds of coding. These themes, DHOH Perceptions, Positive Instructor Perspective, Instructor-Student Collaboration, Flexible Accommodation Implementation, Instructor Burden, and Universal Design instrumentally shape this study's practical applications to the Kennesaw State University (KSU) context.

Participant Backgrounds

Before examining the emergent themes named above, it is necessary to introduce the participants' roles and relevant background information because those inform the knowledge they shared. Table 2 illustrates a breakdown of the participants, their roles, and the unique perspectives they contribute to this study.

Students

Two DHOH students agreed to be interviewed. Their names are not included in this study to ensure their privacy and encourage more honest responses because the authenticity of their experiences and knowledge are essential for this study's success. The students will be referred to by the pseudonyms of "S1" and "S2." S1 preferred to be interviewed virtually on Microsoft Teams and used otter.ai to transcribe and caption the interview. S2 preferred to be interviewed through email. Both students are female, seniors, and STEM majors who identify as deaf[3], although the nuances of their personal views of their identities varied.

S1 remarked "I feel like I sort of floated in the middle," when asked how she identified (as part of the Deaf community, deaf but not part of the community, etc.) because her experiences had left her with a complicated position. She explained that she grew up being taught some American Sign Language (ASL) as a baby, then was found to have mild-moderate hearing loss in one ear in early childhood. Hearing aids allowed her to grow up speaking and hearing as well as signing. By the time of high school, she became fully deaf and switched to cochlear implants. This was when S1's identity became conflicted to her: on the one hand, she did talk and had cochlear implants (which are frowned upon by some in the Deaf community), but on the other hand she had shifted into signing a lot again and trying to connect more with the Deaf community. S1 attended public school in Cobb County, Georgia and was therefore able to secure acceptance at a high school that provided extensive deaf accommodations, including interpreters, and which had a lot of deaf students. This experience provided S1 with substantial support, autonomy, and self-advocacy when she began attending Kennesaw State University because she knew how to navigate Student Disability Services and connect with the

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[3] As a reminder, Deaf refers to individuals who consider themselves part of the Deaf community and culture, while deaf refers both to the medical condition and to people who do not consider themselves part of the Deaf community and culture. There are many other types of deaf identities as well, including DeafBlind, Late-Deaf, and hard of hearing.

accommodations needed to make her classes accessible. Student 1 comes from a background with some Deaf culture connection and strong accessibility support.

S2's response about her identity was much briefer, potentially because she was simply writing responses rather than having a live conversation. She specified that while she is deaf and identifies as such, she does not consider herself part of the Deaf community due to English being her first language. Additionally, she is the only deaf person in her family. Student 2 was primarily homeschooled but attended a cyber high school. Because S2's high school experience was one of subpar Americans with Disabilities Act (ADA) of 1990 compliance, she mentioned that she felt she would have dropped out without the extra support of her mother fulfilling the role of accommodations she should have had, like note-taking and creating transcripts for videos. S2 grew up speaking and uses a cochlear implant and a hearing aid. Currently, she has little connection with other DHOH students and wishes there were clubs or other support groups for such students at KSU. Additionally, when she came to KSU, she had little background in receiving proper accommodations and so was less prepared regarding how to seek them, know what she needed, and self-advocate. S2 comes from a background of limited Deaf culture connection and has had to trial and error her way into seeking and using accommodations.

Faculty Participants

Four faculty participants, three from KSU and one from Gallaudet University, agreed to be interviewed. Unlike the students, all are named because who they are lends the study essential ethos, particularly in the context of KSU. As mentioned in Chapter 2, these participants represent a variety of roles that support DHOH students: two are KSU English department instructors, one is the KSU Deaf and Hard of Hearing Services Coordinator (DHOHSC) at Student Disability Services (SDS), and one is an instructional designer for Gallaudet University.

Kennesaw State University

Lara Smith-Sitton, PhD. She has served in several roles at KSU, including being the Director of Community Engagement followed by the Director of the BA/Undergraduate English Studies Program, both while being an Associate Professor of English. Prior to teaching she served in the capacity of helping businesses understand and implement ADA accommodations for employees. Dr. Smith-Sitton serves as a model of an instructor who is aware of the limits of her own knowledge and has thus sought further resources and connections to better transform her pedagogy and classroom. Additionally, her determination to redesign her course to be more accessible to DHOH students, and thus learn strategies to increase accessibility for all students and disabilities, contributed to the development of this capstone project.

David King, PhD. He has taught for 32 years in various capacities at KSU, including being an English Instructor and a developmental studies instructor. Around 2005, his return to KSU's English department led to him helping create the department's current minor in Film Studies, and he became an associate professor and then a full-time instructor. His extensive teaching experience and knowledge of working with students is augmented by the fact that he became deaf as a professor. He shares a unique perspective with DHOH students because he has experienced many of the struggles and frustrations that they have.

Bonna Lensyzyn, CI and CT. She has coordinated Deaf and Hard of Hearing Services for over 20 years and completed her ASL program at Gallaudet University. A nationally certified Sign Language Interpreter, she has interpreted and worked in both K-12 and university. Additionally, she has served as a staff interpreter at Georgia Council for the Deaf and Hard of Hearing and in the Office of Disabilities Services at Georgia State University. Since January 2018, she has been the Deaf and Hard of Hearing Manager at Student Disability Services at KSU. As a passionate and experienced advocate for DHOH students, she provides unique insight, like Dr. King, of a sort of borderland between DHOH students and instructors.

Gallaudet University

      Lisa Fisher. She currently works as the Instructional Designer Manager of the Instructional Designer Services for Gallaudet University and supports instructors with classroom requirements, structure, and accessible design understanding. Her experience working with Deaf associations and organizations both in the United States (U.S.) and abroad on both technology and accessibility has made her an expert in explaining and implementing accessible instructional design. Fisher mentioned that she oversees a team of Instructional Designers who collaborated with her to answer the interview questions. Their collective experiences with DHOH individuals further unify the perspectives of instructors and DHOH students.

Table 2

Participants' Roles and Perspectives

Name or Pseudonym	Location	Role	Perspectives
S1	Kennesaw State University	Biology major, senior student Deaf, on the border of the Deaf and hearing communities	A student who became Deaf over time, uses cochlear implants, and has spent years at KSU
S2	Kennesaw State University	Computer Science and Software Engineering double major, senior student deaf, but not part of Deaf culture	A student who became Deaf over time, uses a cochlear implant and a hearing aid, and has spent years at KSU
Dr. Lara Smith-Sitton	Kennesaw State University	Associate Professor of English	An instructor with a background in disability accommodations in the workplace and substantial student outreach and support work
Dr. David King	Kennesaw State University	Professor of English deaf	An instructor who is deaf
Bonna Lenyszyn	Kennesaw State University	Deaf and Hard of Hearing Manager at Student Disability Services	An ASL interpreter and DHOH advocate who works closely with many DHOH students and specifically coordinates

			accommodations and accessibility for them
Lisa Fisher et al.	Gallaudet University	Instructional Designer Manager of the Instructional Designer Services Part of Deaf culture	An ASL interpreter and DHOH advocate who works closely with DHOH students and with helping instructors design and implement more DHOH accessible courses and classrooms

It is worth stating here that the participants involved vary in discipline. The instructors come from the English Department, while the students operate in a STEM context. Although the students surveyed were selected primarily because they were the only respondents, this disciplinary diversity affords a more complex assessment of instructor preparedness and DHOH student experiences at KSU. Humanities departments often have a greater focus on acceptance and empathy as a core part of their mindset and operations. STEM departments often emphasize innovation and development. Assessing the strengths and weaknesses of DHOH student support across departments, both through instructor perspectives and student reports, adds nuance to this study's findings that could illustrate how departments can learn techniques from each other to better support all students.

Results

This study's methodology leverages the participants' unique experiences and roles in being, engaging with, supporting, advocating for, and learning about DHOH students to synthesize core themes expressed in the participants' responses. These themes are DHOH Perceptions, Positive Instructor Perspective, Instructor-Student Collaboration, Flexible Accommodation Implementation, Instructor Burden, and Universal Design. Table 3 illustrates these themes and their definitions.

Table 3

Primary themes within the data.

Theme	Definition	Data Example
DHOH Perceptions	How DHOH students viewed and experienced their accommodations and class accessibility.	"From what I've heard with most other students' experiences, I have been very lucky" (S1). "My worst experiences have been with freshman/sophomore-level STEM classes that are often taught extensively through TAs. They often aren't trained for handling things like submitting videos for captioning" (S2).
Positive Instructor Perspective	Instructors interviewed viewed working with DHOH students as a positive experience.	"I wish I had more deaf students" (Dr. King). "I did have a student shortly before the pandemic who was profoundly hearing impaired… she had a cochlear implant and was a lip reader; it was a wonderful help to me because she had empathy with my own disability. I haven't had much experience with deaf students" (Dr. King). "It really called on me to prepare and step back and see things a different way much more thoughtfully, much more thoroughly" (Dr. Smith-Sitton).
Instructor-Student Collaboration	DHOH students and their instructors collaborating on creating accessibility was a crucial practice.	"It required me to have more conversation with students, not only the student with a need for accommodation but asking 'does this work? how did this work better?'" (Dr. Smith-Sitton).
Flexible Accommodation Implementation	Accommodations needed to be implemented based on	"A few of my professors have emphasized the need for students to speak up when

	individual student needs and course contexts.	presenting or asking questions, and one professor routinely repeated questions for the rest of the class" (S2).
Instructor Burden	Instructors experienced a sense of overwhelming responsibility, diminished time, and absent support when it came to them creating and implementing accessible course design.	"Professors typically come to me pretty quickly if they don't have their stuff in order. Some are frantic because they have a lot of materials and don't know/are overwhelmed at the idea of getting it all done. They to get it done but are afraid they don't have the time or resources" (Lenyszyn). "I don't know anything at all, but I have been told 'you're going to have a student with autism', but I don't know what to do. There's no support, no one to tell me or help me. We put the burden entirely on the student or the employee" (Dr. King).
Universal Design	Practices that benefitted the most students possible, DHOH and hearing, were the most effective in making classes accessible.	"Things like captioning doesn't just benefit myself as a Deaf individual. It benefits so many people" (S1). "I've had professors repeat/generally summarize questions before answering, which was very helpful to both me and my hearing peers" (S2). "My most outstanding experiences have probably been the ones discussed in Q5, but those times were due to the professor's own teaching style and not related specifically to my accommodation needs" (S2). "Captions should just be turned on every time for any

		media on campus whether movie night, orientation, a pep rally – it should just be standard practice. Little by little everybody would just get used to everything having captions on it and little by little alleviate that for deaf and hard of hearing students" (Lenyszyn). "The way things were implement was prompted primarily by [Kris] but made the class better for everyone" (Dr. Smith-Sitton).

DHOH Perceptions

Both instructors and students mentioned DHOH student perceptions of current support, acceptance, and security in their classes, and those perceptions were largely negative. These negative perceptions generally fit into three sub-categories: insecurity and othering, needing more awareness of DHOH services and support, and "just getting by."

Insecurity and Othering

Insecurity about how others perceived them in the classroom was mentioned by all the deaf individuals interviewed, including Dr. King. S1 recounted an experience with a professor whom she perceived as looking down on her for needing accommodations because the professor "babied" S1 and seemed to see S1 as a disruption to her normal teaching. S2 mentioned that other students would point out or question her cochlear implant, hearing aid, or other supportive technology. However, S2 attributed these actions to lack of awareness on the part of her hearing peers rather than on herself as a disruptor of the classroom. Dr. King stated he had largely dealt with his insecurity now due to how much more "inclusive and empathetic" society has become but reflected on how he has held concerns over whether use of closed captioning or his interpreter is distracting for students, thus also positioning himself as a

potential disruptor of a perceived-normal space. DHOH individuals view others as perceiving them as normalcy-disruptors.

Needing More Awareness of DHOH Services and Support

Both S1 and S2 believed that students needed to be more aware of DHOH services and support but differed in what specifically they thought was needed. S1 showed awareness that her background of attending a very deaf-oriented high school advantageously positioned her to be more aware of the services and support she needed and could obtain when she began attending KSU. She stated that she wished KSU's Student Disability Services (SDS) were better advertised so that students not as skilled at self-advocacy as her knew where to start. S2 mentioned a more arduous high school to college transition because of her less supportive experience in receiving accommodations previously. Additionally, while S1 is bilingual in ASL and English and has some connection to Deaf culture, S2 lacks these connections and desired a clear "ASL/d/Deaf/HoH club or space" to help DHOH students connect with each other. DHOH students do not view KSU's current DHOH services as visible enough to students or as fostering DHOH community on campus.

S2 added another dimension to the discussion of awareness of DHOH services on campus by reflecting on how unaware many teaching assistants (TAs) and instructors had been about her needs. She explained that at KSU, many freshman- and sophomore-level STEM classes were often taught "extensively" by TAs untrained in appropriate captioning practices. S2 waited "1-2 months for a 20-minute video to finally be captioned," and even with full-time instructors, she often received accessible (i.e. captioned) videos "1-2 days" behind her hearing peers, forcing her to be behind on her coursework. Current KSU instructor training is not effective at helping STEM instructors understand the need for and effectively implement basic accessibility like captions as a from-the-start element of content design.

"Just Getting By"

Lenyszyn's responses revealed her observation that DHOH are often so used to being underserved that they adopt a mindset of "just getting by" rather than self-advocating. She has often encountered a "sense of resignation in some ways with students" and that the prevalence of poorly implemented accommodations has left "a lot…ready to Google up what they don't hear and hope for the best." This response from the Deaf and Hard of Hearing Services Manager at KSU reveals that DHOH students may feel alone in their experiences and ignored by the university and those meant to teach them.

Positive Instructor Perspective

The instructors interviewed mentioned or displayed a positive perception towards seeking help to work with or gaining experience working with DHOH students. Lenyszyn noted that increasingly, since the inception of her role in 2018, instructors are already prepared with accessible courses or at least basic accommodations of captions. Dr. Smith-Sitton stated that working with a DHOH student in her classroom improved her teaching because it prompted her to take on a more intentional and self-reflective perspective. She mentioned that she now selects course materials more thoughtfully and is overall "more deliberate, and better prepared" as an instructor. Dr. King actively wanted to work with more DHOH students because of his connection with them as a deaf instructor. The responses illustrated that instructors developing attitudes of willing adaptation and empathetic connection with DHOH is key to successfully getting instructors to buy in to true accessibility as a necessity.

Although the instructors interviewed showed a positive perspective on working with DHOH students in their classes, their responses indicated a gap in their sense of support and experience with DHOH students. Lenyszyn noted that many instructors still come to her "frantic" because they do not know where to start, are overwhelmed by the volume of content they must make accessible, or say they have no time to caption their materials. The instructors admitted to

having little experience with DHOH students in their classrooms as compared to students with other disabilities, such as blindness. Current KSU instructor training on DHOH student needs is not comprehensive enough.

Instructor-Student Collaboration

Both student and instructor interviews identified instructor-students collaboration as an essential component to successfully building an accessible course and classroom. S1 wanted others to understand that it was okay to ask questions about her needs if those questions came from the right intention. Fisher et al. also encouraged instructors to be curious and forward-thinking, specifying that the goal of instructor-students collaboration is to remove barriers to student access in the course structure and teaching style itself. Dr. Smith-Sitton admitted that she had "a very distinctive vision" going into a class but then had to reconsider how to align that vision with the needs of a hard of hearing student in the class. She and Dr. King advocated for individually discussing needs with the student in question so that both parties could agree on expectations and address concerns. These responses demonstrate instructor and student willingness to collaborate with the appropriate support in place.

Instructors' responses also emphasized a value on genuine connection with individual students vital to instructors' ability to implement true accessibility. Both Fisher et al. and Dr. Smith-Sitton stated that getting to know the student helps instructors better understand that student's perspective within a specific class context. By doing so, Dr. Smith-Sitton found that instructors to better recognize "the essential functions of [their] particular classroom" and how to holistically integrate the DHOH student. Both instructors and support services like Instructional Design viewed instructor-student collaboration as an essential component to preparing instructors to work with student disabilities.

Flexible Accommodation Implementation

Student and instructor responses emphasized that accommodation implementation had to be flexible and evolving. Fisher et al. pointed out that accommodations vary in complexity and may take time to adjust, implement, or become skilled with. Dr. Smith-Sitton recounted instances of having to further refine accommodations or new structures and procedures they included in their courses to make them more accessible so that her teaching style and the DHOH student needs could align and ensure that student had full access to class participation. Instructors collaborating with SDS and other parties who support student needs allows for increased accommodation adaptability because more resources, perspectives, and experiences can be utilized, according to Lisa et al. Meanwhile, Dr. King advocated for harnessing specific major's teaching environments, like the English major's text-based format, to provide DHOH students with further integrated resources, such as "notes," "handouts," and "A print reference…[for] key points." These responses portrayed accommodations as a multi-variable process that instructors flexibly leverage in their individual classroom environments to find the most accessibility success.

Some participants also reflected on how some accessibility strategies transfer well to new class environments and while others may need to be substituted because of that subject's particularities. For instance, Dr. King was able to translate his text-focused approach to his film courses through accurate subtitles and captions, "not like on YouTube." However, for S1, a biology major who uses a live captioning service known as CART (Communication Access Realtime Translation), course vocabulary often slowed or confused captionists unfamiliar with it. Thus, S1 switched to using otter.ai, a program better equipped to accurately state course terms. These responses reinforce the idea that accommodations and accessibility must be individualized to environments as well as students.

It was instructors who mentioned that accommodations are only as useful as they are properly utilized. Dr. King gave the example of having a group discussion in an auditorium and

using a microphone for speakers so that a captionist can live caption the discussion. If people are not actually made to use the microphone, he pointed out, the DHOH individual is even more alienated than if no accommodations had been provided because the accommodations are either outright ignored or simply not enforced as a routine and integrated practice. Both he and Fisher et al. stated that accommodations, whether they are classroom procedures or an introduced element like an interpreter, must become and be treated as an innate part of the classroom environment rather than a disruption. These responses show that emphasis on accommodations as a necessity is a crucial component of creating comprehensive accessibility.

Instructor Burden

Instructors viewed a substantial burden being placed onto professors regarding overhauling their courses to be accessible in conjunction with the other labors demanding their strapped time. Dr. Smith-Sitton and Dr. King reflected on how many duties and expectations are piled onto instructors, and Lenyszyn admitted that "Professors have a lot of demands on them" and perceived them as "spread really thin…. a lot of them are adjunct or teaching tons and tons of classes or having classes thrown at them at the last minute." Lenyszyn stated that the lack of time that professors are given leaves little time for thorough preparation and communication between relevant stakeholders in the accessible classroom—SDS, DHOH students, and the professors themselves. All the faculty participants, but particularly those who work as student support, Lenyszyn as well as Fisher et al., emphasized how much more labor-intensive retrofitting courses for accessibility was than creating accessible design from inception. Dr. Smith-Sitton raised a further concern, stating she had "privilege of teaching small classes," when it came to restructuring for true accessibility and that "teaching 80 students is a completely different conversation." These responses illustrate a major obstacle to instructors creating truly accessible courses at KSU: little time to educate themselves and prepare the necessary content.

Another instructor response that contributed to perceived burden was that instructors m

lack backgrounds in understanding or implementing accommodations or accessibility. Dr. King

expressed frustration at receiving only clipped email notifications about having a student with a

particular condition but little up-front guidance on the specific steps he needed to take or best

resources to seek out. He lamented, "I have been told…. but I don't know what to do. There's no

support, no one to tell me or help me. We put the burden entirely on the student or the

employee." Even Dr. Smith-Sitton, who has a background in disability accommodations, felt that

KSU did not properly prepare and equip instructors to work with students with disabilities. These

responses reveal that instructors at KSU do not feel they are taught how to teach students with

disabilities and yet are still expected to do an ideal job.

While Dr. King and Dr. Smith-Sitton agreed that knowing where to start seeking

resources was difficult, Lenyszyn and Fisher et al. positioned themselves as actively guiding

instructor. As previously stated, Dr. King revealed that he often felt at a loss for how to proceed

after being informed of a student's disability. Dr. Smith-Sitton said she "imagine[d] a lot of

professors are 'I don't want to talk about it because I don't know what to say'." Meanwhile,

Lenyszyn discussed how she supports instructors by pointing them to tools that can aid

instructors, including KSU's Digital Learning Innovations (DLI) department, the Kaltura

captioning service, and a plethora of already-captioned videos available on the internet as

examples just for captioning accommodations. Fisher et al. provide numerous resources to

instructors, including guides on how to transform physical and digital learning spaces into truly

accessible ones, connections with other support sources like the Office of Students with

Disabilities, and lists of accommodation-focused sources like ASL interpreting agencies and

transcription service and captioning service providers. These contradicting responses reveal

that a disconnect may exist between the resources that services like SDS and Instructional

Design have and how easily instructors can independently access or know where to begin with

those resources, creating instructors' perceptions of undue burden with little support.

Universal Design

While no interviewees directly mentioned universal design, they did address the topic

indirectly by discussing the innate way accommodations and accessible teaching structures and

strategies should be integrated. Lenyszyn was the most direct, stating that if captions "for any

media on campus" were used for every event or gathering, "everybody would just get used to

everything having captions on it and little by little alleviate that for deaf and hard of hearing

students." The student interviewees showed the greatest awareness of how accommodations

and truly accessible teaching styles benefitted all students, not just them. S1's saw DHOH-

focused accommodations as benefitting a wider community, including people "who maybe have

some type of auditory processing disorder or ADHD and things like that." Beyond merely

captioning, S1 discussed how "flipped classrooms" or classes where instructors provided

recordings of lectures and other materials also made the class itself more resilient to the

upheavals of life for students, thus enabling more of them to remain engaged and on top of their

studies even when circumstances beyond their control struck. S2 mentioned that professors

who practiced a pedagogy that took advantage of visual aids like writing all questions and major

takeaways on the whiteboard or clarifying aids like repeating and summarizing student

questions before answering not only made it easier for her to follow and retain the class

knowledge but also noticeably made her hearing peers more engaged with the material. Dr.

Smith-Sitton and Dr. King saw similar results in their classes, particularly when they employed

more visual teaching aids like class agendas and printouts for the materials being discussed.

Additionally, Dr. Smith-Sitton relayed that her teaching became more involved and reflective of

how she could continue honing her course design and class practices even after she no longer

had a DHOH student in her class. Teaching that reflects universal design is more thoughtful,

intentional, and focused on how the students acquire, retain, and apply course knowledge—

which benefits all students.

The interviewed instructors viewed shifting classes to be designed with true accessibility in mind as gradually reducing the labor required for instructors and students. Dr. King noted that he now envisions all of his classes as though a student with a disability is in them, regardless of whether he knows that for certain or not. Dr. Smith-Sitton similarly stated that since intensively redesigning one course to accommodate a hard of hearing student she has become more reflective and adaptable overall with how she teaches. Lenyszyn has seen that over the years of working with SDS and coming to understand the needs of DHOH students, instructors react much less with an "emergency" mindset when notified that they need to provide specific accommodations for DHOH students. Fisher et al. also noted that work ahead of time, starting with or drawing upon very visually based resources, and developing an adaptable mindset were crucial to accommodation implementation being less labor intensive on instructors.

Chapter 4 Summary

This chapter has summarized the six themes that emerged from the qualitative data, DHOH Perceptions, Positive Instructors Perspective, Instructor-Student Collaboration, Flexible Accommodation Implementation, Instructors Burden, and Universal Design. The DHOH students interviewed expressed a need for more awareness of DHOH struggles and necessary accommodations to mitigate scenarios of othering and "just getting by" that reduced DHOH students' ability to attain course- and profession-critical knowledge. Most participants also saw the burden of expectation without preparation placed on instructors as a core shortcoming in the university guiding instructors to understand and implement true accessibility in their courses. Participants agreed that instructor-students collaboration and viewing accommodations as flexible, changeable, and more than just technology was necessary to create a truly accessible course. Moreover, while participants did not directly discuss universal design, their responses identified areas of university life, particular in class, that they saw increased accessibility benefitting all students and the professors so that every party became more engaged in learning. This summary establishes a solid foundation for Chapter 5's discussion of how the

knowledge gained from each theme can be put into conversation to guide creation of

responsive, supportive materials to address the resource gaps identified through this study.

Chapter 5

Discussion of Findings and Conversation with Autoethnographic Reflection

This qualitative, interview-based study has attempted to answer two research questions

in the Kennesaw State University (KSU) context about how to support the university's deaf and

hard of hearing (DHOH) students more effectively: 1) How do deaf and hard of hearing students

at KSU perceive current classroom and university accommodations? 2) What essential

knowledge, tools, and strategies do KSU English instructors require to effectively collaborate

with student disability services in support of deaf and hard of hearing students? This chapter

discusses the study's findings and places them in conversation with a model of instructor-

student collaboration to improve a class's accessibility told through the researcher's

autoethnographic reflection as the hard of hearing student in question. Through examining the

findings and how the model represents those findings in practice, this study presents

implications for both the KSU context and other universities, along with recommendations for

new resources created to improve KSU instructors' preparation for working with DHOH

students.

DHOH KSU Students Perceive Instructors as Trying but Underprepared

While instructors generally attempt to support DHOH effectively at KSU, either directly or

indirectly, many gaps in their preparation hamper DHOH students' access to higher education.

DHOH students perceived instructors as trying but lacking in practical knowledge or experience

to make their teaching intentional and accessible.

Instructors teaching strategies affected DHOH students' perceptions of support in the classroom and their acquisition of core subject knowledge. Using visual teaching aids like writing questions asked on the whiteboard as well as "major takeaways" and how problems or thought processes were determined allowed deaf students to retain the information "much easier" (S2, personal communication, 2024). In such a classroom, technological accommodations like captioning ensured the student in question could "keep up" but kept the bulk of information transmission on the class itself and let the accommodation be a support rather than the student's only lifeline to even being able to participate in that class (S2, personal communication, 2024). In this case, the professor's visual-based teaching practices were not part of the student's accommodation plan; they were simply the professor's teaching style. However, that style demonstrated best practices of using visual aids and positioning oneself to avoid disrupting crucial DHOH student sightlines to captions and written instruction directly supported as necessary to effectively teach DHOH students (Fisher et al., personal communication, 2024; University of Maryland, n.d.). Additionally, this professor harnesses universal design by constructing and operating a class whose basic functions had great usability to a wider range of students than just hearing ones (Lawton Henry et al., 2014). It is training and instructor support that takes pedagogical best practices like those assessed here and prepares instructors to use them rather than relying on individual instructors to arrive at a magic combination that DHOH students are lucky enough to stumble across.

Lack of instructor preparation contributes to DHOH students being made to feel burdensome on instructors—whose roles are to teach all students in their classes. One student interviewed expressed that she had a "really good" experience with her professors being "very accommodating really, no questions asked" but qualified her statement by noting "From what I've heard with most other students' experiences, I have been very lucky" (S1, personal communication, 2024). The implication that a "really good" experience is not the standard for

DHOH student experiences at KSU indicates a definite gap in instructor preparation to work with those students. Instructors and their teaching styles and preparedness are the most prevalent barriers to DHOH student inclusion and success in higher education (Hewett et al., 2017; Fernández-Batanero et al., 2022). KSU instructors largely appear underprepared. In one instance, an instructor appeared to the student as "all freaked out about having a deaf individual in her class" and would hover over the student after every class to "baby [the student] through it" (S1, personal communication, 2024). While the instructor in question likely wanted to ensure they were supporting S1 to the fullest degree, the method of support came off as patronizing or frantic rather than collaborative and intentional. Underprepared instructors also failed to consider how they used their physical class space in which their classes and teaching operated:

> In my anatomy class last semester, the professor would have a model up at the front of the board. We're all facing the other way for the screen. And he would say what's this at the model, so we'd all have to turn around and look at the model and then back at the screen and back and forth. As someone who was deaf, it's so hard figuring out where the interpreter should stand and what to do with that. I know for other students it was very difficult too because by the time they turned and looked, we had already moved on. (S1, personal communication, 2024)

Constantly shifting the visual focus adds increased strain on all students to keep up. For a DHOH student who may already be relying on visual support like an interpreter or a live captionist, trying to follow every visual around the room and understand the lecture becomes exhausting. That S1, who positioned herself as having "really good" experiences overall still encountered instructors who appeared stressed about or oblivious to working with a DHOH student suggests that even if many KSU instructors want to help DHOH students succeed, they do not know how.

Students perceived instructors' lack of knowledge as a training deficit and demonstrated that more than an accommodation plan is necessary for DHOH students to truly access their courses at the same time as their hearing peers. The most urgent access barrier mentioned was

on-time captioning. Education access is a right for all people (Lee, 2020; Perry-Hazan, 2021;

Fernández-Batanero et al., 2022). The problem area seems to be in instructors understanding

that DHOH students genuinely cannot access content if it is not presented in a way that meets

their physical capabilities. As identified in the results, KSU instructors and teaching assistants

(TAs), at least in STEM-focused departments, seem to lack adequate training in captioning for

DHOH students (S2, personal communication, 2024). Any delay with captioned material meant

a delay in the DHOH student accessing the course content and being able to even begin

projects compared to hearing peers. S2 had previously stated that similar obstacles of delay

during her high school would have led her to drop out without the proper support. Therefore, this

report of a month or two delay in some instances could demonstrate one way that poor

instructor preparation to work with DHOH students directly contributes to the around 13 to 15

percent less graduation rate of DHOH students than hearing students (Garberoglio et al., 2019).

With instructors' lack of preparedness directly hindering DHOH student learning, "some small

general awareness training module could be helpful" at the very least (S2, personal

communication, 2024). Lack of training and experience with DHOH individuals leaves

instructors unaware of how immensely updating their teaching practices and course designs for

accessibility affects those students' potential for success (Browning & Cagle, 2016). Instructors

may instead be more aware of their own stress in trying to make a DHOH student 'fit in' to their

classroom.

As Rebekah Taussig stated, DHOH individuals may perceive themselves as or be

perceived by others as disruptors of what are considered a normal environment or normal ways

of doing things (as cited in Neiman, 2023). The tendency for instructors and others to

understand accessibility as a temporary add-on to a classroom for a particular student makes

the inclusion of DHOH individuals seem disruptive rather than integrative. Even Dr. King, the

deaf English Department instructor interviewed, had questioned in the past whether the tools

and services he required to teach and communicate to his fullest ability were "a distraction" to

hearing students in his classroom. Some professors do seem to find DHOH students distracting.

S1 recounted an incident mentioned previously where she had to tell her professor to just

"Teach as you normally would" when the professor appeared overly anxious and hovering

because of that student's deafness (S1, personal communication, 2024). This scenario

illustrates Taussig's point about how so much has been designed without thinking of people with

disabilities that when such a person arrives on the scene, it becomes an "emergency" to abled

people to fit them in (as cited in Neiman, 2023). Even when instructors take a calmer approach,

they may be awkward and "unused" to working with a DHOH student's assistive devices or

needs (S2, personal communication, 2024), unsure what to ask the student (Dr. Lara Smith-

Sitton, personal communication, 2023; S1, personal communication, 2024), or hesitant about

the time and effort perceived as needed to either add accommodations or retrofit their course

(Fisher et al., personal communication, 2023; Lenyszyn, personal communication, 2024) further

underscoring the need to reduce the uncertainty of how to work with and respond to DHOH

students. Currently, KSU's DHOH students perceive their inclusion as additional rather than

integral to classes, thus cultivating a mindset that they are a problem to be addressed if it arises

rather than an inevitable part of the higher education environment.

Knowledge, Tools, and Strategies for KSU Instructors to Better Support DHOH Students

Instructors Perceptions

To understand solutions to help KSU instructors better support DHOH students, it is

necessary to discuss the specific problems they have encountered with supporting DHOH

students effectively. While the interviewed instructors remained consistently positive towards

working with DHOH students, what emerged was a perception that instructors had less support

from support services (e.g. SDS) than such groups perceived themselves as providing.

Instructors do require consistent and continual training and support from services like SDS to

effectively support DHOH students (Griesmeyer-Krentz et al., 2022; Silverman, 2023). On the

student end, KSU's SDS serves to "explain standards, provide resources on MediaSpace and

the DLI [Digital Learning Innovations] team, etc.…walk them through the process and how they

can make things accessible" as well as to be "available as a resource" for instructors to consult

(Lenyszyn, personal communication, 2023). Meanwhile, Instructional Designers work in teams

from the instructor end, providing guidance on how to reimagine classroom operations, from

websites to videos to lectures, from a DHOH perspective (Fisher et al., personal

communication, 2023). Both SDS and Instructional Designers see their work and instructors' as

inherently collaborative: they directly encourage instructors to draw upon the advice of student

and instructor support services (Lenyszyn, personal communication, 2023; Fisher et al.,

personal communication, 2023). However, course materials are the responsibility of the

instructors in question (Lenyszyn, personal communication, 2023). While instructors have

requested that SDS or DLI caption or otherwise make their class materials accessible, Lenyszyn

maintains that "they [the instructors] need to do so because they are the content experts." The

responses demonstrate that support services view themselves as facilitators for instructors to

take information from and self-apply it, while instructors are perhaps expecting more from these

services and could feel overburdened as a result.

Instructor burden in the context of this study is instructors' perception that adding

accommodations or making their classes more accessible is an extra strain on their personal

resources (time, energy, knowledge) that they may or may not be able to afford—or at least

afford to do effectively. An inherent issue seems to lie in how delayed most instructors are in

getting their courses prepared for DHOH students. Bonna Lenyszyn, KSU's Deaf and Hard of

Hearing Services Manager, positioned herself as increasingly proactive and seeing instructors'

preparation become "more and more common, the more proactive [SDS] has been over the

years," she still encounters "professors that balk" or who are "frantic" and who "have a lot of

materials and…are overwhelmed at the idea of getting it all done." Again, instructors' time and

resources inhibit successful and widespread accessibility development in classes because

accessibility becomes a burden from instructors' perspectives.

Much of this perceived burden stems from accommodations and accessibility being

retrofitted to classes rather than being employed at their inception. Accessibility from inception

better positioned instructors to critically consider their classroom space, teaching style, and

materials so that adjusting them flexibly was more feasible (Fisher et al., personal

communication, 2023). Retrofitting accessibility is much more challenging because it requires

extensive overhauling to transform what is already there (Lenyszyn, personal communication,

2023; Fisher et al., personal communication, 2023; Morris, 2023), including potentially cutting

materials or reshaping in-class interactions, rather than designing a class from inception to

harness true accessibility as the framework through which the class is presented (Pappas,

2020; Disability Advocates of Kent County, 2020; Mosley, 2022). However, the reality is that

most courses at KSU are already established. Materials have been set in place, and as

Lenyszyn (personal communication, 2024) noted, instructors may be abruptly switched between

classes, leaving SDS and instructors adrift regarding who is accountable for ensuring that the

materials are accessible, and the prescribed accommodations are in place. While proactivity in

designing a course accessibly from inception may alleviate instructor burden, it is not always the

most feasible solution in the KSU context. Instead, the data indicate that proactivity of

awareness may be a more tenable solution.

Currently, KSU's SDS emails instructors on an as-needed basis about any students with

disabilities they will have in their classes for a given semester, often just weeks before the start

or even into the first or second week of the semester. This method invokes two problems. Again,

students with disabilities are treated as an alarm situation (Taussig, as cited in Neiman, 2023).

Even if alarm is not intended, it clearly seems to be the perception some instructors have when

notified due to Lenyszyn's word choice of "frantic" to describe some instructors who reach out (personal communication, 2024). Instructors then perceive the onus entirely on them to seek resources and either implement the accommodations or understand how to work them. While their work is their responsibility (Browning & Cagle, 2016; Fernández-Batanero et al., 2022; Lenyszyn, personal communication, 2024), instructors without backgrounds in ADA work may be at a loss for where to begin (Dr. Lara Smith-Sitton, personal communication, 2023)—that has been proven. Dr. David King, himself a deaf instructor, lamented that "There's no support, no one to tell me or help me" regarding where to begin preparations or research on what a specific disability may entail in the classroom. His only experience with disability to draw from is deafness, and empathy for students with disabilities alone does not provide him the knowledge to take effective action (Dr. David King, personal communication, 2024). Even instructors with a background in ADA accommodation work viewed KSU's training on students with disabilities as lacking: "I think the way we prepare professors and teachers doesn't spend a lot of time on this; often they are rushing into things (because they aren't given a lot of time)" (Dr. Lara Smith-Sitton personal communication, 2023). Without appropriate training and time to acquire the necessary skills to support DHOH students, instructors cannot reasonably provide those students with their best teaching.

Instructor Solutions

Instructors want resources, and support services like SDS and Instructional Design want to provide them, so in part the question of solutions is settled: instructors need greater connection with such services. What this study has shown is that greater connection to address the longstanding instructor training gap on supporting DHOH students (Rao & Gartin, 2003; Salko, 2023) can be derived from twofold action: 1) greater proactivity in introducing instructors to DHOH student needs and 2) consistent and clear support from department leaders.

KSU's SDS department is very proactive at reaching out to instructors to inform them when a DHOH student is going to enter their classes, but instructors need to be introduced to DHOH student needs and accessible design before a student's imminent arrival. It cannot be reiterated enough: working with a DHOH student is and should be thought of as inevitable rather than a what-if. Proactivity in introducing instructors to DHOH student needs takes two steps: training introduces instructors to options, actions, and outcomes; then, instructors take initiative to grow pedagogically.

Introducing instructors to DHOH student needs before they have a DHOH student entering their class makes retrofitting, the case for most KSU classes, more manageable for instructors and support services. More costly in time and funds as well as more difficult, retrofitting requires instructors to assess and adjust or reconceive their current materials and practices (Lenysyzyn, personal communication, 2023; Fisher et al., personal communication, 2023). What could make retrofitting easier is increased proactivity, and thus shifting the approach from retrofitting to advance revision. To improve classroom accessibility, instructors must consider the type of classroom (space: in-person or virtual; approach: lecture-based or discussion-based) early to effectively seek assistance and make the necessary changes (Fisher et al., personal communication, 2023). Some classrooms and class formats may be simpler to retrofit than others. The more visual-based the materials and the more "orderly" and well-managed discussions and other in-class activities are, the easier it is to "make this space accessible for Deaf/deaf/hard of hearing students. More work will be required for courses that are heavily audio-based and rapid-paced" (Fisher et al., personal communication, 2023). Additionally, early provision of course materials to SDS or "access service providers (e.g. transcriptionists or ASL interpreters)" enables smoother transformation into a more accessible classroom (Fisher et al., personal communication, 2023) because a prominent barrier to

creating accessibility—time—is greater. For the time to revise course accessibility to increase, instructors must ideally be prepared for DHOH student needs before having such a student.

While SDS focuses primarily on individual students and securing their accommodations, other support services like Instructional Design and KSU's Digital Learning Innovations (DLI) are always available to instructors. Greater outreach from them facilitates instructors gaining essential pedagogical skills to support DHOH students. Some of KSU's SDS department's increased success in preparing instructors to work with DHOH students since Bonna Lenyszyn's appointment in 2018 has arisen from SDS's partnership with the DLI department (Lenyszyn, personal communication, 2023). Instructors can also utilize connections with SDS, DLI, and Instructional Design to flexibly adapt their courses and classrooms (Fisher et al., personal communication, 2023). However, instructors still reach out wanting SDS or DLI to caption their materials or otherwise make them accessible for them (Lenyszyn, personal communication, 2023), suggesting that current initiatives have not fully succeeded in giving instructors the tools and sense of independence to transform their own classrooms and materials. Given that the teaching instructors interviewed expressed either feelings of frustration and confusion as to where to begin (Dr. David King, personal communication, 2024) or leveraged their own ADA-experienced backgrounds to transform their practices (Dr. Lara Smith-Sitton, personal communication, 2023), it can be reasoned that even instructors who have experience with deafness, ADA law, and who are highly willing to advocate and adapt for DHOH students are not necessarily being well instructed as proactively as they could be by on-campus resources. Nonetheless, KSU's DLI is undertaking these points of outreach and has helped further SDS's ability to reach and prepare instructors. These joint efforts could be furthered through greater cooperation from administrators—department leaders, college leadership, etc.—who help set the values and practices of their university, colleges, and respective departments.

If department leaders had more buy-in and valued accessibility as an integral part of the academic environment, instructors could more often utilize and witness accessible practices in action. Department leadership changes leave accessibility implementation and encouragement in flux (Lenyszyn, personal communication, 2023). When department leadership fails to assert to their instructors that accessibility is a necessity for DHOH students to function (*NAD v. Harvard (2015)*, *NAD v. MIT (2015)*; Fernández-Batanero et al., 2022; Morris, 2023) and a priority, that department loses sight of student education as its primary goal. Adopting a stance of accommodations are only necessary when there is a documented DHOH student in a class does give departments and their instructors a loophole to not prioritize accessibility until, as has been repeated, accessibility becomes an "emergency" because a DHOH student "suddenly" arrives (Taussig, as cited in Neiman, 2023). The university and thus by extension its departments providing early training, instructors resources, connecting instructors to SDS services, and establishing a mentality and pedagogical approach of open-mindedness, growth, and flexible and accessible course design are pivotal to making DHOH accessibility routine (Fisher et al., personal communication, 2023). The plethora of instructor responsibilities and sometimes shortage of skilled instructors (Lenyszyn, personal communication, 2023) often leaves instructors' accessibility accountability uncertain. Even within departments, active and consistent insurance of accessible meetings and interactions for instructors with disabilities is not always maintained (Dr. David King, personal communication, 2024). It is hard to persuade instructors who are inexperienced or uncomfortable with change that making their courses more accessible will be more beneficial to them long-term and improve their pedagogical skill if their own departments do not model such practices as critical to an effective learning environment. This study has not examined all the further pressures, academic politics, and other contributing factors in departments that could be affecting department emphasis and training of their instructors on DHOH accessibility (or broader disability accessibility). Nonetheless, the data

indicates that department values and emphasis do influence instructor receptiveness to and perceptions of support in working with DHOH students.

It is not only SDS, DLI, Instructional Design, and department leaders that instructors need collaboration and guidance from; instructor-student collaboration is also critical to effective accessibility implementation. The goal of such collaboration is not necessarily for the instructor to "know the details" of the student's disability but for the instructor to gain knowledge of how to "remove the barriers to [the student's] learning" including but not limited to "how the information is presented, the manner the students are asked to respond, the characteristics of the setting, the timing and scheduling of instruction" (Fisher et al., personal communication, 2023). To effectively evaluate a student's needs compared to the instructors' vision for their class requires rapport, flexibility, and time (Fisher et al., personal communication, 2023; Dr. Smith-Sitton, personal communication, 2023). When instructors know up front how to work with and support a specific disability overall, they are better equipped to reflectively assess their classroom and practices to consider how an individual student and their needs will fit in—and what gaps will remain that need to be adjusted.

Instructors with strong connections with training, knowledge, and resources—whether support services or literature—on working with DHOH students are more able to independently and effectively reimagine more accessible classes and better instructor-student collaboration to achieve that. Greater training and external support (i.e. from SDS, Instructional Design) prepares instructors to contemplate how and why their classroom spaces or practices may need to change (Fisher et al., personal communication, 2023; Salko, 2023) so that they can become designers of accessible environments (Boudreau, 2021) and integrate—not add on—DHOH students to their classrooms. Intentional integration requires thoughtful decision-making (Dr. Lara Smith-Sitton, personal communication, 2023). Well-prepared instructors are more capable and knowledgeable about taking accessibility-developing steps such as "continuous

conversations with students to adapt, communicate, adjust, and check in," "[reading] more about

inclusive teaching and pedagogical practices," "[developing] extra time," "[conducting] additional

research," and "[talking] to people, not necessarily those with the [DHOH] needs but talking with

people who worked with [DHOH] individuals both in Kennesaw but also with community

partners" (Dr. Lara Smith-Sitton, personal communication, 2023). Instructors' confidence and

knowledge, as the data demonstrates, comes from preparation through training and guidance.

Instructor Accessibility Training and Practices Helps All Students

While not specifically a question this study set out to answer, the fact that accessible

classroom practices benefitted all students, not just DHOH ones, repeatedly surfaced during the

interviews. S1 reflected on this, saying:

> …I feel like I know a lot of other students…who aren't deaf or hard of hearing but who maybe have some type of auditory processing disorder or ADHD and things like that. Things like captioning don't just benefit myself as a Deaf individual. It benefits so many people…KSU has resources to caption media, and it's not too big of an additional hassle. In my opinion, just get everything captioned. Why not?

When media is captioned, its information becomes available two ways: audio and visual. That

two-way transfer of information not only ensures DHOH students have actual access to that

information via captions but also supports hearing students' absorption of the material because

captions support visual learners and can fill in gaps in audibility or clarity (Kmetz Morris et al.,

2016; Dello Stritto & Linder, 2017). S2 described how a teaching strategy of some of her

professors also helped compensate for audibility issues due to the nature of class discussions

being spread across an entire room:

> Classroom discussions are impossible to participate in or even observe. It's also very difficult to understand student questions. I can understand the professor's responses, but without the context of the question a vague "yes, that's correct" is worthless to me. I've had professors repeat/generally summarize questions before answering, which was very helpful to both me and my hearing peers.

Both S1 and S2 noted that classrooms at KSU can be large or have the desks and presenter's

podium awkwardly positioned, hampering the sightlines DHOH students need for easy access

to their interpreters, captioned materials, lip reading, or visual materials the professor may be sharing. As S2's reflection on classroom discussion practices suggests, even hearing students may struggle during discussions because people often fail to project their voices. Once more, a strategy that improves accessibility for a DHOH student by repeating the question and thus ensuring that the DHOH student's interpreter or live captionist could hear and share the question with the DHOH student also helps keep other students clear on what was asked so they all learn from the discussion being had. Evidentially, DHOH students see the benefits of accessibility training or practices on the whole of the classroom rather than just themselves. Therefore, that awareness lends powerful credence to the viability of the accessible classroom as a universally designed learning environment because the truly accessible classroom presents its information—whether through materials or lecture or discussions—through multiple ways of acquiring that knowledge, ensuring the most students possible learn.

DHOH students were not the only ones who observed more than just themselves benefiting from increasingly accessible classroom practices. Dr. Lara Smith-Sitton reflected in her experience of transforming her classroom to be more accessible that having an agenda and having group discussions transcribe their ideas onto a shared Google document allowed absent students to catch up more easily. Additionally, students who were shier or "hesitant to speak out in class" could access the notes and still learn from the discussion (Dr. Lara Smith-Sitton, personal communication, 2023). It is true that captioned materials have been shown to be largely helpful beyond DHOH students. In some cases, 99 percent of surveyed students found them helpful, while 49 percent of those students went so far as to call them "extremely" helpful (Kmetz Morris et al., 2016, p. 233). In another study, two-thirds of participating students deemed captions as helping them to focus on the material more (Dello Stritto & Linder, 2017). Given the case for text-based transfer of course knowledge augmenting learning, it is reasonable to conclude that augmenting more classroom procedures with text, as in the case of an agenda for

class activities or a document collecting statements from students during class discussions, could make a classroom a more intentional, supportive learning environment for many students. However, Dr. Smith-Sitton raised another critical point: DHOH students become DHOH professionals. Thus, the classroom, when transformed to be comprehensively accessible, is also transformed to be a center of dual learning; hearing students not only gain knowledge of the course subject but also of how "those who don't have hearing concerns can work with and support those who do" by observing and participating in truly accessible practices *in practice* (Dr. Smith-Sitton, personal communication, 2023). This idea in turn relates to the idea and critical importance of normalizing accessibility rather than positioning it as a disruptor of perceived normal practices (Morris, 2023; Taussig, as cited in Neiman, 2023). So many potential benefits to the entire student body as students and as burgeoning professionals make the value of instructor training on creating comprehensively accessible classrooms even more compelling.

Discussion Summary

KSU is currently facing a deficit in instructor preparedness to effectively support DHOH students. Their current DHOH students perceive instructors as wanting to help but without proper guidance or training, a situation that has left DHOH students feeling othered, coddled, ignored, and frustrated. Meanwhile, instructors feel a burden of pressure to perform with excellence despite little advance preparation provided to them for working with DHOH students. Lack of instructor time, energy, and knowledge contributes to instructors feeling lost about how to pedagogically grow and redesign their classes to be more truly accessible to DHOH students. University-backed training that blends support from KSU's SDS, DLI, and department heads to consistently implement and emphasize the necessity and best practice of accessibility in all elements of the academic environment could combat this instructor knowledge and training deficit.

This training must include strategies on flexible and developing accommodation and accessibility improvements, instructor-students collaboration on implementing such, and a focus on shifting instructors' mindsets from tacking on accommodations for one student for one semester to permanently strengthening their pedagogy and courses for all students' accessibility. These steps in turn could prepare instructors to take greater independent initiative to continue developing their knowledge and preparation. Furthermore, this study has shown that better preparing instructors to create and utilize more accessible materials and class practices not only benefits DHOH students but also all students because the learning environment becomes more intentionally designed and focused on content acquisition and retention.

Autoethnographic Reflection as a Model of Key Findings

By examining a real-life model of the practical applications derived from the discussion above, it can be seen how a course can become more universally designed. This model factors in my own experience as a hard of hearing student. That experience lends another voice to the perspectives analyzed in this study and provides a more thorough image of what the instructor-student collaboration process could look like to revise course accessibility. Furthermore, this model exemplifies how accessible course design and practices make accommodations more effective, thus providing a more holistically supportive learning environment.

The model in question is my autoethnographic reflection as a hard of hearing graduate student in Dr. Lara Smith-Sitton's Fall 2021 graduate course on publishing. I have reflected on this model before in my contribution to the Conference on College Composition and Communication (CCCC) 2024 (Bahl et al., 2024). There, it testified to the importance of instructor-student collaboration in students teaching instructors about access and disability. Here, it does similar work but in greater detail to harness the value of a specific and genuine experience as a guide for practice rather than a generic model that lacks the empathetic

resonance of someone's lived experience. I ordered the following subsections according to the discussion Dr. Smith-Sitton and I had, our mutual adjustments to find an effective solution, and our final knowledge gained from this experience together.

Establishing an Initial Plan

Sitting across from Dr. Smith-Sitton in her snug office to discuss my accommodations from SDS, my main thought was, *Please don't let this class have too many in-class discussions.* Trying to follow a discussion in class felt like trying to fight off a flock of seagulls: too much noise for me to think, mentally battered by the end. Some might wonder how there could be too much noise for someone hard of hearing. While I do hear less than most people, that also makes background noise far more tiring to try and hear past. Most of the time, I can't hear past it. While I now had Communication Access Realtime Translation (CART) captioning, which took a substantial burden of listening fatigue off me, it was still a struggle for my captionist to hear through the throng and clarify who was saying what. My accommodations alone didn't grant me access to all parts of my classes. Most of the time, I "got by" because it didn't seem like instructors understood how inaccessible discussions were. Before, I didn't know how to help them understand. Dr. Smith-Sitton changed that. She actively sought to understand.

I had worked with Dr. Smith-Sitton before in my undergraduate years, so she understood my accommodations; this time, she wanted to go beyond those basics. "How can we make this class easier for you to participate in?" she asked.

I told her, "I do really poorly in class discussions. I can't hear anyone, and honestly, I hate them."

"Most of the way I plan to teach this class is class discussions," she replied.

Well. That's unfortunate.

Resignation stole over me. This class was a new creation of Dr. Smith-Sitton's. I was thrilled for the opportunity to help her pioneer it as one of her students. That didn't quell the weight of disappointment when I concluded I might spend most of my class time each week frustrated and tuning out.

What made this moment different was Dr. Smith-Sitton's attitude. She was not satisfied that this was the end of our discussion. "I can learn from you," she said. The warmth and earnestness in her tone made me reconsider what I had been accepting as "access" and whether this time there could be a mutual solution. "I have a very particular vision for this class," she explained, "and discussions are a majority of that because I want you and the others to really spend some time talking about the topics we're going to cover and thinking about what those topics mean for you. And since you say discussions are the hardest thing for you to deal with in classes, let's talk about some ways we could make that discussion more accessible for you."

This was the first time that I had a chance to sit down with a professor and discuss their class beyond my accommodations of preferential seating and using a microphone and CART captioning and closed captions for videos. Dr. Smith-Sitton was and is someone I look to as a phenomenal mentor. Her expertise seemed boundless. So, at the time, I doubted how I could teach her, but I saw she was offering me a hand in partnership. I took it.

We brainstormed together.

In some ways our discussion was easier than it might have been for another class or another instructor. While Dr. Smith-Sitton had a vision for this publishing class, she hadn't taught it yet, making it somewhat simpler to consider how we could adjust class practices ahead of time. She also had a background in ADA compliance in the workplace and so had the language and knowledge to understand what I needed if I could explain what I personally needed to have

greater access. Furthermore, as we had worked together before and already had a strong rapport, talking to her honestly about what did and didn't work was far easier than trying to do the same during a first-time meeting with and instructor who had little of her knowledge. Our initial discussion mostly addressed how class operations could become more moderated.

A simple first agreement was to adopt a class agenda and establish the classroom setting. Dr. Smith-Sitton saw it as a way to prepare me for what we would discuss and do before each class because I had mentioned how frustrating it was to have topics suddenly switched on me. Likewise, knowing what the room looked like beforehand gave me the opportunity to discuss with her how best to leverage my preferential seating. The room wasn't large and was longer than wide. It had a sort of banquet table seating arrangement, along with an extra table by the instructor's podium. This structure provided me the opportunity to sit near the podium during lecture portions and shift to the table for discussion. Advance preparation on the topics and flexibility to move to the most strategic spot for me throughout the class gave me greater confidence that we could make this not just work but be the first truly integrating experience I had ever had in a university classroom.

That was the very simple part. As with much accessibility-making, our other designs required trial and error, testing and feedback to fully actualize.

Trial and Error

Dr. Smith-Sitton had some prior background experience to draw on as we determined a more effective way to manage class discussions. She had previously found breakout groups useful for managing large discussions. While who would be paired with who would vary throughout the semester to maintain Dr. Smith-Sitton's desire to foster thorough conversation between peers, only two or three people would be in each group, ensuring that at any given point I would have a much more manageable conversation to follow. Additionally, I was lucky enough to know a few of the other students in this class. Therefore, Dr. Smith-Sitton initially

ensured one of those familiar students was paired with me for the first half of the semester. Her

approach allowed me to more easily follow the conversation and gain greater topic mastery

before shifting to conversing entirely with strangers.

I had my own experience to draw on when it came to contributing strategic approaches.

Staff meetings at my workplace were a chaotic hearing environment for me, so I had adopted a

solution of going to a quieter place to work with a partner when attending these trainings.

Background noise is a bane for many DHOH people, myself included. I've often found that

hearing people don't realize how much mental processing power is required when a hard of

hearing person must filter out restaurant chatter or loud A/C or other conversations to focus on a

speaker. A bunch of breakout groups talking in one room is in fact even noisier and more

distracting than one large group talking. When I explained the severity of this issue to Dr. Smith-

Sitton, I also introduced a possible solution: my group and I could go to a quiet space for the

duration of the breakout group time. She agreed that my group could work out in the hall or

even outside if the weather was good, whichever place would be quieter.

These accessibility creating adaptations did not come at the expense of the benefits

large group discussions can have. After breakout groups had a chance to discuss the topics,

they would compile their ideas into their own Google Docs. Then, every group reconvened to

share our discussions ideas while Dr. Smith-Sitton synthesized those written ideas into a single

Google Doc projected on the classroom screen. Everyone got to see what the contributions and

takeaways were.

This is where we encountered the first hurdle in action.

I use a Roger Pen, a wearable lanyard microphone that connects through Bluetooth, to

let my captionist hear an instructor's lecture. During breakout time, I took the Roger Pen with me

to let the captionist follow my group's discussion. However, Dr. Smith-Sitton spearheaded the

class wide discussion. When my Roger Pen was with her, I could follow her points, but the room

design and spacing made my captionist struggle to hear what any of my peers said unless they

were near Dr. Smith-Sitton, who always sat at the head of the table. I couldn't understand what

anyone else was saying. That put me right back in the position of discussions leaving me

alienated and fatigued.

Time for another meeting with Dr. Smith-Sitton.

I explained the problem, and the first solution we tried was passing around the Roger

Pen. Dr. Smith-Sitton was careful to ask if this would call unwanted attention to me. My privacy

was as much a priority to her as ensuring my accessibility. I was willing to try it, so we did. This

approach did let the captionist hear what everyone had to say, but passing the microphone

around became awkward and rather time-consuming. English classrooms are heavily

discussion based much of the time, and those discussions are rarely linear. People jump in

where they see fit. That context made it difficult to effectively pass the microphone back and

forth whenever someone wanted to add their thoughts.

Since the purpose of making the discussion accessible for me was for me to be able to

fully participate in the same level of discussion that would otherwise be had between my hearing

peers, Dr. Smith-Sitton and I developed another approach.

Going forward, during class wide discussions, Dr. Smith-Sitton would repeat any

questions asked before giving the answer or before pivoting the discussion to a new speaker.

This strategy allowed her to have more moderating power over the discussion. Not only did this

enable her to provide more equitable opportunities for students to participate but also the

repetition of the question ensured that everyone, including my captionist, could hear the

question and answer. With the full context available to me throughout the discussion, I could

engage at the same level as my hearing peers.

Reflections

At the time, I didn't have the research knowledge of DHOH student needs that I do now. I operated by my own experiences and what seemed logical. However, my collaboration with Dr. Smith-Sitton reflects the best practices that the literature and my own research have shown. Through instructor-student collaboration we were able to share our concerns and needs. This afforded us both the opportunity for open dialogue and mutual contributions to knowledge and accessible course design. Going through that process allowed us to both practice and test Universal Design for Learning (UDL) strategies that made integrating my accommodations easier and ultimately provided more effective support and inclusion for all my peers as well.

Accommodations are much easier to have in a class that flexibly adapts to make those accommodations as effective as possible. My accommodations of preferential seating and CART and using a Roger Pen all facilitated how Dr. Smith-Sitton and I constructed a more accessible approach for class discussions and practices. In reverse, those accessible strategies enabled me to genuinely get the most value out of my accommodations because my captionist could hear fully and I could move in a fully flexible space to ensure that I was always positioned and prepared to participate.

Like the students that I interviewed for my own research stated, accessible class design and practices benefitted the hearing students too. Dr. Smith-Sitton recounted to me how students would approach her and thank her for providing the agenda because it helped them catch up when they missed a class. Students remarked how helpful they found the displayed Google Doc as they collected their thoughts and discussed the topics. Moderating class discussions more effectively allowed for a shift in classroom power; students and instructor became equals in discussion, and no one student got to dominate the discussion because Dr. Smith-Sitton facilitated keeping discussions on track and interactive. Dr. Smith-Sitton also saw value in students seeing and participating in DHOH accessible practices because she perceived

that skill as a professional skill. In her eyes, students needed to gain more empathy and skill in navigating others' participation differences. Rather than consider that a separate lesson to learn, she integrated that learning into her class and made it a part of a more holistic learning experience. Ultimately, this one course became more engaging and more valuable to us as burgeoning professionals because of elements that weren't focused on the content itself but ensuring we could fully gain and retain that content so that we could apply it.

At the end of 2023, I interviewed Dr. Smith-Sitton as a participant in this project, and she mentioned that working with me made her a better teacher. When I asked her what she meant, she reflected on how other students had become more engaged in her course because of the accessible redesign. Moreover, she found that repeating questions before answers and taking the time to moderate the discussions made her and others more reflective and intentional in what they said. She also appreciated having the opportunity to collaborate with a student and learn to understand their perspective in navigating a disability—and how she could make that navigation easier in a complex classroom.

Dr. Smith-Sitton's attitude of curiosity, learning, and collaboration critically changed my university experience. After that class I was much more able to self-advocate my needs to other instructors. Now I had specific examples of what accessible practices did and didn't work that I could draw on and explain. Vitally, I had gained a better understanding of how to connect with my instructors. Improving classroom accessibility takes time and isn't a solo effort. Instructor-student collaboration drives the most effective UDL because both parties can share concerns and problem-solve together, allowing for greater understanding and integration of perspectives, ideas, experiences, and knowledge. Not every instructor has the experience of where to start like Dr. Smith-Sitton. Often, the onus instead is placed fully on the student to initiate and guide such conversations. For both instructors and students to be less burdened and more collaborative in finding accessibility solutions for individual courses, instructors need more

training and resources to prepare them in advance. When someone has at least a basic

vocabulary for the discussions that accessibility problem-solving requires, it becomes much less

stressful to discuss. When someone has an understanding that accessible solutions take time

and tweaking but are not necessarily complex, implementing those changes becomes less

daunting. This personal experience serves as a model of one way that instructor-student

collaboration can design a more accessible and UDL-based classroom without necessarily

being experts. We filled the gaps in each other's knowledge to create something that benefits

everyone.

Implications

The results of this qualitative study build on existing evidence of disparity in DHOH

students' access in higher education compared to hearing students and demonstrate that KSU

is a part of that trend. Both instructors and DHOH students perceive KSU instructors as lacking

proper training preparation to effectively support DHOH students. The current lack of training

leads instructors to potentially neglect DHOH student's needs or to treat them as less than or a

burden. Ultimately, these findings reveal that KSU urgently needs to supply their instructors with

appropriate DHOH accessibility training to avoid creating an image that only nondisabled KSU

students matter.

It could be argued that it is unfair for DHOH students to have to become the guides for

their instructors in how those instructors can help them. That should be work the university itself

is doing, and all findings indicate a deep necessity for universities to invest more in their

instructor training on working with students with disabilities. What should instead occur between

instructors and DHOH students is collaboration. When instructors and DHOH students have

opportunities to ask questions of each other, discuss their needs and expectations, and

problem-solve together, instructors gain further expertise in creating accessible courses and students gain further self-advocacy power and a greater support system.

For instructors, feeling unsupported or without guidance about how to make their classes more accessible creates a sense of undue burden. Instructors who possessed knowledge of and confidence in implementing accommodations and accessible practices in their classrooms and teaching styles do not view working with DHOH students as a burden. Many instructors perceived that they were not given enough specific guidance, resources, or support in advance, resulting in instructors feeling pressured and performing more poorly when confronted with having to integrate DHOH students into inaccessibly designed courses. Instructors also seem to want more advance preparation than the current system of informing them of a student with a disability in their class. Furthermore, instructors' preparation and instructor-student rapport may vary by department; the findings suggest that the KSU English Department may be more empathetic to the needs of DHOH students than the biology department or the computer science and software engineering departments. Instructors' departments and personal backgrounds and familiarity with accessibility and its requirements influence how much burden an instructor feels in working with a DHOH student and therefore how supported or not that DHOH student is in their learning.

The persistent description of instructors' practices positively or negatively effecting DHOH student accessibility in the classroom indicates that instructor training should include how to design and employ accessible teaching practices as well as mandated accommodations. The findings show that when instructors used teaching practices that made the classroom more accessible to DHOH students, those practices observably benefitted the hearing students as well, made the class more engaged, and more effectively integrated the DHOH student into the classroom as an equal student.

It must be noted that departmental and subject differences (such as English versus Biology) may influence DHOH student experiences, instructor preparation, course design, and classroom space. These distinctions suggest that a more individualized approach to preparing instructors to work with DHOH students would be more effective than a blanketed approach. Individualizing instructor support by field would allow for greater focus on the unique hurdles, strengths, designs, and needs encountered by instructors, DHOH students, and content requirements and activities in each department.

Additionally, the findings reveal that effective classroom accessibility practices and designs in turn boost the supportive effect of DHOH students' accommodations. Thus, shifting courses to be more accessibly designed and taught mitigates the amount of adjustment and effort required to integrate an individual DHOH student's accommodations, potentially alleviating some of the burden that instructors perceive. Accessible classrooms and content are necessary for DHOH students to thrive and be treated as professionals like their hearing peers. Because the results demonstrate that DHOH students are seen as a disruption to classes due to unaddressed inaccessible designs, these results also suggest that normalizing accessible design and practices in KSU's academic landscape would also normalize DHOH students as an integral part of that landscape rather than continuing to position them as intruders who put burdens on hearing people by wanting to fully participate fully.

Ultimately, these findings call other universities to self-assess and evaluate how supported both their instructors and DHOH students feel in co-creating accessibility. These educational gaps are part of a wide and persistent trend. While more research is necessary across a wider scope to make further predictions, the following section details some specific recommendations that KSU can begin employing now. These recommendations establish a model that other departments and universities could follow to better demonstrate their advanced

efficiency at building a lasting and strong academic environment for their instructors, support

services, and DHOH students.

Recommendations

While KSU's current support for their instructors and DHOH students is currently lacking,

a strong positive is that these educational support gaps can begin being addressed relatively

simply. Of largest concern is the perceived lack of support that instructors have despite services

like SDS, DLI, and Instructional Design being available to them. Since instructors seem to feel

adrift if they do not have a background in disability accommodations and knowledge of what

builds true accessibility, earlier preparation of instructors to deal with specific disabilities could

mitigate some of the burden and stress instructors currently feel and DHOH students.

My research has guided me to create two deliverables that address this need for

instructors to have advance training on DHOH student needs. These deliverables, as noted

earlier in this paper, are a professional development workshop and a follow-up open access

digital guide that instructors can download and reference whenever they need. Although these

tools are not going to answer every possible question or scenario, they are intended to provide

instructors with earlier knowledge and support. This greater advance preparation should reduce

some of their hesitation or feelings of being overwhelmed when they are contacted by SDS

about the accommodations and needs of individual students. Both training materials can

introduce instructors not only to accommodations but also how to understand, design, and use

accessible teaching practices to increase the effectiveness of their teaching for all students.

Furthermore, while the current materials are geared toward the KSU English Department as a

starting model due to the researcher's familiarity with it, these models can be easily expanded

or adjusted to best address the individual needs of various departments. The rest of this section

explains how the findings inform these specific professional development tools to train KSU

English Department instructors to work more confidently and knowledgably with DHOH

students.

The professional development workshop consists of 30 slides that introduce accessible

course design and practices, and guides instructors on how they can implement these elements

in their own courses. Topics covered include defining accessibility, explaining and differentiating

accommodations, and detailing specific recommendations and processes for instructors to

redesign their courses. The information this professional development presents extends from

the current study and prior literature to deliver a consolidated explanation of best practices.

Presented in conjunction with Bonna Lenyszyn, KSU's Deaf and Hard of Hearing Service's

Manager, and Jason Rodenbeck, KSU's Assistant Director of Digital Learning Innovations, this

workshop includes two reflective exercises for instructors to complete during the workshop that

will allow them to more critically examine their current practices and incorporate the

presentations' knowledge into their plans.

The open-access digital guide collects the information presented in the professional

development workshop and expands on it in further detail. This guide is meant to be a

supplemental source for English Department instructors at KSU. It specifically highlights what

they need to know and understand about DHOH students and how they can harness and apply

UDL and accessible practices in their own classrooms. While not an answer-all, this guide

affords instructors more power to redesign in their classrooms by providing them with

definitions, answers, examples, tools, and further contacts all gathered in one place.

Between the professional development workshop and the open-access digital guide, it is

my intention to jump-start a more personalized and guided approach to supporting instructors in

better supporting their DHOH students.

Chapter 5 Summary

This chapter has presented the researcher's discussion of the findings along with a reflection on how the researcher's own experience with instructor-student collaboration to create a more accessible classroom models and contrasts with the findings. The implications of this study demonstrate an urgent need for KSU to provide more DHOH student support training to instructors, ideally before they face a DHOH student in their classroom. This training prepares instructors with greater confidence and knowledge to go beyond just scrambling to caption resources and instead thoroughly and intentionally consider how they can become architects of accessibly redesigning their courses and teaching practices. In turn, instructors can support every student in a more engaging, learning- and retention-oriented way, not just DHOH students. This chapter ended with recommendations on how the deliverables created from this research, a model professional development workshop and open-access digital guide about DHOH students for KSU English Department instructors begin to address the ongoing educational gaps identified by this study and in current literature. The next section concludes this capstone and offers primary takeaways from the research, limitations of this study, recommendations for future studies, and a final reflection on how this study begins a new conversation from the existing ones.

Chapter 6

Conclusion

This qualitative study aimed to identify Kennesaw State University (KSU) deaf and hard

of hearing (DHOH) student perceptions of accommodations and what instructors needed to

know about them to effectively and accessibly support DHOH students. By analyzing the

perspectives and perceptions of instructors, Student Disability Services (SDS), and DHOH

students at KSU as well as that of a Gallaudet University Instructional Design team, this

capstone has shown that instructors require advance training on creating accessible design and

fostering instructor-student collaboration to be more prepared to integrate DHOH students into

their classrooms.

Although this study draws from a small participant pool, it advances the approach to

discussing accessibility, accommodations, and DHOH student integration into higher education

classrooms because it individualizes and yet unifies the voices of the instructors and DHOH

students in question. Both parties need support. Additionally, this study sought to critically

consider these concerns within the confines of a specific university and with a primary focus on

one department. Prior studies have often chosen to focus on the instructors' shortcomings or on

student concerns without necessarily integrating both into one analysis. Additionally, prior

research takes a much larger but broader approach to addressing the same problems that this

study has examined, whereas this study provides a model to begin solving this problem within a

specific context. When large-scale emphasis on the necessity of universities making their

courses and materials more accessible for DHOH students has met more limited results than

desired by those students, adopting a collaborative approach may be an answer. This study has

placed instructor and student concerns and needs into conversation to ultimately transform

those into concrete models and answers for instructors to help DHOH students.

Additionally, the two deaf students interviewed are STEM majors (Biology and Computer

Science/Software Engineering) while the instructors interviewed are both from KSU's English

Department. The disciplinary diversity of this study affords further insights: department

preparation for and knowledge of DHOH student needs varies. DHOH students and their

instructors experience different levels of support and encounter different classroom spaces and

course structures based on their departments. No one-size-fits-all solution for DHOH student

accessibility exists, but researchers, advocates, administrators, and educators can strive to

identify discipline-specific solutions for DHOH student accessibility.

While I expected to find that there is a continuing gap in educational access for DHOH

students at KSU, the initial inquiry did not predict that positive instructor-students experiences

would be so limited or that more accessible classroom practices overall seemed to improve all

students' class engagement and experiences. These further findings underscore the value of

this study and the materials it has produced to support KSU instructors. For now, those

materials are focused on the KSU English Department because that was the data and context

available to me. I wanted to use that familiarity to better equip me to produce a model. These

materials are functional, but they guide not only the instructors in question to work with DHOH

students but also other departments to tailor them as needed for their teaching contexts (i.e.

physical space, topic) to help their instructors as well.

Limitations

This qualitative, interview-based study and autoethnographic reflection are limited in

size. Foremost, this study's sample size included just six participants, comprising of two DHOH

students, two instructors from KSU (one being deaf as well), the Deaf and Hard of Hearing

Services Manager from KSU's SDS department, and the head of Gallaudet University's

Instructional Design department and her team, plus the researcher through the

autoethnographic reflection. Additionally, the scope of this study is specifically KSU and on

DHOH student experiences; other universities and disability experiences beyond just DHOH

were not considered for this study's purpose. Ultimately, this study is not the final say on

improving resources to educate instructors on how to most effectively instruct DHOH students; it

is a step into a conversation that should prompt further research and response. For that reason,

this study's limitations do not undermine its value in contributing to the growing conversation

about improving DHOH access in higher education.

Future Research

More research is necessary to thoroughly explore the experiences of varied instructors

and DHOH students from multiple departments and universities. Answering this study's

questions raised new questions that can carry this conversation forward and critically examine

even more facets to continue building new ways to understand, support, and implement

accessibility in classroom designs and teaching practices. All instructors in this study held

positive perspectives of working with DHOH students. Studying instructors with negative

perceptions could offer further understanding of their concerns and needs in an even more

nuanced light. Additionally, studying instructors and DHOH students from different departments

or the same department for both could offer more insight to how disparate or similar these perspectives are within or between departments. While these further inquiry routes are beyond the scope of the current study, all offer paths to take this study's model and increase its size or shift its population focus to expand the conversation and potential solutions to the issues identified herein.

Final Thoughts

The conversation about DHOH students' needs is not new. Ultimately, the recommendations this study makes are not new either, at least to most DHOH people. What this study truly adds to this conversation is limiting its context to strengthen its practical applications. A frustration I have long had with sweeping recommendations about what all universities or all places need to do is that rarely do those universities or places implement those recommendations. Large-scale change is not possible without large-scale support, enforcement, and continuous development. However, small, focused, collaborative, empathetic efforts that manage the needs of both instructors and students could more effectively chip away at resistance to accessibility. Little by little, that chipping could create a path for the large-scale enforcement and value of accessibility that we all would benefit from.

Something most important to remember is an insight that I knew from the literature but did not truly appreciate or understand until I heard it echoed from the deaf students I interviewed: greater accessibility for DHOH students means greater accessibility for hearing students too. Perhaps hearing people, because they are so used to relying on hearing or being expected to do so, do not always consider how much non-verbal communication or teaching could help them. It is true that not everyone is a visual learner. Nonetheless, for DHOH students, including myself, as well as instructors, to notice that changes made for DHOH improved the efforts and experiences even of hearing students speaks volumes to the potential of continuing to implement the findings from this research.

Not only could training and preparing instructors to become empowered rather than burdened and to intentionally design classes rather than overhaul them help DHOH more but it could help the average abled student more as well. How much greater efficiency could we have as professionals if more care was taken to ensure everyone understood meeting proceedings and could participate and focus fully during collaborative projects? How much more effectively would our students gain and retain knowledge if it was reinforced throughout a lecture visually and broken down in more patient ways focused on actually imparting knowledge rather than hustling through lecture notes? My goal with this research and the materials it has produced is for those to be an invitation to instructors, for them to say, "Sit down. Talk with me. Your students need this. You could learn from this. Let me show you how this is feasible. Let me make it easier for you now so that it doesn't become as frustrating later." If we, as DHOH students, as researchers, as instructors could show the university how much we value that and how it benefits us all, maybe we could get more buy-in from administration and develop a stronger academic environment. An education that expects and welcomes DHOH students like any other. There may be frustrations and obstacles to overcome, but through collaboration across the university community, integration melded with accommodations makes accessibility an innate structure of education.

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Appendix A

Interview Questions

Deaf or Hard of Hearing Student Interview

1. What is your major, and what year are you in your studies?

2. Do you use hearing devices, interpreters, or both? Do you use any live captioning services like CART?

3. What is one thing you wish everyone knew about deafness/hearing loss?

4. How do you identify yourself (Part of Deaf culture, deaf but not part of Deaf culture, hard of hearing, or other)? Are you also a Child of Deaf Adult(s) (CODA) or Sibling (or Spouse) of Deaf Adult(s) (SODA)?

5. What do you most wish faculty had in mind when designing their class structures, projects, and activities? Have you encountered any existing course structures at KSU that are very useful or convenient for you without additional (or many) accommodations? If so, could you describe it and why it was helpful?

6. Is there a program or service for Deaf and hard of hearing students that you think would be useful to have at KSU that doesn't currently exist?

7. Describe a time when you had the best/most helpful experience receiving and using accommodations in a KSU class.

8. Describe a time when you had the most frustrating/least helpful experience receiving and using accommodations in a KSU class.

9. How accessible are group projects for you in your classes? Do you like them, or are they difficult or very frustrating because of listening fatigue, partners not respecting or understanding your needs, etc.?

10. If you could redesign or change elements of current or past classes you have experience with, what would you want to do? Are there physical elements of classrooms you wish would change, e.g. positioning/availability of seating, orientation of the speaker?

11. Do you worry about other students or professors judging your accommodation needs or the ways in which you participate in the classroom? How does this impact you, and what classroom and educational changes could help make accommodations more normalized?

Bonna Lenyszyn Interview

1. Describe your experience in working with deaf and hard of hearing students at the university level at Kennesaw State University?

2. What is your approach/role in introducing students and faculty to accommodations?

3. What do faculty need to know more about? What seems to help faculty the most?

4.   What are your biggest frustrations in implementing accommodations? Do some degree programs seem more informed than others?

Gallaudet Interview

1.   How can faculty think of the world from a deaf/Deaf/hard of hearing perspective to design or revise their class to be more accessible?
2.   What strategies do you currently implement to make your classes and classroom spaces as accessible as possible to deaf/Deaf/hard of hearing students?
3.   How feasible is it to redesign or reimagine a class/classroom space? What advice would you give a professor new to this?
4.   What kind of support or education is available for faculty at Gallaudet?

5. Have you advised other colleges on supporting deaf/Deaf/hard of hearing students? Or if not, what kinds of resources do you think other colleges should have?

6. How can a professor become more familiar with a student's needs without invading their privacy?

Dr. David King Interview

1. Given your personal experiences, how do you approach Deaf and hard of hearing students in your classes and their accommodations?
2. What, if anything, is most difficult about implementing accommodations or changing how your classes function?
3. Do you always run your classes as though you might have a Deaf or hard of hearing student, even if you don't know for sure?
4. What choices that increase the accessibility of your classes and projects have you seen as most effective? Do these adjustments seem to benefit all students?
5. Regarding student accommodations, what do you wish you knew before that you know now?

6. What do you think has been most unique about working with Deaf and hard of hearing accommodations in an English program classroom as opposed to a different degree field?)
7. What advice would you give to new professors or more experienced professors who want to develop more accessible classes?

Dr. Smith-Sitton Interview

1. Describe how you redesigned your classroom:
2. Had you ever considered doing so before?
3. What did you observe about student participation, accessibility, and experiences in the redesigned classroom?
4. How did this redesigned classroom benefit student learning/your teaching?
5. What steps did you have to take to redesign the class structure?
6. What challenges did you face in redesigning your classroom?
7. Do you think that your previous work background better prepared you for this?
8. What advice would you offer to other faculty who might be considering classroom redesign or might want to but not know where to start?