Review Article

Beyond Accommodations: Lessons in Creating Meaningful and Equitable Learning Experiences in a Pre-Licensure Nursing Program

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Abstract

It is estimated that one to three children (per 1000) in the United States (U.S.) have hearing loss with a prevalence rate of 1.7 per 1000 infants born with hearing loss after routine newborn hearing screenings. Deafness or hard of hearing conditions are considered a disability covered by the American With Disabilities Act (ADA) of 1990 which mandates that educational institutions offer accommodations for documented learning disabilities. Accommodations are modifications, services, or adjustments to tasks that provide an equal opportunity to benefit from the educational process.

The purpose of this paper is to describe the experiences of one nursing student in a pre-licensure program from the perspective of the student, the program leadership, the instructors, and the access director. Leaders in academic institutions provide oversight, guidance and implementation of fair and equitable policies and practices that are designed to facilitate student success.

We describe specific adjustments made to enhance one student's journey in a pre-licensure nursing program that focuses on challenges, strengths, faculty, agency and leadership communication, student resources, and the impact of COVID-19 pandemic over a two-year period.

One student recounts the impact of missed school days due to her medical condition(s), concerns about socialization and classmates' reactions, challenges with tuition, rent and expenses to continue school, discouragement from individuals in across systems about the feasibility of a nursing career, need for technology and human support to maximize learning opportunities, the impact of COVID-19 pandemic on learning and concerns about applying for nursing jobs.

When classes are created to be accessible from the start, educators will not have to recreate each class, which can be frustrating and may lead to resentment. Having proactively created accessible classes will also create flexibility for a wide variety of the student with different levels of accessibility needs.

Keywords: Accommodations; Deaf and hard of hearing; Equity in learning; Nursing programs

Introduction

It is estimated that one to three children (per 1000) in the United States (U.S.) have hearing loss with a prevalence rate of 1.7 per 1000 infants born with hearing loss after routine newborn hearing screenings [1]. In addition, nearly 15% of adults aged 18 and over report some hearing loss and over 28 million U.S. adults may require use of hearing aids [2,3]. Hearing loss can range from mild to profound [4]. Deafness or hard of hearing conditions are considered a disability covered by the Americans with Disabilities Act (ADA) of 1990 [5]. One feature of the ADA is the requirement in the U.S. for educational institutions to offer accommodations for learning disabilities or disabilities considered as potential barriers in educational environments. An accommodation is a legally mandated reasonable modification, service or adjustment to a task that gives a student with a disability an equal opportunity to benefit from the educational process. Accommodations may include but are not limited to the following: changes to a classroom setting; removal of physical or structural barriers; modifications to policies or procedures; providing auxiliary aids or services and other types of adaptive equipment or tools or modifications of such technology. The purpose of educational accommodations is to provide students with the same or equivalent benefits and privileges in their educational settings [6].

While students may have a range of qualifying disability accommodations in elementary and secondary education, those same students may not request accommodations in post-secondary educational settings due to fear of stigma and potential for long-term career implications with disability disclosures [7,8]. Deaf or Hard of Hearing (DHH) students will often require some type of assistance and accommodations. Students who are deaf or hard of hearing rely on educational accommodations, support services and assistive technologies such as sign language interpreters, speech-to-text recordings, and smart phone applications to mitigate potential barriers to their retention in higher educational settings, success in post-secondary educational settings, and overall, completion of their chosen field of study [4,9,10].

Included with the 19% or more of undergraduate college students reporting a disability, about 1 in 25 students are considered DHH [11]. Palmer et al. [12] reported on accommodations for deaf college students in a national report but did not identify the types of programs deaf students were enrolled in. To date, there are no studies that indicate the number of DHH students who enter a nursing program in the United States. Horkey [13] notes that there is an increasing trend of students entering nursing programs who require accommodations to be successful. Nurse faculty need more training on how to implement accommodations for students enrolled in nursing programs and to recognize the impact of barriers to successful learning especially in clinical education settings [13,14]. Two studies that have focused on DHH students reported on medical or residency programs in the U.S. [8,15]. Hill et al. [15] outlined their 5-step process to create an American Sign Language (ASL) inclusive residency program for their radiation oncology program: 1) engaging the deaf resident and interpreters; 2) engaging the health system and departmental leadership; 3) contracting with training consultants; 4) developing oral and written educational materials for faculty and staff; and 5) addressing the work environment for necessary accommodations. The purpose of this paper is to describe the experiences of one nursing student in a pre-licensure program from the perspective of the student, the program leadership, the instructors, and the access director.

Technical Standards

Technical Standards are minimum physical requirements that students must meet to participate in an educational program. The Rehabilitation Act of 1973 prohibits employers and other entities from withholding programs, benefits, and services to people based upon disability. The Americans with Disabilities Act was signed in 1990 [6] and provides further protections to disabled persons.

Following these measures educational institutions are allowed to make requirements for physical capabilities that potential students must possess to be able to successfully complete the program of study [16]. These technical standards often include abilities such as lifting, bending, twisting, grasping, etc. There are not well-established national guidelines to indicate what should include in technical standards. Inclusion of physical capability requirements can limit an organization's ability to produce diverse graduates. Ailey and Marks point out that the Essentials for Baccalaureate Education [16,17] include skills related to reasoning, critical thinking, and other cognitive competencies. They do not include physical capabilities.

If technical standards for a unit have not been evaluated and revised for several years, they may contain requirements that limit a program's ability to recruit qualified applicants who happen to have disabilities. For example, technical standards that require students to be able to listen with a stethoscope do not account for a hearing-impaired nurse who uses a stethoscope that provides a visual wave form to evaluate heart sounds. A thorough review and revision of technical standards with a focus on inclusion, rather than exclusion can help schools of nursing to recruit diverse, but qualified applicants [16].

This State University College of Nursing (CON) reviewed technical standards in 2019 with a focus on inclusion instead of exclusion. The process included a review of technical standards from other universities as well as a review of scientific literature to determine best practice. After this review, the technical standards were revised to remove non-inclusive language.

Leadership

The leaders of an academic unit have a great deal of input about how technical standards will be applied and how liberally they will be interpreted. Leaders must know about resources for students and have the connections to get those resources to the students who need them. If an academic unit does not have the resources or the capacity to provide opportunities to students with disabilities, then the academic leader must be aware of the shortfall and either fix the problem or communicate with the student regarding how the program might be unsuited to the students' needs.

Ensuring student success is perhaps the most important role that an academic leader can fill. To be able to advocate for students, the leaders must know the students. Depending on their position, leaders in academia may not be heavily involved in teaching because of their administrative responsibilities. This decreased involvement requires increased effort on the part of the leader to reach out and get know students on an individual level. Leaders must also have the mindset that disability does not mean the same thing as inability. This mindset is manifested as a willingness to creatively approach challenges faced by students with disabilities. The leadership team at CON was involved with the student from the outset, including being part of the application interview, planning for accommodations, student orientation, student progression, and problem solving throughout the process. The campus access director, academic director, BSN program director and academic advisor communicated regularly with each other. The student had immediate access to specific academic leaders, allowing her to quickly communicate when issues came up.

Being personally acquainted with the student made it easier for those leaders who worked most closely with the student to be able to advocate on her behalf. Most of that advocacy came in the form of supporting the student as she advocated for herself. People with disabilities are world experts on their individual specific needs because they experience what they are not receiving from their educational programs. This makes the student the best person to self-advocate, which can be difficult in an educational system created for hearing students. Sometimes when a disabled student self-advocates, they are perceived as acting entitled, or even whiney, when they are only wanting to receive the same education as their hearing peers. With someone in leadership supporting the student's self-advocacy, much of that perception was dispelled.

Another role of the leader was to support faculty and empower them to make appropriate changes to accommodate the student. Accommodations, such as having interpreters in the rooms and structuring open discussion so it is clear who is speaking and what each person is saying, can be disruptive to the established classroom milieu. Leaders can support faculty by providing incentives and encouragement. Offering gratitude for flexibility and acknowledgement of innovation is another way that leaders can support faculty. When faculty are supported while experiencing new teaching methods, these new experiences will become normative and will improve the program for a wider variety of learning styles.

Student Needs and Difficulties

The classroom can be a challenging environment for the deaf and hard of hearing. One need only consider having a spontaneous discussion about a class topic. The instructor may ask a question that sparks several different comments. If people offer responses in rapid succession, the ASL interpreter may have difficulty translating dialogue quickly. If the student relies on lip reading, they may not be able to hear where speakers are coming from and therefore not be able to turn toward the speaker to be able to lipread. Another challenge comes when spontaneous discussion is happening, and students talk over one another. A hearing person may be able to keep track of who is speaking based on auditory cues. A deaf person who relies on lipreading may be concentrating on the first speaker and not realize that a second speaker has entered the conversation. Being able to review a captioned video of the class session was invaluable for the student to be able to gain full understanding of what was said during the class periods.

Note taking is another challenge for deaf students. Where a hearing person can look down to write a note while listening to a speaker, someone who relies on lipreading or an ASL interpreter, must attend visually to the speaker and cannot look down to write notes without missing information. To address this situation, a note taker was provided for the student.

The classroom environment is common to most academic disciplines, but nurses are not just educated in the classroom. Nursing students have clinical instruction that is provided in health care settings such as hospitals, clinics, and other venues. These settings vary from being well controlled and quiet to being disorganized, loud, and chaotic. Faculty had to coordinate with the student and the interpreters to make sure that the student understood what was happening and could communicate effectively with patients, nurses, and other staff.

Course Changes and Style

Some adjustments had to be made to teaching styles and some instructional activities to support participation by a deaf student. Activities where students were encouraged to shout out answers had to be modified to account for lipreading, and ASL interpretation. Group activities that created chaotic environments had to be modified so that the student could include the ASL interpreter and be able to lipread.

A unique challenge in course continuity that was faced came because of courses being taught via distance education. The university system has campuses spread across the state of Washington. Most of the didactic courses were taught from a main health sciences campus, while the student was attending and doing clinicals on a sister campus. Faculty from all campuses work as a team, however there were times when most of the faculty team was located on the remote campus and were not aware that there was a deaf student enrolled in the cohort. To proactively avoid challenges and miscommunications, the campus access director from the student's local campus hosted a meeting with all the faculty, program coordinators, and directors to introduce the student and to review the courses to ensure that accommodations would be successful. It was particularly important for the clinical instructors to have close contact with the student to ensure that she had the necessary resources to anticipate possible issues in the future that could affect the student's ability to perform well. The student maintained close communication with clinical faculty, the campus access director, and the academic director to report problems, find solutions, and to make strategies to avoid future problems.

Student Resources

Professional ASL interpreters were hired to provide services both in the classroom, and during clinical course time. While ASL interpreters are often used to interpret for deaf patients in health care settings, those episodes of care are often relatively short. A student's class day could be 8 hours long or longer. Since ASL interpretation requires mental energy and constant repetitive physical activity, at least 2 interpreters were present all the time so they could tag team interpret to ensure one interpreter did not get exhausted from continuous signing.

ASL interpreters were employed by the university and not as independent contractors. While all certified professional interpreters adhere to privacy guidelines, this employment status required that the interpreters undergo the same compliance review as the students and faculty including background checks, immunization verification, HIPAA compliance, etc. College of nursing staff were required to perform verification and documentation of compliance by the interpretation staff, just like they did for faculty and students.

The college of nursing uses Zoom as a platform for distance instruction. This platform allows for class sessions to be viewed remotely, but also allows them to be recorded so that they can be reviewed asynchronously. The program allows for closed captioning to be done in real time, but the quality of the captioning is sometimes compromised. An outside captioning firm was contracted to caption the videos so that they contained all the appropriate dialogue. The captioning had to be done quickly and accurately so that the student had time to review the video and notes and to complete assignments and prepare for the next class period.

As previously described, note taking is very difficult for deaf students. Note taking is an important part of learning for some people and some people are better at taking notes than others. The cohort was approached at the beginning of their program and volunteers were requested to be note takers. These students took notes for the student for the rest of the program.

Students in the college of nursing have access to tutoring services. The tutoring staff is made up of current students who have already been through the first year of the program and were particularly proficient in their coursework. The tutors were available to meet in person with the student. ASL interpreters could be scheduled to be present for tutoring sessions as well.

The Covid-19 pandemic started to become widespread just a few weeks after the student began the nursing program. Colleges and universities across the country made the change from in person instruction to technology-based delivery system such as Zoom within days or weeks. Masking became mandatory in all health care agencies. Colleges and universities enacted policies about attendance, masking, vaccination, and a host of other pandemic related issues. Accommodations also had to be made to support all students. ASL interpretation had to be adapted from in person to technology based. This required university resources to verify that the ASL interpreters had appropriate computer hardware, software, and appropriate access to the learning management system. Captioning became even more critical to ensure that the student had access to the information presented in the course sections.

Faculty

Nurse faculty often lack sufficient understanding of how to address accommodations in both didactic and clinical learning settings [13]. In preparation for the first semester the student was in the program, the campus access director scheduled a meeting with the student's faculty members and interpreters so that everyone who would be working with the student was aware of the accommodations and understood what resources were available and how to access them. During this meeting, the student was introduced to the faculty as was each person along with their role. The meeting was done via distance technology so that instructing staff, who were based on campuses remote to the student's campus, could have real time interaction with the student, albeit via distance technology.

The second semester that the student was enrolled, this meeting did not happen. The result was that there were instructors who did not understand that they would be having a deaf student in their class. There were delays with captioning and getting other resources into place. For the subsequent semesters, a pre-semester meeting was held with faculty and interpreters to ensure that all resources and plans were in place to provide continuity of access for the student.

During the semester, issues that arose were dealt by assembling the team members to discuss the problem, formulate a plan and then carry out the plan. Since the student's clinical and course schedules were time intensive, the student would report issues either to the academic director or the access director. These two directors had enough familiarity with the student, her goals, and preferences that they were able to successfully coordinate adjustments to meet the student's academic learning and clinical needs.

Student's perspective

To better understand many of the issues, one student shares her educational experiences before, during and after completing her baccalaureate degree in nursing in 2022. We used a question and response format to capture salient points. This student's experiences may be no different from any student as they traverse the educational systems. She recounts the impact of missed school days due to her medical condition(s), concerns about socialization and classmates' reactions, challenges with tuition, rent and expenses to continue school, discouragement from individuals in across systems about the feasibility of a nursing career, need for technology and human support to maximize learning opportunities, the impact of COVID-19 pandemic on learning and concerns about applying for nursing jobs. Many of these experiences are also noted by deaf students across the nation in Palmer and colleagues [12] report. In addition, this student was successful in employment and having an employer that recognizes the value of an inclusive work environment provides students with disabilities an opportunity to pursue their career passions [18].

Telling Her Story

Why did you want to be a nurse?	Growing up, I spent a lot of time in hospitals and therapy. I was diagnosed with white matter disease when I was young as well as bilateral profound hearing loss. There were phases in my life where I would be out of school for weeks, months at a time because I was hospitalized. It was during one of my hospitalizations when I was in high school when I realized that I wanted to be a nurse. As a disabled individual, I struggled getting adequate care and was often mistreated by healthcare facility. I often had to advocate for myself and at times, my family had to advocate for me on my behalf. I wanted to be a nurse because I want to improve our healthcare system and make it more equitable and accessible for those with disabilities. I understand what it is like to be a patient, and I understand what it is like to need critical care. I felt like having that personal experience would be a benefit to have as a nurse.
What was your biggest fear?	I had many fears, including worrying about failing out of nursing school, not being able to afford tuition or rent, or not being able to find a job that I enjoy. None of those things have happened because I worked hard to prevent it. I did my fair share of research, advocating for myself and networking, so I could achieve my goals. I was constantly worried that my disability would prevent me from achieving my goals.
Did you experience opposition to applying to nursing school? Can you describe the experience?	Absolutely. I had been told by numerous people that I would not make it to nursing school and that I should consider a different profession. For example, [I] was told by my guidance counselor during college that I shouldn't apply to nursing school. I also was told by Department of Vocation Rehabilitation that being a nurse would not be a good fit for me. Even after I had gotten accepted to nursing school, my first clinical instructor did not think it was a good fit for me and encouraged me to drop out. I remained persistent and continued to work hard, but it was incredibly difficult on my mental health especially during moments of struggle. I didn't have that encouragement that I needed from others, so I relied on myself for motivation.
What kinds of accommodations did you need?	For my pre-requisites (courses), I had an American Sign Language interpreter, real-time closed captioning, transcripts, priority scheduling, access to lecture notes ahead of time, extended test taking time, student note-taker, and assistance for 1-on-1 lab Teaching Assistant (for certain science lab courses such as physiology and anatomy).
What issues did you experience with accommodations? Pandemic related? Technology related? What worked?	In general, many did not understand or were not aware of what kind of accommodations were available/necessary. I think having a basic knowledge of various disabilities and what kind of accommodations are available to them would be helpful for faculty members. In addition, ADA laws should be briefly reviewed as well. The lack of knowledge was a big problem because there weren't many resources available to us. Being a deaf individual in the healthcare setting, as a nursing student, isn't common - so I had to navigate that alone to figure out what kind of support I needed. I didn't have a support system or a mentor who could give me advice on those topics, because there wasn't anything like that out there. I initially came across this problem when I was in high school taking college courses, when I realized that I was not "hearing" enough information to keep up with the classes. I originally only had a student note-taker and quickly learned that was not enough. I then requested for an ASL interpreter, but since it is not my native language - it wasn't very helpful. One of my Running Start [high school program where students take college courses while still in high school] professors advocated on my behalf that I required an ASL interpreter along with real-time closed captioning. I often had to advocate for myself to get the accommodations that I needed. But because I work hard and do well on my courses (because I spend extra hours than most trying to gather all the information from lecture), many professors thought the current accommodations were sufficient. They had the logic of "She has an 85% in this class, so she must be doing fine." While an ASL sign language alone may be sufficient for one individual, it does not mean that it is a sufficient accommodation for everyone with hearing loss. My situation was a bit different as I was mainstreamed (attended public school growing up), so ASL was not my primary language. In addition to the difficulty of my pre-requisites and nursing classes, those classes involved advanced medical terminology and such. Many of those terminology did not have signs, so it was difficult to translate. It was also critical that the spelling was correct,

	so the interpreters had to be very knowledgeable with the terminology beforehand. While my deafness was the "main" disability that was accommodated, I also have other disabilities that also required accommodations including ADHD and physical chronic illnesses. This was difficult as I had frequent doctor appointments, physical therapy appointments, and surgeries. I kept putting off my own healthcare because I was too focused or busy with nursing school. When the pandemic hit, it changed many things - including what kind of accommodations I needed and how I would keep up with lecture. As someone who relied on lip-reading, it felt like my whole world was turned upside down. I already struggled with social isolation, and the pandemic had exacerbated that feeling even more. I felt more left out in conversations and felt like I didn't know what was happening. For nursing school, they purchased clear face masks as an accommodation which was helpful. For my practicum, I was paired with a preceptor who knew sign language which was incredibly helpful. I didn't feel like that I benefited much from my clinical experiences due to my disability but during practicum, I was learning and improving so much every day. This goes to show how much more I could have learned in school had I been accommodated fairly.
What did not work with your learning and education?	As great as it was having advanced technology that helped me be successful in school, there were many downfalls. The internet or WiFi server often crashed, so I often had difficulties accessing my course or accommodations. There were numerous of times (more than I can count), where my real-time closed captioner did not show up. There were times where my devices were not charged or were broken, etc. There was also the constant worry of my cochlear implant potentially dying or not working. When it didn't work, it meant that I couldn't hear at all and that was the reason why I needed the accommodations to be in place as a deaf individual, not "hard of hearing" individual.
How was nursing school from a social standpoint?	I will say that it was a disappointment from a social standpoint, but I believe the pandemic had contributed significantly to that feeling. A classmate and I often shared frustrations that we felt isolated and that we were not able to bond with our classmates on a personal level. I became extremely close with one of my classmates, and this made it difficult for me to navigate socially in the context of seeing how I was being treated differently by our teachers and classmates than he was. For example, (when allowed) we often worked together on projects and assignments, but I was the one who did the tutoring and teaching. There was one project where I had to re-do a section four times because my instructor was not satisfied with my work, where he had missed that section completely but was given an A instead of having to re-do it. Having this experience brought on a lot of feelings of frustration and being discriminated against. I was treated differently by classmates when I was alone, versus when I was standing next to him.
What was the impact of your accommodations on social interaction with other students?	It (accommodations) absolutely did, especially at first. There was a lot of confusion, ignorance, and jealousy from classmates. For example, some classmates viewed the "extended testing time" as a privilege, instead of an accommodation. I believe it also made people more confused, because stereotypically - many deaf individuals do not speak for themselves and generally communicate through sign language. However, I believe the pandemic had affected the nature of my social interactions more rather than my disability/accommodations. My classmates and I never had the opportunity to really get to know each other personally. For example, other cohorts planned graduation parties, end-of-class hiking, and BBQs, and other social events. My cohort did not do any of that. At the end of nursing school though, we did get a huge group of classmates to play the escape room and got lunch afterwards.
Can you describe your experience in applying for a job.	I was extremely nervous to apply for jobs, because of my disability. I was worried that I was not physically well-enough or recovered to be able to take on a full-time job. When I had my practicum in the ICU, I was able to explore and determine what kind of accommodations that I needed. I loved my experience so much that I had applied for the job as a new graduate. I was offered the position (for the residency program) on my last day of practicum, even though it was a very competitive program to get into. I did not have any experience as an CAN or extern, so I was concerned that along with my disability, I was not going to be considered as a qualified applicant. Many of the staff nurses were excited and encouraged me to apply for the job, which was helpful. It was one of those times where I felt like I belonged somewhere.
How has transition to nursing practice gone for you?	For most new grads, transitioning to practice is not an easy task, especially when working in critical care. There was a steep learning curve. In addition, there were multiple changes in staffing - including 3 different managers, so the inconsistency was hard to have during my orientation period. Going through the formal process of requesting accommodations and having to again, educate the entire staff on what my disability is and how to work with it had gotten overwhelming and exhausting. I had surgery one month before my start date, so I had a lot on my plate as it was.
Does your employer provide accommodations for you to do your job? Which ones?	Yes, clear face masks, Bluetooth compatible smartphone, Bluetooth compatible stethoscope and intermittent FMLA leave. We are also in the process of creating a workshop to educate staff how to work with individuals with disabilities. I think this will be helpful, because for many - I am the very first deaf person that they have ever met. This is unknown territory not for just myself but for many others.

Conclusion

When students find a class or program inaccessible, it is not because there is a problem with the student, but it is the program that needs to evolve and evaluate accessibility issues from an equity lens. Creating an accessible nursing program relies on key stakeholders to work together. Leadership, educators, staff, and Access Services all need to work together, but most importantly, the student needing the accommodation needs to be involved. When all groups bring their desire for clear communication and an inclusive and accessible program, not only will the current student have a higher chance of success, but all students will benefit.

Departmental leadership, educators, and access services need to continually include DHH students to keep their program accessible. Leadership needs to recognize that DHH students have a unique perspective on accessibility drawn from their extensive experiences navigating accessibility in their own lives and may have creative solutions to many accessibility challenges [4]. This, combined with the expertise and resources provided by Access Services, can streamline the accessibility of the nursing program, and ensure the student and staff have the resources they need to be successful.

As new educational material is produced, accessibility needs to be at the forefront of the creative process. PowerPoints need to be created with accessibility features. Expectations for class structure should include etiquette of letting one student speak at a time (not talking over each other) to allow for clarity of who is talking and what is being said. All videos used for class should include closed captioning, so DHH students are not excluded. When classes are created to be accessible from the start, educators will not have to recreate each class, which can be frustrating and may lead to resentment. Having proactively created accessible classes will also create flexibility for a wide variety of students with different levels of accessibility needs.

Supporting DHH students in academic settings initiates opportunities for clinical agencies to develop and offer employment for diverse staff. Since diversity in health care staff helps to address social determinants of health, having nursing and other health care jobs that are filled specifically by DHH staff can be beneficial to the community. The same principles discussed here can also be applied to students with other disabilities.

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