Supporting Deaf College Students



Perspectives From Disability Services Professionals (2023–2024)

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INTRODUCTION

Currently, more than 200,000 deaf students are enrolled in college (Bloom & Palmer, 2023), and over the past 10 years, more deaf people have obtained a bachelor's degree than ever before (Garberoglio et al., 2021). Deaf students are racially and ethnically diverse, often have additional disabilities, and often are veterans or first-generation college students (Bloom & Palmer, 2023). Additionally, they identify and communicate in myriad ways. Though some students attend postsecondary programs that are designed for deaf students, the vast majority are enrolled at colleges alongside their hearing peers.

Despite efforts to improve accessibility, many deaf students still face significant challenges and barriers during postsecondary education. A previous report provided a comprehensive overview of deaf student experiences and perceptions (Palmer et al., 2023). Overall, students indicated that constantly advocating for accommodations and feeling socially isolated was exhausting. One student shared, "The office of admissions, advising office, and disability services need to work together to make sure deaf/disabled students are moved through the system quickly to ensure accommodations are being arranged in time."

This report examines common practices in providing support to deaf students across various institutions in the United States, identifying both successful strategies and areas needing improvement. By evaluating the availability and effectiveness of services such as speech to text and interpreting, this report highlights gaps and suggests improvements to make disability services in higher education more inclusive and responsive for deaf students.

In this report, the term "deaf" is used in an all-inclusive manner to include people who identify as deaf, deafblind, deaf disabled, hard of hearing, late-deafened, and hearing impaired. NDC recognizes that for many people, identity is fluid and can change over time or with setting. NDC has chosen to use one term, "deaf," with the goal of recognizing the shared experiences of people from diverse deaf communities while also honoring their differences.

WHO COMPLETED THIS SURVEY?

A total of 65 disability services professionals from various colleges, universities, and training programs across the nation completed this survey between April 2023 and May 2024. One person per institution responded to the survey. Half of the respondents stated that their institutions had 10 or fewer deaf students (Figure 1). This aligns with national trends—colleges are most likely to have only one deaf student, or a few at most, enrolled at once (Lang, 2002). Most survey respondents were directors or coordinators of disability services at their institutions. Overall, 41.4% represented community colleges, 3.4% represented technical schools, and the remaining 55.2% came from universities and colleges (Figure 2). Participants were predominantly white (77.8%), female (86.1%), and heterosexual (70.6%), which may reflect the lack of diversity in disability services, as noted in the literature (Scott & Marchetti, 2021). However, a majority of respondents (62.9%) identified as having a disability. More than 17% of respondents were deaf, and 20% identified as having a learning disability. The remaining disabilities included visual, mobility, mental health, and medical conditions, and others not listed in the survey. Respondents' ages ranged from 25 to 64, and 52.8% had earned a master's degree or higher.

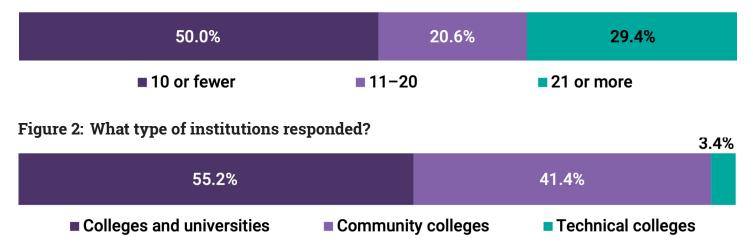


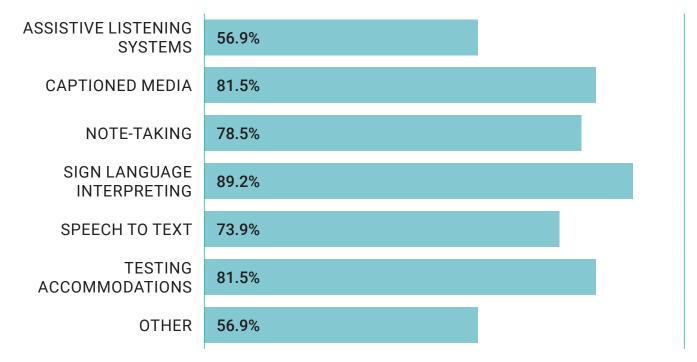
Figure 1: How man	v deaf students has ^v	vour institution	served this academic year?	?
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ACCESS IS MORE THAN ACCOMMODATIONS

One of the primary responsibilities of disability services offices is to ensure that accommodations are consistently available to disabled students. However, providing accommodations so deaf students can access auditory information in the classroom—though necessary—does not ensure that they have access to the full college experience. Access involves multiple dimensions— including accommodating learning environments, campus connectedness, and a deaf-affirming climate (Palmer et al., 2023). Thus, this report will share findings related not only to the provision of accommodations but also to attitudes, policies, and practices that apply to the campus experience as a whole. Though disability services professionals are not solely responsible for creating a welcoming campus climate or implementing campuswide policies and practices, they often play an important role in facilitating access for deaf and disabled students. Their perspectives can enrich the understanding of barriers on campus that deaf students may experience and help identify areas of needed improvement.

For this survey, we asked disability services professionals to share common practices and challenges with providing accommodations. Most institutions provided several types of accommodations to their deaf students within the last academic year (Figure 3). Sign language interpreting, captioned media, testing accommodations, note-taking, and speech-to-text services were the most common accommodations. When asked what other accommodations disability services provided, respondents named priority registration, preferential seating, accessible parking, tutoring, and equipment.

Figure 3: Which of these services and accommodations has your institution provided to deaf students this academic year?⁺



Note: The sum of percentages in this and some subsequent tables (*) exceeds 100% because respondents were allowed to select more than one option.

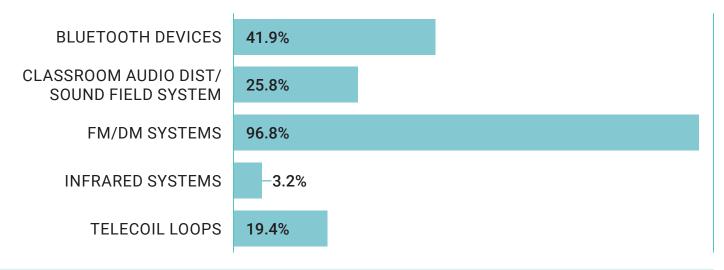
ACCOMMODATIONS

ASSISTIVE LISTENING SYSTEMS

Deaf students come to postsecondary settings with different personal devices and listening technology preferences. In years past, it was common for deaf students to have telecoil-enabled hearing aids. With the advent of cochlear implants and the popularity of smaller hearing aids, deaf students are arriving on campus with more diverse technologies. Disability services need to be ready to accommodate a variety of systems.

Among surveyed institutions, 56.9% provided assistive listening systems to deaf students. Though 96.8% had FM/DM systems installed (Figure 4), many respondents expressed concern that newer technology has been challenging to adopt. When asked how easy it is to accommodate Bluetooth devices, 38.1% stated that it was difficult or very difficult. In addition to keeping up with new technologies, respondents struggled with collaborating on campus and engaging with faculty to ensure effective implementation of assistive listening systems. Most shared that they collaborated with deaf students (83.9%) and assistive technology specialists (67.7%), but many fewer collaborated with audiologists (29.0%). Respondents shared that their greatest challenges were issues with logistics and operations, such as microphone placement, compatibility, and collaboration with students and faculty.

Figure 4: Which type of assistive listening systems are available on your campus?⁺



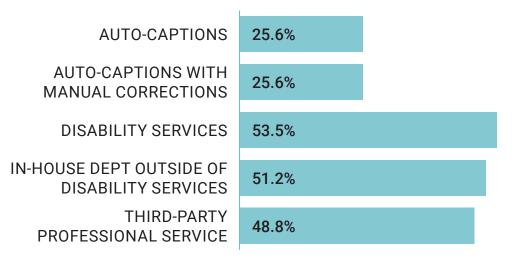
"My challenge was that my college only provided an FM system and no option to connect to a loop or Bluetooth." — Deaf student

CAPTIONED MEDIA

Captioned media was one of the most prevalent accommodations for deaf college students last year; 81.5% of surveyed institutions provided captioned media. A large number of institutions relied on a combination of faculty, auto-captioning, in-house captionists, and captioning vendors to cover all their captioned media needs (Figure 5). Most institutions (53.5%) felt that it was unlikely that captioning policies were being consistently applied across campus. Only 41.9% of institutions stated that faculty were very or extremely likely to receive training on the institution's captioned media policy and

procedures. In addition to captioned media policies, last-minute requests (i.e., less than 24 hours) and general timing of requests (i.e., 5 business days) were seen to be a challenge. Only 20.9% of offices were very or extremely likely to be able to satisfy urgent captioned media requests (less than 24-hour notice).

Figure 5: Who/what adds captions to media on your campus?⁺



Another point of interest in the survey results was the use of automated speech recognition, or autocaptions. Current analyses reveal that auto-captions have extremely high error rates and do not meet industry standards for accessibility (3Play Media, 2023). However, many institutions use autocaptions—79.1% of institutions encourage the use of auto-captions to some extent (Figure 6).

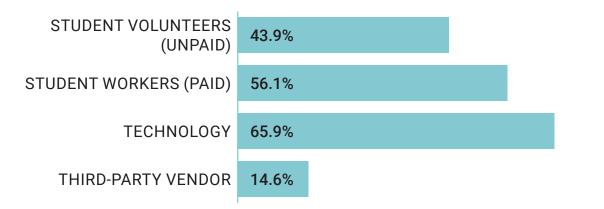
Figure 6: To what degree do you use auto-captions?



NOTE-TAKING

Many deaf students benefit from accommodations that ensure access to class notes. Notetaking is a critical accommodation for deaf students, but institutions vary widely in how they provide note-taking services. Data from this survey show that 78.5% of deaf students receive note-taking services. Paid student workers are provided by 56.1% of institutions, and 43.9% rely on student volunteers. However, only 37.8% of institutions provide training for their note-takers. Most institutions use technology or rely on student workers and volunteers to provide these services (Figure 7). Technological solutions generally involve using artificial intelligence to summarize course lectures—65.9% of institutions use those technologies to provide note-taking services. To date, scant research has been done on the effectiveness of these solutions for deaf college students. Respondents overwhelmingly indicated that the greatest challenges with note-taking services are finding volunteers and the quality of notes.

Figure 7: Who/what provides note-taking services on your campus?*

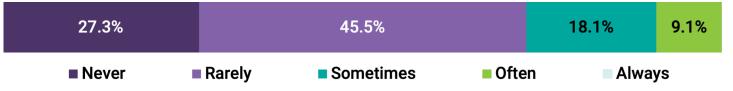


SIGN LANGUAGE INTERPRETING

Nearly 90% of institutions that responded to our survey provided sign language interpreting. Most campuses employ a combination of staff, hourly employees, and agencies to address their interpreting needs (Figure 8). Only a small percentage of colleges (24.8%) have staff interpreters most institutions use contractors or hourly employees. Institutions largely felt confident in their ability to meet interpreting requests—72.8% said they were rarely or never unable to fill a request. However, 27.2% of institutions said that they were sometimes or often unable to fill a request, which is an area of concern. This means that almost a third of colleges are not always able to meet interpreting needs. Postpandemic, most colleges are still providing remote interpreting services; 87.5% have at least one course that is being interpreted remotely.

Figure 8: How do you cover interpreting assignments?

29.8%	45.4%	24.8%	
■ Agencies	Contract/hourly employees	Staff (with benefits)	



Overall, postsecondary institutions relied on credentialed interpreters; 90.2% of assignments were covered by certified interpreters, and almost a quarter of college campuses (24.6%) had used a deaf interpreter over the last year. Most campuses (71.1%) were confident in their ability to assign interpreters with the knowledge and skills to interpret postsecondary content, with a smaller number of institutions (8.9%) reporting lack of confidence in their ability to assign appropriate interpreters (Figure 10). Ratings of the ability to assign interpreters with the knowledge and skills to interpreters with the knowledge and skills to assign interpreters with the knowledge and skills to assign interpreters with the knowledge and skills to assign interpreters with the knowledge and skills to interpret postsecondary content were 11% higher for institutions with dedicated staff interpreters for deaf students. Respondents shared that the costs of interpreting services, the scarce availability of

interpreters, and the difficulty covering last-minute assignments were the greatest challenges they faced over the last year.

Figure 10: How would you rate your institution's ability to assign interpreters with the knowledge and skills to interpret postsecondary content?



SPEECH-TO-TEXT SERVICES

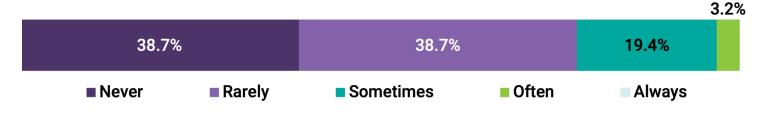
Speech-to-text services were among the most common accommodations; 73.9% of institutions reported providing these services in the last year. Though most campuses rely on agencies to address their captioning needs, others hire hourly employees or employ staff captioners (Figure 11). CART was the most prevalent service approach, with 90.9% of institutions reporting that deaf students requested CART services. Though institutions were largely confident in their ability to fill requests, 22.6% of institutions acknowledged that speech-to-text requests sometimes or often went unfilled (Figure 12).

On average, 41% of speech-to-text services are provided in person. One-third of institutions only offer remote services. Respondents shared that their greatest challenges included filling last-minute requests, dealing with technical issues, and the overall cost of providing services.



Figure 11: How do you cover speech-to-text assignments?

Figure 12: How often do speech-to-text assignments go unfilled?

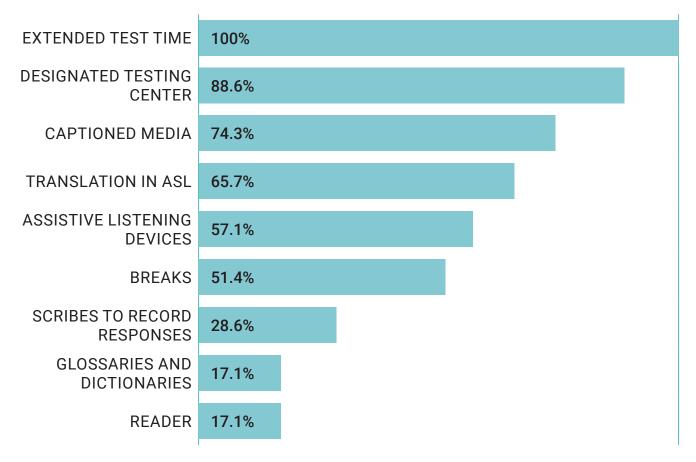


TESTING ACCOMMODATIONS

Testing accommodations were provided by 81.5% of surveyed institutions. The most common types of testing accommodations were extended test time, designated testing centers, captioned media, translation in American Sign Language (ASL), and assistive listening devices (Figure 13). A large percentage of institutions (65.7%) provided translation into ASL as a testing accommodation.

Institutions shared that providing ASL translation was common especially for international deaf students. The primary challenges for testing accommodations were described as faculty resistance to allowing accommodations as well as general scheduling and timing issues.

Figure 13: What testing accommodations do you provide deaf students for classes?+

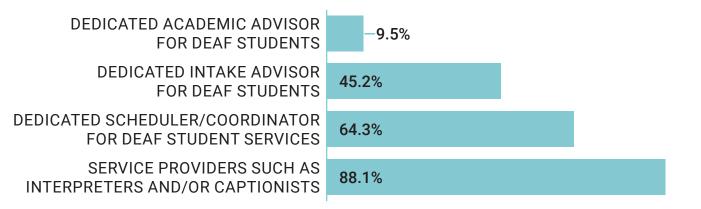


CAMPUS ACCESS FOR DEAF STUDENTS

STAFF RESOURCES FOR DEAF STUDENTS

Deaf students benefit from working with staff and access providers who are qualified, familiar with deafness, and consistently available (Cawthon et al., 2013). Institutions vary widely in the amount of dedicated staffing to support deaf students on campus. For example, though disability service offices hire service providers like interpreters and speech-to-text providers, fewer have dedicated coordinators or advisors for deaf students. Far more institutions had dedicated service providers such as interpreters and/or speech-to-text professionals (88.1%) or coordinators of deaf services (64.3%) available on their campus than dedicated intake advisors (45.2%) or academic advisors (9.55%) who work with deaf students (Figure 14).

Figure 14: What types of access support staff does your institution provide?+



When we examine the relationship between having dedicated access staff and the ability to provide higher-quality accommodations and services, we note several observations:

- Ratings of the ability to engage in an interactive process with deaf students related to accommodations and services were 15% higher for institutions with dedicated intake advisors for deaf students.
- Ratings of the ability to consider students' cultures and identities when providing services were 14% higher for institutions with dedicated intake advisors for deaf students.
- Ratings of the ability to assign interpreters with the knowledge and skills to interpret postsecondary content were 11% higher for institutions with dedicated interpreters for deaf students.
- Ratings of the ability to monitor the quality of interpreters were 8% higher for institutions with dedicated schedulers for deaf students.

ORIENTATION PROCESSES

The disability services office is often a deaf student's first interaction with a campus. These initial interactions are crucial to introduce the deaf student to campus policies and processes related to accommodation requests and other important topics. The transition from high school to college is challenging for all students but even more so for deaf students, who have to navigate new environments, learn different ways to request accommodations, and identify which accommodations

may be a better fit for specific situations. The intake process within disability services is the first step in the interactive process to identify needs, establish rapport with the student, and tailor support services accordingly.

Many deaf students use accommodations for the first time during college. And among deaf students who have used accommodations in high school, many use fewer accommodations in college than in high school (Cawthon et al., 2015) when they probably need to leverage diverse and more frequent accommodations in the postsecondary context. Additionally, the process of requesting and managing accommodations is often stressful and exhausting, which some refer to as the "deaf tax" (Aldalur et al., 2022; Burke, 2017). As such, it is crucial that disability services have robust accommodation protocols and use an interactive process to support a successful transition and share the burden of managing accommodations.

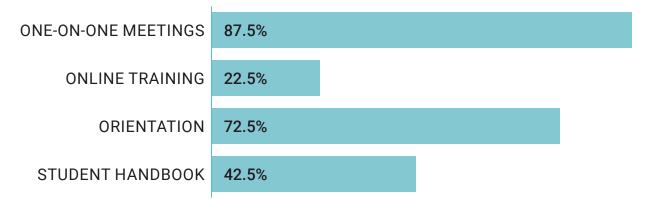
Most respondents (85.8%) rated their institution's interactive process related to accommodations as good or excellent (Figure 15). Ratings of the ability to engage in an interactive process with deaf students were higher for institutions that had dedicated intake advisors for deaf students.

The majority of institutions (76.2%) felt confident in their ability to suggest and demonstrate new accommodation options to deaf students. Institutions used a range of approaches to orient deaf students to their campus's disability service policies, processes, and services, including one-on-one meetings, student orientation sessions, handbooks, and online training (Figure 16). However, nearly one-third of campuses (28.6%) rated their ability to accommodate student preferences as poor or merely acceptable. Disability service professionals shared that their greatest challenge is working with unprepared students, both in terms of lacking the needed documentation and being unsure which accommodations they need.

Figure 15: How would you rate your institution's ability to engage in an interactive process with deaf students when deciding about accommodations?



Figure 16: Which of these activities do you use to orient students?*



CULTURAL RELEVANCE

Colleges are increasingly prioritizing the cultural needs and representation of students, recognizing the importance of an inclusive and supportive educational environment. College is a pivotal time for students' identity exploration and for finding community. Deaf students are not only deaf—many are multicultural, are multilingual, and have multiple identities beyond their deafness. Culturally responsive support of deaf students must acknowledge their multiple identities while also accommodating their requests for accessibility.

When asked about their institution's ability to consider students' cultures and identities when providing services, 59.6% felt that their capacity was good to excellent (Figure 17). Yet many deaf college students feel that their multiple identities are not affirmed or seen on college campuses (Palmer et al., 2023). Institutions with dedicated intake advisors for deaf students reported higher ratings of their ability to consider students' cultures and identities when providing services.

Figure 17: How would you rate your institution's ability to consider students' cultures and identities when providing services?



Surveyed institutions were less confident in their ability to provide culturally appropriate interpreters in terms of representation and expertise. Only 54.7% of institutions rated their ability to assign culturally appropriate interpreters as excellent or good (Figure 18).

Figure 18: How would you rate your institution's ability to assign culturally appropriate interpreters in terms of representation and expertise?



FEEDBACK AND EVALUATION

Feedback from deaf college students serves as a valuable guide for instructors and institutions, steering them toward a learning environment that is both accessible and engaging. Getting feedback is vital to ensure that students are satisfied with the accommodations they receive, yet 52% of deaf college students reported that the disability service office did not request formal feedback about their service providers (Palmer et al., 2020). The results of this survey showed that only 40% of institutions rated their ability to gather feedback from deaf students as good or excellent (Figure 19). However, perhaps more promising, a much higher percentage, 62.5%, rated their ability to use feedback to improve deaf services as good or excellent (Figure 20).

Figure 19: How would you rate your office's ability to gather feedback from deaf students? 2.5%



Figure 20: How would you rate your office's ability to use student feedback to improve deaf services?

2.	5%				
	15.0%	20.0%	45.0	0%	17.5%
	■ Very po	or Poor	Acceptable	Good	Excellent

Disability service professionals were largely confident in their ability to monitor the quality of interpreters (Figure 21) and captionists (Figure 22). However, a smaller but not insignificant percentage of campuses (15.4% to 12.5%) felt that their ability to monitor the quality of service providers was poor or very poor. Recall that institutions with dedicated schedulers for deaf students had higher ratings of the ability to monitor the quality of interpreters and that only 64.3% of institutions had someone in this role on their campus.

Figure 21: How would you rate your office's ability to monitor the quality of interpreters?



Figure 22: How would you rate your office's ability to monitor the quality of captionists? 5.1%

10.3%	23.1%	43.5	%	18.0%
■ Very poor	Poor	Acceptable	Good	Excellent

CONCLUSION

This report spotlights some standard practices in disability services for deaf students at college campuses across the United States and highlights some areas for further discussion and exploration.

About a quarter of institutions (23%–27%) were not always able to fill requests for speech-to-text or interpreting services. This means that deaf students are not receiving equitable access to campus opportunities—a significant area of concern. Additionally, deaf students are responsible for making up missed course content and engagement.

Institutions with dedicated access staff for deaf students (i.e., intake advisors, schedulers, or interpreters) had higher confidence in their ability to provide effective services and support for deaf students. These institutions reported higher ratings of their ability to engage in an interactive process with deaf students, consider students' cultures and identities, monitor the quality of interpreters, and assign interpreters with the knowledge and skills to interpret postsecondary content. However, though many institutions (88.1%) had dedicated service providers (e.g., interpreters and captionists), fewer had dedicated schedulers or coordinators for deaf students (64.3%) and even fewer (45.2%) had a dedicated intake advisor for deaf students. Institutions that did not respond to this survey are probably even less likely to have dedicated access staff for deaf students.

Many institutions provided accommodations remotely, with 59% providing remote speech-to-text services and 87.5% providing remote interpreting services. Remote services became necessary with the onset of COVID-19 and have now become standard practice for providing accommodations in disability services. College campuses may need to make greater investments in building infrastructure and strengthening practices and policies surrounding remote services for deaf students.

The use of artificial intelligence (AI) is becoming increasingly widespread in disability services, particularly in the areas of captioned media and note-taking, but best practices have yet to be identified. A surprising 80.9% of institutions encouraged the use of auto-captions to some extent, yet auto-captions have extremely high error rates and do not meet industry standards for accessibility (3Play Media, 2023). Many institutions (65.9%) also used AI to provide note-taking services for deaf students. The use of AI in providing accommodations needs to be explored further, particularly considering the discrepancy between industry standards and actual practices. Though AI offers promise for increasing flexibility and autonomy in creating accessible environments, it is not a shortcut to ensuring equitable access in all situations.

Institutions generally believe that they provide effective services to deaf students, but many did not collect feedback directly from deaf students and were not confident in their ability to evaluate the quality of the services. Previous reports have indicated that disability service offices may overestimate their ability to provide effective services to deaf students, who are likely to express frustrations with subpar services received at college (Palmer et al., 2023). Institutions need to make a greater commitment to collecting feedback from deaf students to ensure that service provision is effective from the student's perspective.

Institutions were less confident in their ability to consider deaf students' culture and identity beyond their deafness or may not realize their shortcomings in this area. Many deaf students feel that their multiple identities are not affirmed and validated at college. Colleges need to strengthen their ability to accommodate student preferences and recognize students' cultures and identities in

service provision. This could include ensuring that deaf students have appropriate access providers for cultural activities and events—such as having LGBTQIA+-identifying sign language interpreters for LGBTQIA+ student clubs or trilingual access providers for Latinx student clubs.

RECOMMENDATIONS

- 1. Consider strategies to increase institutional capacity to provide dedicated support services for deaf students and consistently meet requests.
 - a. Identify the need for services at the institution. Collect data and document gaps in services.
 - b. **Expand the pool of providers.** Contract with multiple vendors, both agencies and independent contractors, and explore part-time or full-time access provider roles.
 - c. **Ensure that the institution is offering competitive pay.** Conduct a market analysis of access service providers in your area, including exploring pay rates.
 - d. **Identify opportunities to incentivize employment at the institution.** Leverage existing business practices and identify sustainable perks.
 - e. **Consider hiring dedicated staff.** Establish positions for full-time or part-time access coordinators or consultants to ensure service consistency and reliability.
 - f. **Expand your network.** Seek opportunities to develop partnerships with other institutions, community organizations, or local agencies to find new providers.
- 2. Pursue continuing education and professional development opportunities to raise awareness, boost knowledge, and maintain current and effective implementation practices.
 - a. Seek credentialing learning opportunities. NDC offers a self-paced 35-hour professional certificate program (nationaldeafcenter.org/learn/certificate-program) to strengthen individual and organizational capacity to serve deaf students.
 - b. **Find an experienced mentor.** Find a deaf mentor or a mentor with experience providing accommodations for deaf students.
 - c. **Host campuswide training and learning opportunities.** Training faculty can help improve classroom climate, but it is important to also train staff in admissions, student life, health services, and other departments.
- 3. Bolster institutional infrastructure to ensure effective delivery of remote services, including technical support and direct support to students and faculty.
 - a. **Collaborate with information technology services.** Allocate adequate bandwidth for high-quality video for on-campus remote services.
 - b. **Partner with teaching and learning centers.** Consider integrating troubleshooting training into faculty training.
 - c. **Upgrade equipment.** Purchase equipment to enhance the quality of Wi-Fi access for remote services, on and off campus, including Wi-Fi boosters or hotspots.

- 4. Use AI cautiously and only as a supplement to appropriate accommodations. Integrate multiple checks and balances by getting student feedback and assessing the quality of end products.
 - a. **Meet with students to discuss using AI tools as an accommodation.** Consider the setting, context, and communication demands of the circumstance.
 - b. Schedule regular check-ins to monitor the quality and effectiveness of AI tools. Periodically review transcripts for accuracy.
- 5. Implement iterative opportunities to collect student input and data to gain a holistic view of their accommodation and access experiences on campus.
 - a. Collect and monitor student input. Identify patterns and shared experiences to shape decisions about accommodations. Collect input at the beginning of the semester to monitor the effectiveness of accommodations, during the semester as progress monitoring, and at the end of the semester to inform future accommodations.
 - b. Diversify collection efforts. Use a variety of formats and leverage various opportunities to collect student feedback. Use QR codes for brief surveys, share links to forms in your email taglines, and have brief paper surveys available in the office, allowing for multiple response formats.
- 6. Foster a culture of belonging across campus where deaf students feel seen and welcomed.
 - a. **Host training.** Provide awareness training to frontline and customer service staff to promote positive interactions with deaf people.
 - b. **Establish partnerships.** Partner with clubs and community organizations to host campuswide events that reflect the intersectional and multifaceted experiences of deaf people.
 - c. **Update policies.** Establish campuswide captioning policies to ensure accessible student engagement and opportunities across campus.

REFERENCES

- 3Play Media. (2023). The 2023 state of automatic speech recognition [Annual report]. https://go.3playmedia.com/rs-2023-asr
- Aldalur, A., Hall, W. C., & DeAndrea-Lazarus, I. A. (2022). No taxation without representation: Addressing the "deaf tax" in academic medicine. *Academic Medicine*, 97(8), 1123–1127. https://doi.org/10.1097/ACM.00000000004685
- Bloom, C. L., & Palmer, J. L. (2023). Undergraduate enrollment of deaf students in the United States (2019–2020). National Deaf Center on Postsecondary Outcomes, The University of Texas at Austin. https://nationaldeafcenter.org/2023
- Burke, T. B. (2017). Choosing accommodations: Signed language interpreting and the absence of choice. *Kennedy Institute of Ethics Journal*, 27(2), 267–299. https://doi.org/10.1353/ ken.2017.0018
- Cawthon, S. W., Leppo, R., Ge, J. J., & Bond, M. (2015). Accommodations use patterns in high school and postsecondary settings for students who are d/Deaf or hard of hearing. *American Annals of the Deaf*, *160*(1), 9–23. https://doi.org/10.1353/aad.2015.0012
- Cawthon, S. W., Leppo, R., & Pepnet 2 Research and Evidence Synthesis Team. (2013). Accommodations quality for students who are D/deaf or hard of hearing. *American Annals of the Deaf, 158*(4), 438–452. https://doi.org/10.1353/aad.2013.0031
- Garberoglio, C. L., Johnson, P. M., Sales, A., & Cawthon, S. W. (2021). Change over time in educational attainment for deaf individuals from 2008–2018. *Journal of Postsecondary Education and Disability*, 34(3), 253–272.
- Lang, H. G. (2002). Higher education for deaf students: Research priorities in the new millennium. Journal of Deaf Studies and Deaf Education, 7(4), 267–280. https://doi.org/10.1093/ deafed/7.4.267
- Palmer, J. L., Bloom, C. L., Kinast, L., & Ivanko, T.-N. (2023). Access, belonging, and affirmation: Deaf Postsecondary Access and Inclusion Scale, 2022–2023. National Deaf Center on Postsecondary Outcomes, The University of Texas at Austin. https://nationaldeafcenter.org/DPAIS23
- Palmer, J. L., Cawthon, S. W., Garberoglio, C. L., & Ivanko, T. (2020). ACCESS is more than accommodations: 2018–2019 deaf college student national accessibility report. National Deaf Center on Postsecondary Outcomes, The University of Texas at Austin. https:// nationaldeafcenter.org/podreport
- Scott, S., & Marchetti, C. (2021). A review of the biennial AHEAD surveys: Trends and changes in the demographics and work of disability resource professionals. *Journal of Postsecondary Education and Disability*, 34(2), 107–126.



