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**Assistive Technology Campus guide for the University**

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## **Assistive Technology Campus Guide for the University**

Education is among the essential elements in an individual's life because it provides them with basic and professional skills that will help them to enhance their future. Also, because of the increased globalization in the current world, education plays a critical role in ensuring all individuals can interact and understand each other both in business and technology use. Therefore, universities must ensure all students get access to the best resources to ensure equality in education. For instance, both the disabled and those without a disability can learn the same content without discriminating against others. Students can be helped in several ways; for example, they can be provided with essential resources to help them attain and learn like others, for instance, through assistive technologies. This paper will focus on developing the assistive technology (AT) guide for a hypothetical university.

### **Background Information on AT**

Students with disabilities have been experiencing challenges in attaining education services in universities. This is because most students with disabilities, especially physical disabilities, will challenge finding institutions with the right resources to enable them to navigate and learn with ease. Nevertheless, regardless of several logistical problems, students with disabilities are represented well in colleges. Madaus et al. (2021) posit that most college campuses have resulted in significant improvements for the past fifty years because of the efforts made by the Americans with Disability Act (ADA) of 1990, which forbidden discernment based on disability, and the assistive technology act giving endowment money for technological assistance. Also, section 504 of the rehabilitation act initiated in 1973 has offered equal aids and services for individuals with disabilities admitted at publicly funded colleges.

Currently, universities have advanced in their equipment by developing a range of technological resources, assistive technology, and services for individuals with disabilities. Similarly, Ahmed (2018) emphasized that many student service offices and counselors unite to ensure all students feel included in the education system. Moreover, with suitable education sustenance, encouragement, campus convenience, and the accessibility of services, disabled individuals can succeed in their classes and obtain equal informative access and aids. Assistive technology is any equipment or product scheme, whether obtained commercially, improved or personalized, that is utilized to enhance, sustain or advance the functional capacity of people with disabilities (Madaus et al., 2021). Therefore, currently, more AT are developed to fit the different university students' disabilities; for instance, software programs and applications are created to ensure disabled students can get the best experience in school.

### **Services for Students with Disability**

After completing high school, many students are eager to continue their careers by joining colleges and universities, and vocational and career institutions. Therefore, as students with a disability, they need to realize their rights and responsibilities and postsecondary institutions towards individuals with a disability. Madaus et al. (2021) argued that when students know their rights, they can exploit all the opportunities to utilize postsecondary education benefits without delay. Postsecondary schools must ensure access to certain services to students with disabilities, for instance, academic modifications such as supporting assistance and services to certify that schools do not discriminate based on disability.

Colleges are required to provide services that will facilitate the students to learn efficiently. According to Ahmed (2018), assistive technologies are essential devices and applications that will ensure students with disabilities learn efficiently. Therefore, colleges will

have to provide technological resources designed to assist individuals with learning disabilities. Furthermore, colleges need to offer training to the students in adaptive technology, provide mentoring programs and support groups. Other services offered include the provision of a learning specialist and assistance with study skills and time management. The primary reason for providing these services is to ensure they adhere to <sup>2</sup> section 504 of the rehabilitation act of 1973 that guarantees institutions to offer equal benefits and services for students with disabilities residing at publicly funded colleges.

The Office of Disability Services (ODS) is responsible for the intake. Therefore, students demanding academic accommodations must register with ODS first. Thus, the ODS will require them to involve in an intake interview and deliver the present documentation as needed. The ODS staff will then use a collaborative evaluation procedure to regulate the necessary accommodations. Moreover, students will be required to follow the ODS process for demanding and preserving capacities. During the intake interview, the student will have to provide all the information concerning their academic practice and other relevant evidence. The recommended accommodations will be approved after the interview. New students have significant challenges in contacting disability services; however, they can get information from their colleges' student service office. They will be informed about accessibility, assistive technology, and accommodations that focus on different needs. Moreover, student services offices and disability coordinators provide support for students with disabilities.

### **Responsibility of Faculty Members**

The student with disability continues to face significant challenges in attaining equality in education; therefore, this will require the faculty members to be well-informed about their

colleges' responsibilities in supporting students with disabilities. Also, faculty members are needed to help disabled students in different ways; for instance, they need to recognize the laws and college procedures concerning students with disabilities. This will help them develop the required formats of handouts, course materials, and videos accessible for disabled students.

Moreover, the course materials provided will differ from one disability to another. For instance, students with a physical disability will require faculty members to provide accessible seating positions in the classroom and relocate a laboratory or class building into an accessible space. Also, since they may have challenges, such as hearing or speaking and they will need audio recording or notetaking assistance and additional time to finish their exams. When dealing with deaf or hard hearing students, faculty will require adjusting their presentation and using more images, and providing reading resources with more images where needed. Faculty members can adapt their lessons when dealing with students with health-related disabilities by providing handouts and delivering courses using electronic formats. Furthermore, communication mode will also change to using electronic mail and ensure they have supply attendance requirements.

Finally, faculty members are responsible for helping students with disabilities to get proper accommodations when necessary by referring them to disability resources. This process is essential in ensuring all students are equal in attaining education services and learning experience. Also, they are responsible for providing intreated accommodations and academic modifications to those with documented disabilities on time. Faculty members will need to provide test accommodations to the students to reduce the distraction in their environment and ensure students get the adaptive equipment required. Ahmed (2018) stated that faculty members must select the alternative testing accommodations either through their department or use the

Disability Resources testing facility. Although the same source added that the accommodation must be provided, the faculty can check with the testing coordinator in disability resources concerning the suitable accommodations and test process and restructuring. Lastly, faculty members are also responsible for preserving proper confidentiality of records regarding disabled students apart from when disclosure is needed by law, or the student has approved.

### **How University Decisions Are Made Regarding Appropriate Accommodations**

The University will need to follow a great decision-making process on appropriate accommodation. The first process in accommodation decision-making is to initiate it by asking if the student utilizes the classroom accommodation with a specific subject. Therefore, if they are not using, then the accommodation is not suitable; however, the University will have to check if the accommodation assists the student in the classroom.

Moreover, suppose the University realizes that the accommodation is not helping the student. In that case, it will not be implemented, and if they are unsure, they will have to test the student two times, one without accommodation and the other with it to realize if it helps them. Nonetheless, suppose the capacity helped the student. In that case, the University will decide if it fits the large-scale evaluation demands and then if it is acceptable in the large-scale examination. The final step in decision making is to check if the accommodation provides the state evaluation guidelines standards. It will be decided to be appropriate and discussed with the IEP team before making the final decision.

### **How the University as A Whole Support Students' Accommodation**

The University plays a critical role in enhancing and supporting accommodations for students with disabilities. Although capacities will vary depending on the nature of the disability, the

University can provide support ensuring all student enjoys the learning experience. Colleges and universities are responsible for providing and paying for assistive technology for students who require it. Madaus et al. (2021) claimed that under Section 504 and IDEA, universities are responsible for assistive technologies that will help students with disabilities have access to education services. Enabling accommodations is essential for instructors that create a positive classroom climate in which students will feel contented in asking for the assistance they require because of their disability.

Creating awareness is also essential in supporting student's accommodations by the University. One way the University can create awareness is through placing a notice in the syllabus for a course that allows students to recognize that they can speak with their instructor if they require accommodation. The announcement will make students realize that the professors are conscious of accommodations challenges and are enthusiastic to converse on accommodation selections. Moreover, it is not suitable for the university instructor to recommend that the student requires accommodation if not requested. University students are accountable for providing documentation and asking for accommodation (Newman et al., 2020). In most cases, students with disabilities always work with the disabled student service office; however, when the University initiates a discussion concerning accommodations, the instructor can inspire students to utilize reasonable accommodations that are resolute for a class.

Another way to support the University's appropriate accommodations is by providing essential adjustments in school, such as positioning precedence registration. Ahmed (2018) claimed that the University could decrease course load, increases sign language interpreters in the classroom, and increase the testing time for disabled students. As stated earlier, different disabilities will require various accommodations; therefore, the University can ensure they

construct their building and laboratories in ways that fit all the students. For instance, the University can ensure every computer laboratory is equipped with computer screen-reading together with <sup>3</sup>voice recognition and other adaptive software or instead hardware. Furthermore, this University can reduce or considerably adjust critical requirements.

### **How IT Services Support Adaptive Technologies**

The campus department of information technology plays a crucial role in ensuring students with disabilities can access campus technologies such as the student portals with ease and navigate to obtain the required content. The United States is among the countries with many individuals accessing the internet and contains approximately twenty-five percent of individuals with disabilities in 2016 (Kimball et al., 2016). Furthermore, disability can significantly impact an individual's life, especially in the current technological error where people access digital content. The worldwide web changes education, requiring developers to incorporate features that will serve disabled students (Ismail & Kuppusamy, 2019).

According to Newman et al. (2020), all users deserve equal access to digital content. However, this will require the developer to create an inclusive web design. For instance, the university portal may have text-to-speech software programs that output the screen's information to the blind student. The portal can also incorporate screen magnifiers responsible for increasing text and graphics on the screen and modify the fonts, spacing, and colors. Ismail & Kuppusamy (2019) added that all students use the portal; therefore, the IT department needs to ensure they incorporate writing and reading assistance software to help students with dyslexia and other learning disabilities. Other services include voice recognition to change speech into text and where the browser will alter commands that the computer can understand.

Security has become a significant concern in the current world because of increased technology progression. Therefore, the IT department needs to ensure students with disabilities can manage their accounts well without interference or requiring them to remember many things, such as their password. For instance, using a single sign-on configuration plays a critical role in helping schools manage their user login credentials using a centralized system. Students with disabilities will need to remember one certificate to access all their apps school resources. The single sign-on configuration ensures that students with disabilities can quickly adopt and enhance their use of the system because they do not need to remember many usernames and passwords to access many institutions' resources. Hence shortening the authentication procedure and decreases password fatigue.

### **Types of AT Services Available for Students with Disability**

Assistive technologies vary depending on the type of disability. For instance, print disability comprises individuals with a learning disability. Newman et al. (2020) have stated that different assistive technology exists for students with a print disability because they cannot read printed materials. Some of the technologies for this population include screen readers programs that utilize speech synthesists to read the screen's information. For instance, zoom text and windows-Eye are typical screen readers. Another software is speech to text which is utilized in reading the text as the student reads along.

Another type of assistive technology used in college is the echo smartpen, a writing tool for a student to utilize during notetaking. The pen works by having a recorder, and then the student will record while in class. This allows them to play back every part of the class hence valuable for the students with autism. OneNote is another vita AT that is useful in notetaking. The application comes with Microsoft suffice suite in excel and word. The programs allow college

students to record lectures while taking notes because they can open different pages and create notebooks.

### **AT Inventory**

The University currently implemented several assistive technologies and is focusing on improving even more. Some of the assistive technologies implemented include the magnification software that will allow all individuals with low vision and physical disability to magnify the fonts and size. Also, the University has magnified and braille keyboards that will help the deaf to type inputs in a computer. The screen readers are also implemented. The University currently uses a Job Access with Speech (JAWS) screen reader, which operates with the windows operating system and offers text-to-speech and braille output.

With the increase in students with disabilities, the University is focusing on increasing more assistive technologies. For instance, the use of text-to-speech software using Kurzweil education software. Kurzweil education software can aid blind students to use computers and read scanned printed materials. Also, implement a picture planner to be used by students with autism since most of them are visual learners and not text learners; hence can use the mobile application to organize their schedules and set plans. Assistive technologies are divided into two low-tech and high-tech assistive technologies.

### **Academic Accommodations for Certain Situations**

Some assistive technology can be used in certain situations only, and when it passes, it will not be used until the problem happens again. For instance, students might need support during the reading literacy situation. Several assistive technologies are available to ensure they get access to reading learning resources. For example, they can use ABBYY text grabber and

translate, which focused on utilizing the student device's camera, capturing the text, and interpreting it using OCR. Another feature of the software is to extract text from books and other resources and utilize VoiceOver, which is used on iPad only to listen to the study material in a text-to-speech format.

### **Incorporating Universal Design into AT**

Assistive technology needs to incorporate all individuals in using the technological systems regardless of their abilities, mental challenges, and learning abilities. Equality in learning is essential. Ahmed (2018) has explained the difference between universal design and inclusive design. The source has defined universal design as a plan that concentrates on one solution that many individuals can utilize; simultaneously, the inclusive design comprises focusing on one person and spreading to others. Assistive technology intends to be used universally and ensures all people get the opportunity to utilize digital information. On the other hand, assistive technology has focused on specific individuals in coming up with different technologies to serve a diverse population.

In summation, the University is obligated to provide support for students with disabilities and ensure equality in educational attainment. The student with a disability has to follow a particular procedure before getting accommodation. However, the University also supports them in getting the appropriate accommodations. The University has implemented several assistive technologies for students with disabilities, including magnification software and a JAWS screen reader. However, they need to implement text to speech using Kurzweil's software and picture planner.

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