Inclusive Education in the Digital Era: Improving University Website Accessibility for Students with Disabilities

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ABSTRACT

One of the essential factors in designing and creating a university website is to make sure that it is accessible and user-friendly for all students. However, despite technological advances, many university websites remain wholly or partially inaccessible, particularly for students with disabilities, which consequently affects their learning and educational attainment. This article investigates the importance of accessibility of university websites and discusses practical approaches for website accessibility design. Drawing on studies from the United States, Malaysia, Latin America, and Europe, the review shows persistent accessibility challenges, ranging from limited assistive technology integration to difficulties in complying with the Web Content Accessibility Guidelines (WCAG). To get the empirical validation, five mission-critical pages from each institution were assessed using automated tools and heuristic checks. The results show recurring WCAG 2.1 violations, such as insufficient colour contrast, missing alternative text, unlabeled form fields, and redundant links. Thus, the study develops a conceptual framework that integrates identified barriers, institutional and technical interventions, and their broader educational and social impacts.

Keywords: Inclusive Education, Web Accessibility, Educational Equity, Students with Disabilities

INTRODUCTION

One of the essential factors when designing and creating a website is to make sure that it is easy to access and use. User-friendliness makes it easier for the website to be visited and revisited by many people. A lot of research has been done to make sure that a website is easily accessible. Having a complicated website makes it hard for the owners to accomplish the goals they set out to do. The evolution of websites seems to incorporate many features that help make it possible to use websites. The increased use of accessibility can be thought of as a trend that has made it easier to use. Designing websites has been met with limitations which have been characteristic of the time. When incorporating features into a website, one crucial factor is the visitors' internet speed and accessibility (Fu et al., 2020). Bloating the website with multiple components can lead to a situation where people who visit the website with slow internet accessibility can find it challenging. However, the last decade has seen an improvement in the accessibility of the internet in the world. Marginalized areas now can get access to good internet, which makes it easier for people to load many features from a website without their device becoming unresponsive due to technological limitations.

However, one of the significant aspects of the website that has seemingly been stagnating over the years is the capability to support various people with disabilities. The evolution of website usability in some areas has primarily been stunted. Mobile devices have pushed the ability of user input to include voice commands. Various companies have created virtual assistants who provide functionality that can help weave various technological advancement tools into the fabric of human life. Nowadays, a visually impaired person can significantly benefit by having multiple smart devices, and through speech-to-text technology, a deaf person can make great strides when using a smartphone. Especially, the university website accessibility is essential for students for learning.

However, in some areas of the world, the strides made in websites and internet access applications have not advanced significantly to help students who are disabled in their educational ambitions.

Universities and communication practitioners should make indispensable improvements to understand how students with disabilities can be helped by ensuring they get access to educational material. The school's website should serve people indiscriminately. There are approximately 40 million Americans who are disabled in a certain way or form (Bradbard & Peters, 2008). Students with disabilities may have challenges using the student access portal and functions such as downloading PDFs or resource materials for the course. Creating a system that will be accommodating should be the overall goal of the university administration when it comes to developing the website. Universities and communication practitioners need to emphasize the development of websites that are accommodating to all students. This article investigates the importance of accessibility of university websites and discusses practical approaches for website accessibility design.

The review of literature revealed that inaccessibility in university websites persists, and students with disabilities struggle to access essential information regarding their student lives and learning. In the university setting, websites designed for campuses should focus on how suitable they are for use by students who may undergo different challenges. Students with disabilities might have a challenge accessing the website correctly. For a website to favor being used by all parties, it should incorporate a universal design that everyone can use. The accessibility of a website is an essential feature in helping students use school websites. Given that university and college websites are critical to developing students' academic lives, their services must be crucial to how everyone uses them. There should be technologies for people who may have various forms of impairment and may want to use their website (Baguma & Lubega, 2008). University websites should be designed to promote equal access and opportunity to students with disabilities.

University Websites Remain Issues of Web Accessibility

The research conducted by Bradbard and Peters (2008) analyzed the use of data from different colleges and their enrollment of individuals with various impairments. The study uses secondary sources, such as government agencies, to collect data on the disability of individuals who enrol in secondary education. Disabled students represent about 11 percent of the undergraduate population in American universities. The research works by identifying various visual impairment forms, such as blindness, color blindness, and low vision. Low vision provides challenges for people who might want to see content on the website. They have trouble with small fonts and dark backgrounds.

Bradbard and Peters (2008) provide a recommendation of the assistive technologies people in universities can use to access web resources. They can use screen magnifiers, screen reader software, a speech synthesizer, and a refreshable braille display for vision. People with auditory disabilities can use telecommunications devices for the deaf, including captions for visual materials and using diodes that emit a signal when there is sound from the computer. People with cognitive disabilities can be provided with speech recognition software. People with motor challenges, incorporate speech recognition and on-screen keyboards. The research conducts a synthesis of other research material. Furthermore, the research notes that public organizations are legally required to make their content legal. Since universities are public institutions, the Americans and Disabilities Act requires that the details on the websites should support various people who have various forms of disability might afflict. The analysis goes through cases where multiple companies and institutions have trouble with various groups to ensure their websites adhere to the rules.

The research conducted by Ahmi and Mohammed (2015) evaluated how many Malaysian universities' websites are suitable for access by all parties, including teachers, staff, students, and visitors. The evaluation comprised 20 universities in Malaysia on the accessibility of their websites. Assessing the websites was done through the Web Content Accessibility Guidelines (WCAG) 2.0 (Ahmi & Mohammed, 2015). The universities were compared against each other and presented against the tools shown. Besides, the research cites other research done in where the usability of websites was assessed. According to Yahoo, in the United States, 60% of post-secondary institutions had some accessibility barriers. They cite another study in which a sample size of 392 universities, 68% of them had some form of accessibility barriers (Ahmi & Mohammed, 2015). Most of the research indicated that about 60% or more of the country's universities had accessibility challenges. The results

showed some positivity since the websites reported favorable results when compared to other previous studies. However, the study observed that there was still some way to make them better for most people. The study has limitations, such as only focusing on a small sample from the University of Malaysia (Ahmi et al., 2015). The research is valuable to the study since it shows how school websites are not set up to support people with various disabilities.

The article written by Ng (2017) offers a perspective on the best way to improve web accessibility for everyone. Their definition of web accessibility is done through the World Wide Web Consortium (W3C, 2018, 2023). Designers should provide websites with a universal design that benefits everyone who visits the website. The versatile design is a way of taking into account websites and the factors that make it possible to provide a holistic approach. The content on the website should also be accessible. Accessibility of the content on the website would mean that it is easier to find any information. Therefore, features such as headers, links, audiovisual content, color contrasts, and text styles should be thoughtfully incorporated (Ng, 2017). For the media and text, the color used should not convey a significant amount of meaning. Creating color with a lot of importance would make it difficult for people with color blindness to use websites in a manner that could be beneficial to them. Website designers and practitioners should assess and evaluate the websites for accessibility and usability. Evaluating a website would make it possible to know whether it is usable. There are various content analysis tools used to evaluate the website's usability and the ease of using the website. The organizations can also use feedback provided by third parties to make evaluations on their website's success.

The Major Challenge of University Website Accessibility

Despite the emphasis on web accessibility in recent years, websites remain wholly and partially inaccessible to some population sectors. The major challenge faced is the lack of understanding and the inability to interpret and understand the guidelines that promote accessibility. It is vital to note that there are various accessibility standards and procedures; this is dependent on the type of website the institution operates hence the differences in guidelines and standards (Hafya, 2016). However, most of these institutions have not directly promoted and invested in their web developers' knowledge and experience; as a result, they lack the accurate information needed to understand and interpret the guidelines provided. This issue, in turn, affects the users in terms of the ease of access; this is significantly worse for a disabled group of students, as they are subjected to the same conditions as an abled person. The lack of accessibility, especially for university students, discourages learning and consequently may influence low educational attainment.

Furthermore, Acosta-Vargas & Lujan-Mora conducted a study analyzing the challenges to assessing accessibility in higher education websites. The study incorporated both primary secondary sources to analyze data and information, presenting the challenges faced by Latin American students when it comes to accessing their websites. They included data from 2012 to 2016 to first analyze the trends. For instance, a 2012 study suggested that Brazilian University websites faced challenges when accessing and using the school website due to the WCAG regulations. It is vital to note that an inaccessible website contains a page that is not in compliance with the WCAG. Compliance makes the website faster and more efficient when it comes to loading results and student information. When separating content from a web page, it is often impossible to reduce the size of the web page and the loading time. The primary data was collected by assessing 3680 students across Latin American Universities (Acosta-Vargas et al., 2018). The confidence level of these students was 95%, with the probability of success and the expected proportion being 50%. According to the results obtained, following the regulations and guidelines of WCAG makes content accessible to people with disabilities, including speech disabilities, hearing loss, and learning disabilities, plus a combination of these. Following these guidelines also makes the content more accessible for general users; it makes it easy for search engine optimization, which creates the content of these websites more accessible.

The inaccessibility of websites is also a representation of the lack of respect for the fundamental rights of individuals. One of the basic human rights is the right to information; as a student, you have the right to access learning materials and tools that will promote your understanding. According to the information provided by Máñez-Carvajal et al.(2021), websites have barriers that prevent effective access to information (Máñez-Carvajal et al., 2021). These challenges are exemplified and are even more significant for those who make use of assistive

technologies. Users of these websites can often encounter difficulties, mainly in the perception of information and site navigation.

These shortcomings in meeting the established regulations lead to disrespect for people's fundamental rights (students), especially those with disabilities. It prevents them from accessing information much less efficiently. This can be directly associated with a research study conducted in 2016 that suggests that developers lack the knowledge necessary to identify accessibility challenges on their websites (Abuaddous & Basir, 2016). The situation is made worse by the fact that Web accessibility challenges can be divided into standards and guidelines, the design and development phase, and accessibility evaluation. When an inexperienced person does this, the results are most likely to be negative.

Table 1. Synthesis of University Website Accessibility Research Across Regions

Region / Country	Research Focus	Common Barriers Identified	Proposed Solutions	Notes / Gaps
United States	Enrollment & disability support (Bradbard & Peters, 2008)	Visual/auditory/cognitive/motor challenges; limited assistive tech integration	Screen readers, magnifiers, braille display, speech recognition	Mostly descriptive; focused on U.S. context
Malaysia	WCAG 2.0 compliance (Ahmi & Mohammed, 2015)	60–68% universities with accessibility barriers	Benchmarking websites, improving compliance	Sample size small; regional scope
Latin America	Compliance & user experience (Acosta-Vargas et al., 2018)	Widespread WCAG non-compliance; slow adoption	Following WCAG improves access & SEO	Regional dataset (3680 students); needs broader comparison
Spain, Chile, Mexico	Evaluation of top universities (Máñez-Carvajal et al., 2021)	Persistent barriers for assistive technology users	Stronger enforcement of standards	Focus only on elite institutions
Global / Conceptual	Universal design & frameworks (Ng, 2017; Hafya et al., 2016)	Lack of developer training; difficulty interpreting standards	Universal design, training, evaluation tools	More empirical validation required

To consolidate insights from previous studies, a synthesis of the literature on university website accessibility is presented in Table 1. Rather than reviewing each study individually, the table highlights cross-regional patterns, common barriers, and proposed solutions identified across different contexts. As shown, research from the United States, Malaysia, Latin America, and Europe consistently points to persistent accessibility challenges, ranging from technical compliance with WCAG standards to the lack of institutional investment and developer training. While proposed solutions such as universal design, assistive technologies, and stronger policy frameworks recur across regions, notable gaps remain. These include limited comparative data, a predominant focus on single-country or elite institutions, and insufficient empirical validation of conceptual frameworks.

METHODOLOGY

Sampling and Rationale

To empirically ground the conceptual framework within the revision timeline, the study was conducted a rapid audit of four public universities located in North America, Latin America, Europe, and Asia. Institutions were purposively selected to ensure cross-regional coverage and to reflect diverse regulatory and policy environments previously highlighted in the literature as facing persistent accessibility challenges (e.g., Acosta-Vargas et al.,

2018; Máñez-Carvajal et al., 2021). Selection criteria included: (i) high-enrollment public universities with substantial digital presence, (ii) availability of publicly accessible websites containing admissions, academic program, and library information, and (iii) the existence of an accessibility statement or equivalent policy page. To mitigate reputational risks, institutions are anonymized in the findings and referred to as University A (North America), University B (Latin America), University C (Europe), and University D (Asia).

Evaluation Procedure

For each university, five mission-critical web pages were selected to provide both functional and governance coverage: the homepage, the admissions page, a course or program catalog page, the library homepage, and the accessibility statement. These pages were chosen because they represent essential points of student interaction and institutional accountability. Accessibility violations were categorized according to the Web Content Accessibility Guidelines (WCAG) 2.1 success criteria (W3C, 2018), using their standardized criterion codes (e.g., 1.1.1 Non-text Content, 1.4.3 Contrast Minimum, 2.1.1 Keyboard, 3.3.2 Labels or Instructions, 4.1.2 Name, Role, Value).

Each page was then evaluated using a combination of automated and heuristic methods. Automated testing was conducted with the WAVE and axe DevTools browser extensions to identify WCAG-related violations such as missing alternative text, insufficient color contrast, empty links, and unlabeled form elements. In addition, Chrome Lighthouse was used to generate accessibility scores on a scale of 0–100. To complement automated testing, manual techniques were employed. Keyboard-only navigation was tested by attempting to complete basic tasks (e.g., navigating menus, accessing forms) using only the Tab, Shift+Tab, Enter, and Esc keys, thereby assessing operability and the visibility of focus indicators. A brief screen reader "smoke test" was also carried out using NVDA or VoiceOver to examine whether heading hierarchies were logical and whether links and buttons were announced with meaningful labels. Finally, accessibility statements were coded for governance maturity, noting whether they cited a specific WCAG version and conformance level, provided a last update date, included feedback channels, outlined a monitoring cadence, referenced procurement requirements, or mentioned staff training commitments. This mixed-methods approach enabled both the identification of technical accessibility issues and the evaluation of institutional policies that support inclusive digital practices.

Data Capture and Analysis

For each violation, the evaluation recorded the WCAG criterion, severity, reproduction steps, and an illustrative HTML snippet. Automated scores, heuristic pass/fail checks, and governance features were compiled into comparative tables. To protect institutional identity, findings are presented in aggregate and anonymized by region. The audit is exploratory in scope and does not aim to provide representative prevalence rates, but rather to illustrate cross-regional patterns and to operationalize the conceptual framework through empirical examples.

RESULTS

Across the four anonymized universities (A: North America, B: Latin America, C: Europe, D: Asia), Lighthouse accessibility scores ranged from 62 to 84, with a median of 73 (see Table 2). University A (North America) achieved the highest overall score (median 76), while University B (Latin America) scored the lowest (median 65). The most frequent violations identified by automated testing across all institutions included insufficient color contrast (criterion 1.4.3/1.4.11), missing alternative text (1.1.1), unlabeled form fields (3.3.2/4.1.2), and redundant or empty links (4.1.2).

Table 2. Lighthouse Accessibility Scores (by page, anonymized)

University	Homepage	Admissions	Catalog	Library	Accessibility Statement	Median
A (North America)	84	68	70	80	78	76

B (Latin America)	66	63	65	68	64	65
C (Europe)	73	70	74	76	78	74
D (Asia)	70	64	68	72	74	70

Automated testing found that accessibility violations were both frequent and patterned across page types. In total, 63 distinct issues were identified across 20 pages. Color contrast failures were the most common, affecting 17/20 pages (85%), often in banner text or navigation menus, with measured ratios as low as 2.7:1, well below the WCAG 2.1 minimum of 4.5:1 (criterion 1.4.3). Missing alternative text appeared on 11/20 pages (55%), particularly in admissions and catalog pages that relied heavily on decorative imagery. Unlabeled form controls averaged 2.5 per admissions page, leaving screen readers to announce input boxes as "edit box" without context (criterion 3.3.2). Redundant or empty links were also prevalent, recorded 14 times across library and homepage navigation bars (criterion 4.1.2). University B exhibited the highest average error count (18/page), largely due to improperly tagged images and form elements. University A had fewer issues (12/page) but still displayed repeated color contrast violations. Universities C and D fell in the mid-range (14–15/page), with recurring problems in alt text and link labeling.

Manual heuristic tests confirmed and contextualized automated results (see Table 3). Keyboard-only navigation succeeded on 11/20 pages (55%), but the remaining nine pages posed barriers. For instance, University C's course catalog trapped focus inside a filter menu, preventing users from accessing subsequent results (criterion 2.1.1). University D's admissions form skipped required fields in the Tab sequence, undermining task completion. Focus indicators were inconsistent: while generally visible on homepages, they disappeared within rotating carousels or modal overlays. Screen reader smoke tests exposed disordered heading hierarchies at all four universities, with University B's homepage showing the most severe disruption, jumping from <h1> to <h5> without intermediate levels, making navigation by headings ineffective. In addition, multiple links were announced as "click here" or "learn more," offering little semantic meaning (criterion 2.4.4).

Table 3. Automated and Manual Testing

University	Avg. Automated Violations (per page)	Most Frequent Automated Errors	Keyboard Navigation Success	Focus Visibility Issues	Screen Reader Problems
A (North America)	12	Color contrast, empty links	3/5	Carousel obscured focus on homepage	Catalog skipped <h2>–<h3>
B (Latin America)	18	Missing alt text, unlabeled forms	2/5	Admissions dropdown inaccessible	Homepage jumped <h1> to <h5>
C (Europe)	14	Contrast errors, link labeling	2/5	Catalog filter trapped focus	Catalog lacked heading hierarchy
D (Asia)	15	Alt text, keyboard-related labels	4/5	Admissions form skipped fields	Library headings disordered

Governance maturity varied across universities (Table 4). Universities A and C explicitly cited WCAG 2.1 AA, while B and D only made generic commitments. Feedback channels were present at all institutions, but only University A provided both an accessibility email and a dedicated consultation form. Monitoring cadence was rarely specified; only University C indicated annual reviews. Procurement requirements and staff training were scarcely mentioned, except at University A, which referenced a VPAT template and procurement accessibility language.

Table 4. Governance Coding of Accessibility Statements

University	WCAG Cited	Feedback Channel	Monitoring Cadence	Procurement Policy	Staff Training
A (North America)	WCAG 2.1 AA	Email + Form	Not specified	Yes (VPAT)	Mentioned indirectly
B (Latin America)	No explicit WCAG	Email	Not specified	No	No
C (Europe)	WCAG 2.1 AA	Email	Annual review	No	No
D (Asia)	Generic statement	Email	Not specified	No	No

DISCUSSION: THE APPLICATION OF ACCESSIBILITY APPROACHES

The results demonstrate that technical barriers are widespread, regardless of governance documentation. Universities with stronger governance frameworks (A, C) did not necessarily outperform in page-level compliance. At the same time, those with weaker policy statements (B, D) often showed similar or fewer violations in certain areas. For instance, University A explicitly cited WCAG 2.1 AA and even included procurement requirements, yet its admissions and catalog pages contained unlabeled form fields and contrast failures that impaired usability. Conversely, University B, which lacked any reference to WCAG, exhibited a similar overall violation count. This pattern highlights a critical gap between institutional commitments and practical implementation, reinforcing the need for frameworks that integrate both governance and technical accessibility.

Due to research that has been conducted in this area, various approaches have been identified that can be implemented to make university websites more accessible. For instance, institutions are advised to conform to the website accessibility guidelines as it results in more positive outcomes and reviews from the users, in this case, students (Schmutz et al., 2017). Our findings support this view: automated tests consistently flagged failures in core success criteria such as color contrast (1.4.3/1.4.11), non-text alternatives (1.1.1), and labels or instructions (3.3.2), suggesting that many pages failed to meet even baseline WCAG 2.1 AA expectations (W3C, 2018). One of the major problems identified was the lack of conformity; this can be directly associated with the lack of web developers who are knowledgeable and experienced enough to navigate these established guidelines and standards. As a result, web accessibility becomes challenging and consequently affects the users' lives and disregards their rights. Universities and institutions of higher learning are increasingly encouraged to conform to the established guidelines and standards; this makes their websites efficient and effective and reduces the chances of legal issues that might be faced if an inaccessibility lawsuit is filed against them. It also portrays them in a positive light.

Secondly, the efforts of any organization when it comes to web accessibility is likely to meet positive perception among both the disabled and regular users. It is essential to note that one of the lowliest invested departments in an organization is the IT department. The Information and Technology department plays a vital role in advancing the institution's technologies and making them more effective (Bradbard & Peters, 2010). Evidence from our manual navigation checks supports this claim: in several cases, low investment in robust testing led to obvious usability breakdowns. For example, on University C's course catalog page, keyboard focus became trapped in a dropdown filter, and on University D's library search interface, the primary call-to-action button fell below the minimum contrast ratio of 4.5:1. These failures confirm that accessibility lapses often occur in "everyday" interfaces, precisely where students expect seamless interaction. Institutions of Higher learning and especially universities, are increasingly advised to invest more in their IT departments as this is directly related to the ease of access of their websites. Primary data was obtained and used to test different websites, each containing five pages of content. The testing was done in a concise order and was aimed at analyzing factors such as speed, ease

of accessibility, and compliance standards (Bradbard & Peters, 2010). The study establishes that universities should start developing and integrating overall web accessibility policies that comprise plans to support individual and faculty efforts to improve the existing instructional websites. Universities cannot afford the potential cost of ignoring accessibility as it directly influences the success of their students and the comprehensive institution.

Additionally, this portrays the institution in a positive light; both the disabled and ordinary users are likely to support these strategies. A strategy that is expected to be effective in conducting research on behavior-seeking models is necessary for understanding accessibility guidelines as they continue to change over time (Lima et al., 2012). In fact, our cross-regional comparison illustrates this challenge: University A's statement was detailed but lacked monitoring cadence, University C indicated annual reviews but offered no procurement or training clauses, while Universities B and D merely issued generic commitments. This variability demonstrates that without systematic monitoring and training, institutions are slow to adjust to evolving guidelines such as WCAG 2.2 (W3C, 2023). A proactive behavior-seeking model, as Lima et al. (2012) suggest, would enable universities to anticipate such changes and mitigate compliance gaps before they accumulate. This makes it easy for the university to perceive changes before they occur and adjust to these levels so as not to be significantly affected. It also helps them analyze the causes and consequences of their activities, which places them in a position to understand the needs and wants of the students and better address them.

The studies indicate that universities should start by developing a comprehensive web accessibility policy. This would help provide guidance and support for the staff and faculty directly associated with the web design. Secondly, the study suggests that universities should establish good training and support facilities; this would make the university employees involved in web design have more access to the uniform guidelines of accessible websites. Our empirical results reinforce this recommendation: while governance statements frequently cited "support" or "consultation," none of the four universities explicitly committed to systematic staff training. It is vital to note that there has been no formal survey of faculty web pages and faculty awareness directly associated with web accessibility published. This information would inform universities on the need to create and implement policies that support easy web accessibility.

ANALYSIS AND RECOMMENDATIONS

Modern-day universities have to use practical approaches to ensure that they take accessibility into account on their websites to succeed in their operations and to be accessible for all students. People might have various forms of disabilities, including visual impairment, which can be a challenge when using websites. There should be a way in which websites' accessibility is judged based on the ease of use for people with disabilities. Simultaneously, most school websites are not developed well enough to facilitate people who might have various disabilities. The condition shows that people with disabilities have a significant challenge in accessing university websites. Particularly interactive websites offer a great visual experience, while inaccessible websites can limit users' ability to perform tasks on them. For school websites, a level of interaction is required for students to engage with academic material appropriately. Having a non-interactive website offers a challenge to students who might want to use the services but have impairments and limitations.

Making sure that websites are accessible for use should serve as a priority for most universities and communication practitioners who want to have a good infrastructure that students can use. If some students with disabilities cannot use the websites well, it can be an academic challenge within the school setup. Having such a disadvantage is dangerous and can be the main factor in determining students' success in tertiary education institutions.

As a result, many university websites are inaccessible, which consequently affects the learning and education of the students. The studies indicate that universities should start implementing better and more effective accessibility policies. For instance, the WCAG compliance standards need to be reviewed; it is necessary to analyze the errors when using the WCAG compliance standards. Additionally, more universities should start investing in their IT departments. This consequently affects the quality of work produced, which, in this case, is the websites developed. Universities should apply better laws and policies to make websites more accessible for every student. Future work should continue to analyze the evolution and development of these websites while

providing and publishing this information to the public. This would help in analyzing, developing and integrating effective measures that can be implemented to help with accessibility.

Secondly, more research needs to be conducted by communication practitioners in this area. This issue's lack of research directly influences the challenges currently faced. For instance, universities and Institutions of Higher learning are not doing much to identify effective policies and websites to leverage. This portrays them in a negative light and influences negative perceptions and views from the students. If more research is conducted, universities are more likely to identify effective policies that can be implemented or regulations that can be twisted to suit their needs and wants.

Universities should structure and categorize their websites according to the established standards, guidelines, and design. Factors such as the developmental and accessibility evaluation should be considered when choosing a website for the Institution. This is directly linked with identifying a knowledgeable and skilled web developer responsible for maintaining the website. This aspect is also related to research; the research leveraged and integrated into this area will determine whether the Institution will choose the most appropriate website that matches the needs of the students.

Lastly, universities are encouraged to research behavior-seeking models. Behavior-seeking models tend to collect information on the users' behaviors; in this case, they will identify trends that can be leveraged to make the website easier to navigate. This recommendation is by far the most important one as it seeks to improve the website to the tastes and preferences of the users. However, universities should also consider leveraging this for disability groups of students. For instance, they should assess and analyze how this student navigates their websites. By doing this, they can place the applications and materials in such a way that it is easy for them to access and use. This ultimately promotes the respect of human rights in the access and dissemination of information. It influences the user's perceptions and views and the development of institutions.

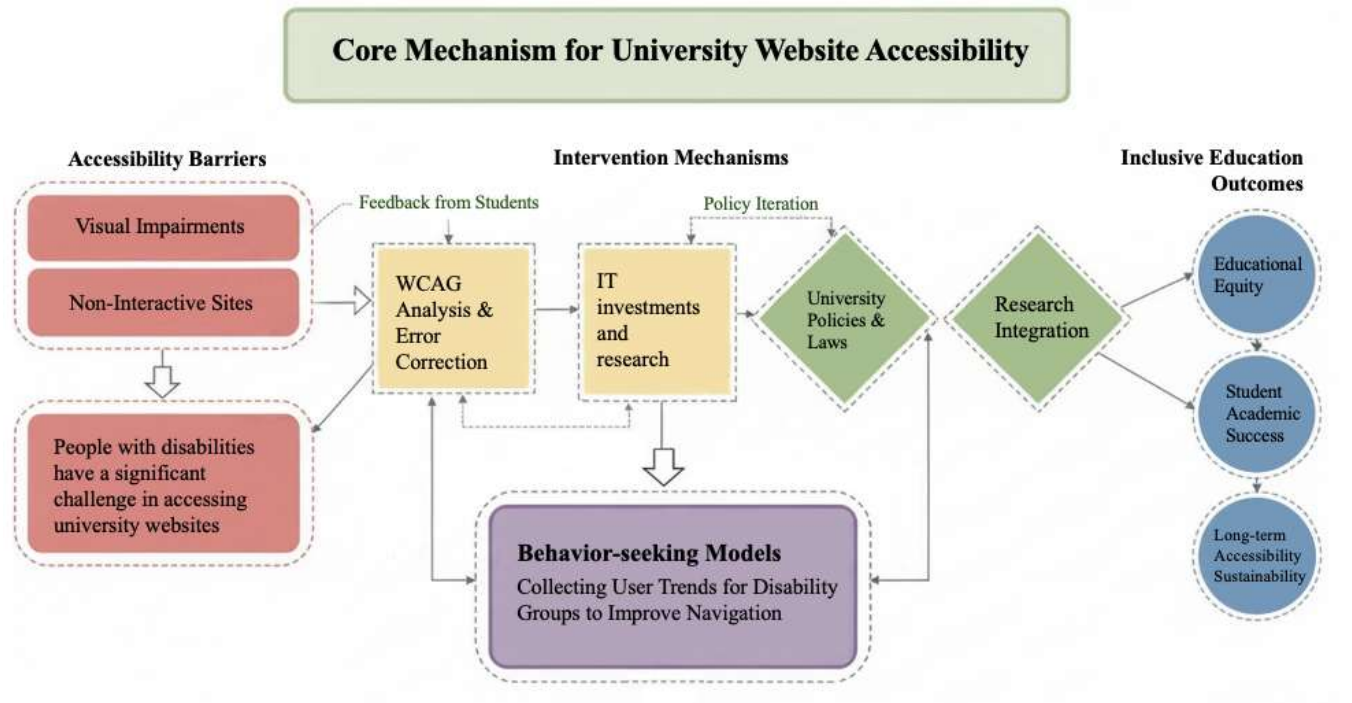

Figure 1. Conceptual framework for improving university website accessibility

To determine the key challenges, interventions, and expected outcomes discussed in this section, a conceptual framework was developed to illustrate the core mechanism for improving university website accessibility (see Figure 1). The framework integrates barriers identified in prior research, institutional and technical intervention pathways, and the broader educational and social impacts. By structuring these elements into a unified model, it illustrates approaches to collectively advance accessibility, support the development of inclusive policies, and ensure the continuous evolution of accessible practices in higher education.

CONCLUSION

In conclusion, despite the increasing importance of web accessibility in recent years, websites still exist temporarily or are permanently inaccessible to universities. This can be associated with various factors, including university web developers' and communication practitioners' little to no accessibility knowledge and the lack of reliable and accurate information. Research has been conducted to identify ways and strategies that could make university websites more accessible. Having a complicated and challenging website makes it difficult for the users (students) to accomplish their set goals and objectives, which is made worse by the fact that students with disabilities are subjected to the same conditions. This necessitates the importance of implementing effective policies to help alleviate this problem. For instance, universities and institutions should start complying with the established standards and regulations to make their websites more accessible. Additionally, more research should be focused on identifying practical solutions that can be generalized across all universities.

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Conflict Of Interest

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