



University of Vaasa
VAASAN YLIOPISTO

OSUVA Open
Science

This is a self-archived – parallel published version of this article in the publication archive of the University of Vaasa. It might differ from the original.

Factors Influencing Information Systems Students' Intention to Promote Accessibility

Author(s): Mäkipää, Juho-Pekka; Isohella, Suvi

Title: Factors Influencing Information Systems Students' Intention to Promote Accessibility

Year: 2026

Version: Accepted manuscript

Copyright © 2026 by the Association for Information Systems.

Please cite the original version:

Mäkipää, J.-P., & Isohella, S. (2026). Factors Influencing Information Systems Students' Intention to Promote Accessibility. *Communications of the Association for Information Systems*, 59(1).
<https://aisel.aisnet.org/cais/vol59/iss1/13>

2026

Factors Influencing Information Systems Students' Intention to Promote Accessibility

Juho-Pekka Mäkipää
University of Vaasa

Suvi Isohella
Vaasa University of Applied Sciences

Follow this and additional works at: <https://aisel.aisnet.org/cais>

Recommended Citation

Mäkipää, J., & Isohella, S. (In press). Factors Influencing Information Systems Students' Intention to Promote Accessibility. *Communications of the Association for Information Systems*, 59, pp-pp. Retrieved from <https://aisel.aisnet.org/cais/vol59/iss1/13>

This material is brought to you by the AIS Journals at AIS Electronic Library (AISeL). It has been accepted for inclusion in Communications of the Association for Information Systems by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.



Communications of the
Association for Information Systems

Accepted Manuscript

Factors Influencing Information Systems Students' Intention to Promote Accessibility

Juho-Pekka Mäkipää

School of Technology and Innovations, Information
Systems Science
University of Vaasa
Finland
0000-0002-2757-8609

Suvi Isohella

School of Technology, Information Technology
Vaasa University of Applied Sciences
Finland
0000-0002-0436-9708

Please cite this article as: Mäkipää, J-P, & Isohella, S. (in press). Factors Influencing Information Systems Students' Intention to Promote Accessibility. *Communications of the Association for Information Systems*.

This is a PDF file of an unedited manuscript that has been accepted for publication in the *Communications of the Association for Information Systems*. We are providing this early version of the manuscript to allow for expedited dissemination to interested readers. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered, which could affect the content. All legal disclaimers that apply to the *Communications of the Association for Information Systems* pertain. For a definitive version of this work, please check for its appearance online at <http://aisel.aisnet.org/cais/>.



Factors Influencing Information Systems Students' Intention to Promote Accessibility

Juho-Pekka Mäkipää

School of Technology and Innovations, Information
Systems Science
University of Vaasa
Finland
0000-0002-2757-8609

Suvi Isohella

School of Technology, Information Technology
Vaasa University of Applied Sciences
Finland
0000-0002-0436-9708

Abstract:

Information Systems (IS) programs have a responsibility to train future practitioners in accessibility competence. Prior research has provided valuable insights into how accessibility should be taught in IS programs. However, we still have relatively little understanding of which aspects of accessibility arouse interest in the topic among students and what factors influence their intention to promote accessibility in the future. The study aims to reveal the factors that would influence students' intention to promote accessibility in their future careers, and furthermore to propose the inclusion of those ones in the IS curricula. We employed a questionnaire and a group interview with 31 master's-level university students in a standalone web content accessibility course. We found that the factors that most increased these students' interest in and intention to promote accessibility were theories and practices, legislative perspective, the promotion of equality, the 'there is still much to develop' perspective, personal interest, and an understanding of the impact of accessibility. We show how these topics can be integrated into the IS curricula and propose accessibility as a cross-cutting theme in response to its inclusion in the IS curricula competency area of user interface design.

Keywords: Accessibility, Computing Education Research, Curriculum Design, Information Systems Program.

[Department statements, if appropriate, will be added by the editors. Teaching cases and panel reports will have a statement, which is also added by the editors.]

[Note: this page has no footnotes.]

This manuscript underwent [editorial/peer] review. It was received xx/xx/20xx and was with the authors for XX months for XX revisions. [firstname lastname] served as Associate Editor.] or The Associate Editor chose to remain anonymous.]

1 Introduction

Numerous existing studies have shown that additional training undertaken by software developers has a significant impact on the implementation of accessible systems (Inal et al., 2020; Lazar et al., 2004). By accessibility, we refer to the extent to which products, systems, and services can be used by people from a population with the widest range of user needs, characteristics, and capabilities (International Organization for Standardization, 2018; Mäkipää et al., 2022). Training on accessibility factors, whether provided internally by the company or acquired externally, has also been found to motivate developers to promote accessibility (Vollenwyder et al., 2019). Therefore, managers in information technology (IT) development, referring to the planning, creation, and maintenance of digital systems and software solutions, should provide training for developers that includes accessibility practices, tools and laws and promotes cooperation with users (Inal et al., 2020; Lazar et al., 2004; Vollenwyder et al., 2019).

When considering accessibility in the context of IT and IS artefacts, it is important to distinguish between these two concepts. An **IT artifact** is defined as an application (e.g., web application, website, user interface) of an IT that enables or supports a specified task embedded within a structure in a specified context (Alter, 2008). In contrast, an **IS artifact** "...accomplishes some end, based on knowledge of both IT and human behavior" (Gregor & Jones, 2007, p. 322). This distinction highlights that accessibility is not only a technical property of IT artefacts but also a socio-technical consideration within IS artefacts, where human behavior, organizational processes, and contextual factors play a critical role. From this perspective, accessibility training and practices should not be limited to technical implementation in IT artefacts (e.g., coding accessible interfaces) but should also address broader IS concerns, such as user engagement, organizational culture, and policy compliance (Inal et al., 2020; Lazar et al., 2004; Vollenwyder et al., 2019). While IT artefacts focus on enabling tasks through technology, IS artefacts integrate human factors and knowledge, making accessibility a cross-cutting requirement that spans both domains.

Vollenwyder et al. (2019) identified that the support of management providing accessibility training across the development process also influences web practitioners' "self-perceptions as a specialist", which can motivate them to use the knowledge they gain as part of their profession. However, one problem that practitioners encounter is the lack of knowledge on how to incorporate accessibility techniques during the design process (Lazar et al., 2004). As an example of the challenges, web practitioners often focus on either compensating for users' limitations with viable solutions or providing customization and alternatives to existing content to make it more accessible to all users (Martins et al., 2017).

Practitioners also encounter issues related to the complexity of accessibility guidelines, defined as documented standards and recommendations that help ensure digital systems are accessible by people with diverse abilities (Initiative (WAI), n.d.-a), and the lack of knowledge about how to incorporate accessibility guidelines at different stages of the development process (Inal et al., 2020; Lazar et al., 2004; Martins et al., 2017; Vollenwyder et al., 2019). To apply the guidelines effectively, the practices provided by the guidelines should be able to integrate with local practices and work in harmony with non-interactive design practices, techniques, and processes (Sharp et al., 2020). Lazar et al. (2004) identified societal foundations that influence the promotion of web accessibility, the most prominent of which are education and training, which particularly influence web developers' perceptions of web accessibility. According to Baker et al. (2020), there is an emergent need for a research framework that can reinforce accessibility knowledge within usable teaching materials about accessibility across higher education courses.

According to Lewthwaite & Sloan (2016), there is yet no formally agreed upon curricula focused on accessibility. Consequently, accessibility expertise is fragmented and distributed among different fields of education. Further, accessibility, which is typically categorized as a sub-subject of human-computer interaction (HCI) or web development, struggles for visibility as an academic topic in computing and related programs, such as computer science (CS) and information systems (IS) (Lewthwaite & Sloan, 2016). In 2018 and 2021, WebAIM (Web Accessibility In Mind) conducted surveys of web accessibility practitioners, receiving 724 responses in 2018 and 758 in 2021 (*WebAIM: Survey of Web Accessibility Practitioners #2 Results*, n.d.; *WebAIM: Survey of Web Accessibility Practitioners #3 Results*, n.d.). They found that only 5.5% of respondents in 2018 learned about web accessibility through formal schooling, such as high school or higher education, compared to 12.5% in 2021. This percentage remains relatively small compared to nearly 80% who learned through collaboration with peers or colleagues, or on-the-job

training and experiences. Additionally, around 90% of respondents reported learning accessibility via online resources such as Stack Overflow and WebAIM.org. Moreover, according to Teach Access (n.d.), practitioners in many (63%) companies do not have sufficient accessible technology skills and demand for accessibility skills will increase in the future. This lack of accessibility knowledge among web practitioners is one of the reasons why web sites still contain accessibility errors, which refer to issues in design, code, or content that prevent users with disabilities from effectively perceiving, navigating, or interacting with the site (Inal et al., 2020; Lazar et al., 2004; Vollenwyder et al., 2019).

The need for accessibility training may be due to inadequate instruction on the topic in higher education. Universities have a duty to train future professionals, and it is the responsibility of IS programs to raise awareness among students about accessibility (Lazar, 2002). Prior literature has revealed some basic principles and practices of accessibility that should be taught to future IT professionals, meaning individuals who design, develop, implement, and maintain IT systems and services, and the ways in which accessibility practices can be integrated into the undergraduate IS curricula (Whitney, 2019). However, we still need to understand more about which aspects of accessibility arouse the interest of students in this field and what factors motivate master's students to implement accessibility in their future careers and to improve accessibility education in IS. Therefore, we ask: *What factors would influence master students' intention to promote accessibility in their future careers?*

By knowing what factors influence or increase students' intention to promote accessibility in their future careers, we would be well positioned to develop teaching approaches that would serve inclusiveness, society, and the IT industry and place accessibility at the center of future practices. In this explorative study, we employed a questionnaire and a group interview with 31 master's-level university students enrolled in a stand-alone accessibility course held in 2022 and 2024 in Finland to explore their perceptions of accessibility and their intention and willingness to promote accessibility in their future careers, meaning the professional roles and responsibilities they are likely to take on after graduation within the field of information technology.

This work makes several contributions. First, we found that theories and practices, legislative perspective, the promotion of equality, the "there is still much to develop" perspective, personal interest, and an understanding of the impact of accessibility are all factors that influence students' interest in and intention to promote accessibility in the future. Second, we show how these factors can be integrated into the IS curricula. Third, we propose accessibility as a cross-cutting theme, meaning a topic that is integrated across multiple areas of the IS curricula rather than being confined to a single course or module, in response to its inclusion in the IS curricula.

The paper proceeds as follows. The following section provides a review of prior literature related to accessibility in the IS curricula and how it is taught. Next, the research method is outlined, after which we present the results of the questionnaire and group interview. We conclude the paper by discussing the implications of our findings.

2 Related Work

A competency model for undergraduate programs in IS by Leidig & Salmela (2020, p. 151) states the following objective for the IS curricula competency area for user interface design (A3.4.6):

"Students will learn to identify needs, experience, and capabilities of the system users along with understanding physical and mental limitations".

This objective reflects the strength of IS programs in technical systems development and in the user domain view, which refers to an approach that emphasizes the role of users in social systems tasks. In this view, users are seen as central contributors who provide input data and receive output information within the design and operation of information systems (Leidig & Salmela, 2022).

However, regardless of the great responsibility of IS programs to raise awareness among students about the topic of accessibility and users' physical and mental limitations, many students learn little about accessibility in higher education (Eyadat & Fisher, 2007; Kawas et al., 2019; Lazar, 2002; Shinohara et al., 2018). To educate the next generation of IS practitioners, the topic of accessibility must be taught and integrated into the IS curricula (Kawas et al., 2019; Lazar, 2002; Putnam et al., 2016; Shinohara et al., 2018; Whitney, 2019). Some previous studies of the integration of accessibility into the IS curricula and teaching are presented below.

2.1 Accessibility in the IS Curricula

Prior studies revealed that only a few IS or CS programs have fully incorporated accessibility into their curricula (Eyadat & Fisher, 2007; Jia et al., 2021; Kawas et al., 2019; Shinohara et al., 2018). For example, a study by Shinohara et al. (2018) surveyed 14,176 computing and information science faculty in 318 higher education institutions in the United States. They found that only 2.5% of the CS faculties included in their study taught accessibility, most of which taught it once a year, focusing mainly on design paradigms intended to prevent barriers faced by users with visual, hearing, or mobility impairments. Commonly, accessibility is taught as an add-on topic, with only minimal impact on student knowledge (Whitney, 2019). Accessibility is often confined to elective courses or embedded within human-computer interaction (HCI), making it easy to overlook core IS/CS curricula. A study by (Kuang et al., 2024) found that while accessibility assignments improved student understanding, they were rarely included in core courses unless specifically integrated by motivated instructors. Eyadat & Fisher (2007) revealed that the majority of undergraduate students usually lack knowledge of Universal Design (UD), which refers to designing products and environments to be usable by all people, regardless of age, ability, or status (Shneiderman, 2000); guidelines such as the Web Content Accessibility Guidelines (WCAG), which are internationally recognized standards developed by the W3C to ensure web content is perceivable, operable, understandable, and robust for users with disabilities (W3C, n.d.); and web accessibility testing tools, which are software tools used to assess whether websites meet accessibility standards and are accessible by people with diverse needs (Initiative (WAI), n.d.-b). Therefore, the basic concepts of web accessibility, UD, WCAG (e.g. Section 508 of the US Rehabilitation Act, WCAG) and web accessibility testing tools should be introduced to students in the first course in which accessibility is covered (Eyadat & Fisher, 2007). However, it is important to note that accessibility is more than simply complying with guidelines. Therefore, accessibility should be an integral part of the IS curricula – as a norm rather than an exception (Eyadat & Fisher, 2007; Kawas et al., 2019).

Above all, awareness of accessibility and user sensitivity, among other topics, should be the first step towards educating future web designers and developers during their education and later on when designing and creating IT artefacts (Eyadat & Fisher, 2007). The user domain view of IT development compels designers and developers to consider IT artefacts that work with different input and output devices, such as adaptive keyboards, touch screens and screen readers, which are needed by users with disabilities (Eyadat & Fisher, 2007). Thus, IT artefacts, such as websites, must be both understandable and compatible with different input or output devices.

The IS curricula should include software development that also covers the development of web authoring tools and user agents (Eyadat & Fisher, 2007). User agents include desktop graphical browsers, text browsers, voice browsers, mobile phones, multimedia players, plug-ins and assistive technologies, such as screen readers, screen magnifiers, and voice recognition software. In practice, accessibility should be an integral part of courses that introduce XHTML (eXtensible Hypertext Markup Language), Java, JavaScript and Cascading Style Sheets (Eyadat & Fisher, 2007). However, only a few faculties have included accessibility in their programming courses (Jia et al., 2021). The IS curricula by Leidig & Salmela (2020) contains a number of courses in which accessibility could be appropriately incorporated. Lazar (2002) proposed courses such as Systems Analysis and Design, Web Design, E-Commerce, HCI and Computer Ethics that could incorporate accessibility.

In a study by Shinohara et al. (2018), most of the survey students believed that accessibility should be taught in CS degrees but that a lack of expertise and the absence of clear and disciplinary-specific accessibility learning goals in sub-region-specific materials, as well as the lack of faculty knowledge about accessibility, were the main barriers. Similarly, Kawas et al. (2019) found that even though most CS faculties have barely integrated accessibility into their curricula, many faculty members have expressed the desire to do so. On the other hand, in a study by Shinohara et al. (2018), faculty members did not consider accessibility to be a key topic in the curricula and stated that they did not know enough about accessibility to effectively teach it. Within computing education, accessibility is usually taught in courses related to HCI and web design (Jia et al., 2021; Whitney, 2019). Therefore, the expertise of those who teach accessibility is most commonly derived from these two fields (Shinohara et al., 2018). More precisely, according to Shinohara et al. (2018), almost all HCI experts stated they were teaching accessibility, and those who were not most commonly had expertise in algorithms, theory, artificial intelligence, machine learning and programming languages. Most of those faculties that have adopted accessibility teach it once a year and focus mainly on design paradigms intended to prevent barriers faced by users with visual, hearing and mobility impairments (Shinohara et al., 2018).

In a study by Kawas et al. (2019), faculty members reported limitations on access to accessibility materials needed for their courses. In response, they proposed micro-integration that would include accessibility not as a module but instead as an integrated part of different courses in the curricula. Micro-integrations are brief, targeted learning experiences that connect accessibility topics directly to existing CS course content. Instead of requiring faculty to overhaul their entire curriculum or attend extensive training, these micro-modules offer just-in-time resources, examples, and materials that can be easily embedded into lectures, assignments, or discussions Kawas et al. (2019). Their proposal was viewed as both promising and potentially valuable by faculty members, which is likely because these faculty felt that the existing curricular framework did not have sufficient space for new courses, thereby narrowing their options (Kawas et al., 2019; Lazar, 2002). They also felt that busy schedules, the course approval process, and general time constraints limited the scope of new changes (Kawas et al., 2019; Lazar, 2002). A study by Weeden (2023) shows that the topic of accessibility lacks systematic integration, dedicated accessibility courses are rare, and most universities lack structured pathways for students to gain accessibility competencies. A content analysis of syllabi in Library and Information Science programs by Mallary et al. (2023) revealed that accessibility topics are mostly covered in electives, meaning many students graduate without exposure to them. Bong & Chen (2024) identified a lack in faculty expertise and training gaps. They conducted a systematic review showing that many faculty members lack training in digital accessibility, which limits their ability to teach it effectively.

2.2 Practices for Teaching Accessibility

Teaching accessibility may include some challenges that are related to lack of interest from both students and administration, or to a lack of accessibility awareness among computing instructors who are not familiar with accessibility (Putnam et al., 2016). Accessibility is therefore often linked to faculty members' research and/or personal commitment (Putnam et al., 2016). Moreover, technological change may create challenges in updated information and resources about teaching accessibility. There seems to be a large gap between the needs of instructors and available resources to teach about accessibility. Instructors often use multiple resources, such as research papers and online resources, but lack the availability of a comprehensive textbook (Putnam et al., 2016).

Putnam et al. (2016) presented practices in teaching accessibility in university-level programs in the U.S. They argued that to develop awareness and understanding of user diversity, several different learning experiences should be included in teaching, such as projects that directly involve users with disabilities, guest speakers, field trips, simulations of disabilities and videos (Putnam et al., 2016). According to Rosmaita (2006), accessibility should be taught immediately at the introductory level to affect a larger number of students. It is also important to integrate some literature related to disabilities into the course content to motivate accessibility.

Introductory-level students often perceive a good website as one they like themselves. That is, they often consider themselves to be a typical user, which refers to a mindset that assumes that if a design works for them, it works for everyone (Rosmaita, 2006; Waller et al., 2009). This is why it is important that in the first course in which accessibility is introduced students are familiarized with a variety of users' abilities so they can understand that their work must be available to, for example, visually impaired users. In other words, students must be encouraged to think about website users as people different than themselves (Rosmaita, 2006; Waller et al., 2009). Towards this end, Genaro Motti & Dura (2021) used persona cards to introduce users with diverse needs to students and motivate them to promote accessibility. These cards, which included 16 profiles of users with visual, hearing, motor, cognitive and multiple impairments, were intended to encourage discussions about how to make interactive solutions more accessible for users with diverse needs. According to their results, the use of persona cards increased students' interest and motivation to apply accessibility principles.

Poor et al. (2009) conducted a study of students' attitudes towards accessibility at the beginning and end of a usability engineering course. They incorporated the accessibility component into project work completed in the course. The results of their study showed that the most significant change in students' thinking was a broader view of users, one which increased the students' ratings of the importance of issues related to accessibility. Jia et al. (2021) presented two examples of how accessibility can be integrated into introductory programming and object-oriented programming courses without separating the topic into a module or an add-on but instead integrating it into the original content of the course. To teach programming and accessibility topics simultaneously, first, for the introductory programming course, Jia and colleagues recommended adding accessibility-related content to the programming assignments.

Second, for object-oriented programming courses, they recommended adding accessibility to data collection and analysis assignments. By integrating accessibility into programming, the application of accessibility knowledge received from HCI or related courses can be reinforced among students, thereby diminishing the gap in accessibility teaching in higher education (Jia et al., 2021). Teaching should prepare graduates to consider technological, legal and business perspectives of web design (Whitney, 2019). For instance, Whitney (2019) introduced a web design course intended to develop an accessible design mindset among students with the following content topics: Explanation about WCAG; Accessibility assessment tools; and Accessibility design related to Hypertext Markup Language (HTML) and Cascading Style Sheets including colors, contrast, layout, animation, and responsiveness (Whitney, 2019).

Summarizing prior studies related to teaching accessibility in IS programs, some general concerns can be identified:

1. The current form of the IS curricula does not have enough space to teach accessibility in many stand-alone courses, which the learning objectives of the topic may require awareness of the topic, introduction of human diversity, laws, guidelines, assessments tools, business perspectives, implementation of technical perspectives, etc. However, there is yet no general agreement or consensus on the learning objectives for accessibility courses.
2. Accessibility is inherently multidisciplinary, requiring collaboration between fields such as design, engineering, communication, cognitive sciences, education, and policy. This integrated approach reflects the view that accessibility is not only a technical feature, but a societal responsibility grounded in inclusive values (Greco, 2018; Teixeira et al., 2024). Therefore, it is important to integrate accessibility into courses for which it may be relevant. However, when such integration constitutes add-on teaching, it will not have a sufficient impact on students' knowledge of the topic to make them capable of applying it later.
3. Extant literature has a good sense of what topics should be taught and what kinds of approaches in IS education can be applied but less is known about what makes students feel that accessibility is important and what would increase their willingness to promote accessibility later in their careers.

Against this background, we aimed to address these concerns.

3 Method

In this study, we recruited a total of 31 university students enrolled in a master's-level stand-alone web content accessibility course (5 European Credit Transfer and Accumulation System, equivalent to 135 hours of student workload) held in spring 2022 and 2024 at University of Vaasa, Finland (see Appendix A for the course content). The course was taught by two teachers, the same who authored this paper. The prerequisite for the course was an introductory course in HCI, including one introductory lecture on accessibility lasting two hours. The students were primarily in their last year of the master's program in information systems (12/31, 38.7%) or technical communication (16/31, 51.7%), which included majors in information systems (6/31, 19.4%) and communication studies (10/31, 32.3%). Four students had enrolled from other programs.

Of the 31 students, nine reported having no or only minimal familiarity with digital accessibility before the course, while ten had encountered the topic only superficially in earlier studies. Seven students indicated having moderate prior experience through work or academic projects, and five reported more substantial prior knowledge, including technical accessibility work, external training, or applied accessibility projects.

We also asked the students about their HTML proficiency. The results show that 29 possessed at least a basic level of HTML skills. Seventeen students were able to either build web pages or modify existing code, while two reported having no prior experience with HTML.

The students participated in the study voluntarily. For those students who chose not to participate, their decision had no impact on their course grades. Participants were given the opportunity to withdraw or suspend their consent at any time. Students were informed about the research, and their separate consent was requested for participation in the study.

All materials produced by the students were anonymized before being handed over for research purposes. Notably, the collected data included discussions held during the course on Zoom and their recordings. However, these recordings were not transferred from the course platform before

anonymization, ensuring that no separate personal data register was created. Similarly, surveys were conducted anonymously, and no personal data was collected. This study follows the guidance of the ethical principles of research with human participants and ethical review in the human sciences in Finland (Finnish National Board on Research & Integrity TENK guidelines 2019, n.d.). The research has a research permit granted by the target university.

3.1 Data Collection

The data of this study consists of responses to a questionnaire and a focus group interview. We developed an anonymous online questionnaire with open-ended questions asking students about their perceptions of accessibility. The questionnaire was administered at the end of the courses. We asked 12 questions; the list of questions is presented in Appendix B. All participants (N=31) responded to the questionnaire. Twenty-four students did the questionnaire in 2022, and seven students did the questionnaire in 2024.

We collected data from two different year groups to ensure the data's timeliness. Although the responses were not evenly distributed between the years, the 2024 survey served as a validation of the 2022 survey. According to the data obtained from the survey, the responses did not differ from those of the previous year, making the group interview for 2024 unnecessary for this purpose. The questionnaire and group interview were conducted in Finnish, and all responses presented in this paper were translated into English.

In 2022, we then invited the students to participate in a focus group – an unstructured (Zhang & Wildemuth, 2016) qualitative group interview (Tuuri & Peltola, 2014) – to explore and explicate their individual in-depth views of their experiences and perceptions of accessibility. Through the interview, we sought to elicit the views and experiences of the students in a conversational manner (Clifford et al., 2016). We did so because it allowed spontaneity in the development of the questions asked during the interview based on the interviewees' responses. We also aimed to offer participants the chance to discuss the issues they felt to be the most important. Sixteen of the 31 students who completed the questionnaire participated in the group interview. The group interview was conducted by one of the authors via Zoom during the final class session of the course (Spring 2022) and lasted 26 minutes. The students, therefore, had around two months to get to know each other and to become accustomed to discussions with each other. The participants did not use computer cameras during the group interview. The list of the questions presented in the group interview is presented in Appendix C.

3.2 Data Analysis

To analyze the collected data, we conducted a thematic analysis, which is a method to analyze qualitative data. It entails identifying and reporting patterns within a data set, which are subsequently interpreted to uncover their inherent meaning (Braun & Clarke, 2006). These patterns emerge from analyzing the significance of keywords used by participants. The thematic analysis involved six steps: (1) Transcribing the data; (2) Creating a lens (overarching categories); (3) Familiarizing with the data and selecting words and phrases (i.e. codes) that match the overarching categories; (4) Grouping the codes and giving names to the groups (= sub-themes); (5) Aligning the sub-themes with the overarching categories; (6) Creating themes.

In the first step we prepared our data that contained responses from the questionnaire in 2022 and 2024 and a 26-minute-long recording from the group interview in 2022. One author transcribed the recording and anonymized the dataset by removing all personal identifiers that could compromise participants' anonymity. Both the questionnaire responses and the interview transcript were then read and coded in the same manner.

In the second step, we created a lens through which we would analyze and explore topical areas in the quotations. We call this lens "overarching categories" that relate to the following questions we posed to address the primary aim of the study (factors influencing master students' intention to promote accessibility in their future careers):

- Conceptual category: What are the key elements, domains, or dimensions of accessibility? Here, *elements* refer to the most basic segments of data that represent key components, domains, or dimensions of accessibility.

- Perspective category: What are the positive, negative, or indifferent comments regarding accessibility? *Comments* are participant statements that reflect positive, negative, or neutral attitudes toward accessibility.
- Characteristic category: How do participants express intrinsic motivation regarding accessibility? *Motivation* captures expressions of intrinsic drivers, such as personal values or interest, that influence participants' stance on accessibility.
- Setting category: What is the context and actors related to accessibility? *Context* and *actors* refer to situational factors and stakeholders (e.g., students, instructors, organizations) involved in accessibility practices.

In the third step, we read and reread the questionnaire responses and the transcript of the recording. We highlighted inductively recurring items of interest, such as noteworthy comments, which matched the identified categories. We call these highlighted words and comments codes. In total, we found 119 unique codes.

In the fourth step, we grouped the codes and named them. We refer to these groups as sub-themes.

In the fifth step, we aligned the sub-themes with the overarching categories. The analysis would have worked even without this step, but in this way, we aimed both to emphasize the categories and to make the stages of the analysis more transparent.

Lastly, in step six, we named the final themes i.e. the factors and selected appropriate quotes to support each factor.

One author first conducted the initial coding that matched the overarching categories. After this, the preliminary codes were presented to the second author in a meeting where the dataset was systematically reviewed to ensure agreement on the coding. During the meeting, clarifications were made, and the codes were jointly grouped into subthemes, and the final themes were named. All findings were reviewed by both authors. The themes were validated by examining them against the entire dataset and ensuring that each theme was sufficiently supported by original quotations. This validation procedure was conducted collaboratively.

4 Results

Results are organized as follows: We first present the constitution of sub-themes that are aligned into overarching categories: conceptual, perspective, characteristic, and setting category. Then, to answer the RQ, we illustrate how we concluded the final themes, i.e., factors that would influence master students' intention to promote accessibility in their future careers.

4.1 Conceptual Category (What are the key elements, domains, or dimensions of accessibility?)

The conceptual category includes the codes that relate to elements, domains, or dimensions of accessibility. This overarching category is constituted from the following eight sub-themes: (1) Technical design; (2) Design principles; (3) Content; (4) Legislation; (5) Concept of accessibility; (6) Theories; (7) Methods and Tools; (8) Responsibility. Sub-themes of conceptual overarching category are described in Table 1. Next, we will further elaborate on these sub-themes. References to the questions (Q)1-12 asked in the questionnaire are presented in Appendix B. Group interview questions (GIQ)1-10 are presented in Appendix C.

Table 1. Sub-Themes of Conceptual Category with Related Codes

Sub-Themes	Codes
Technical design	Technicalities (Q8); programming (Q8); ARIA (Accessible Rich Internet Applications) (Q8); HTML(Q8); assistive technology(Q8); and PDF(Q8).
Design principles	Accessibility heuristics (Q6); accessibility principles (Q8); WCAG (Qs 6;12;8, GIQ4; GIQ5); the usability development of assistive technology (Q6); user interface design (Q8); and the inadequacy of current guidelines (Q6).
Content	web content accessibility (Q6); available content/tool (Q9); and different file formats (Q8).
Legislation	EU directive (Q12); and the law (Q6).
Concept of accessibility	Accessibility awareness (Q10); knowing what accessibility is (Q9); the meaning of the concept (Q9); training accessibility (Q8); excellent literacy (Q8); information acquisition (Q8); and website

	accessibility (Q6; Q8).
Theories	Applying theories (Q8); behavioral psychology (Q8); the interconnection between accessibility and usability (Q6); and usability (Q9).
Methods and Tools	Automatic evaluation tools (Q8); automatic tests (Q12); automatic tools (Q12); available content/tool (Q9); methods and understanding to identify different user needs (Q8); tools (Q12); understanding clients' needs (Q8); understanding of how many people need accessible services (Q12); needs and constraints (Q11); and easy and plain language (Q8).
Responsibility	Social responsibility (Q10); management commitment (Q11); organizational context (Q8); considering general issues (Q8); and equality (Q9).

In exploring the sub-theme of *Technical Design*, various elements emerged from the students' responses. These included technicalities, programming, ARIA, HTML, assistive technology, and PDF accessibility. These insights were gathered from question eight (Q8), "What things do you expect an accessibility expert to know?". Out of the 31 students who responded, eight emphasized the importance of understanding technicalities in general, six highlighted the necessity of programming skills, and individual students pointed out the significance of PDF accessibility, assistive technology, and ARIA.

Beyond the technical aspects, another sub-theme identified was *Design Principles*. This encompassed accessibility heuristics, accessibility principles, WCAG, the usability development of assistive technology, user interface design, and the perceived inadequacy of current guidelines. For instance, seven out of the 31 students expected accessibility experts to be knowledgeable about WCAG. These themes collectively paint a comprehensive picture of the skills and knowledge areas deemed essential for accessibility experts by the students.

The *Content* sub-theme delves into various aspects of accessibility within the context of websites. This sub-theme is derived from three main areas: web content accessibility, the availability of content and tools, and the use of different file formats. When asked "Do you feel that accessibility expertise is also useful in non-accessibility specialist assignments/employment in general?" (Q9), one responded:

"Yes, especially those who technically design and implement content. Without accessibility expertise, content may be inadvertently restricted beyond the reach of a group of people."

They noted that without such expertise, content might unintentionally become inaccessible to certain groups of people. This underscores the broader relevance of accessibility knowledge in various professional contexts.

The sub-theme of *Legislation* encompasses two main areas: the EU directive and the law. Interestingly, when asked what aspect of the course sparked students' intention to implement accessibility, one respondent mentioned being inspired by the EU Directive and the Digital Service Act.

The *Concept of Accessibility* covers the broad domains of accessibility, including awareness, understanding what accessibility is, the meaning of the concept, training, excellent literacy, information acquisition, and website accessibility. These insights were gathered from various questions, highlighting the multifaceted nature of accessibility.

We also identified a sub-theme related to *Theories* of accessibility, which includes applying theories, behavioral psychology, the interconnection between accessibility and usability, and usability itself. However, to focus on practical aspects, we separated the codes related to *Methods and Tools*. This sub-theme includes automatic evaluation tools, automatic tests, available content and tools, methods for identifying different user needs, understanding clients' needs, understanding how many people need accessible services, needs and constraints, and the use of easy and plain language. For instance, when asked about the most impactful aspect of the course (Q12), one respondent highlighted the automatic tests conducted on selected websites as particularly influential. On the other hand, for some of the students the tools itself were not inspiring, but they were more interested in general matters on accessibility, like its importance:

"Perhaps more of a thing among others. I understand why it is important, but playing with tools and code didn't really give me the impression that I was very excited in a professional sense about the subject." (Q12)

The final sub-theme, *Responsibility*, encompasses several key areas: social responsibility, management commitment, organizational context, consideration of general issues, and equality. Responsibility is viewed as an inherent aspect of a company's actions and its approach to accessibility in its products. For

instance, one respondent emphasized that considerations of human abilities should permeate all company tasks and procedures, ultimately making accessibility everyone's responsibility:

"Considerations of human abilities reflect all company tasks and procedures and is ultimately the responsibility of everyone." (GIQ8)

This highlights the collective duty within organizations to ensure accessibility is integrated into all aspects of their operations. Responsibility is seen as a de facto of companies' act and considerations of accessibility in their product.

In summary, the exploration of accessibility within the context of technical design, content, legislation, and responsibility reveals a comprehensive understanding of the essential knowledge and skills required for accessibility experts. The sub-themes of *Technical Design* and *Design Principles* highlight the importance of technicalities, programming, ARIA, HTML, assistive technology, and PDF accessibility, alongside broader design principles like accessibility heuristics and WCAG. The *Content* sub-theme emphasizes the significance of web content accessibility, the availability of content and tools, and the use of different file formats. This underscores the necessity for accessibility expertise in various professional roles to ensure content is accessible to all. *Legislation*, such as the EU Directive and Digital Service Act, plays a crucial role in motivating the implementation of accessibility practices. The *Concept of Accessibility* and *Theories* of accessibility further illustrate the need for awareness, understanding, and the application of theories related to accessibility and usability. Finally, the *Responsibility* sub-theme underscores the collective duty within organizations to integrate accessibility into all aspects of their operations, reflecting social responsibility, management commitment, and equality.

These insights culminate in three overarching themes: theories and practices, which encompass the practical and theoretical aspects of accessibility; the legislative perspective, highlighting the influence of laws and directives; and the promotion of equality, emphasizing the ethical responsibility to ensure accessibility for all.

4.2 Perspective Category (What are the positive, negative, or indifferent comments regarding accessibility?)

The perspective category describes students' comments and thoughts regarding accessibility. This overarching category is constituted from the following five sub-themes: (1) Equality; (2) Modern trend; (3) Benefit for all; (4) Accessibility competence is useful; (5) Importance. Sub-themes and related grouped codes of perspective overarching category are illustrated in Table 2.

Table 2. Sub-Themes of Perspective Category with Related Codes

Sub-Themes	Codes
Equality	The promotion of equality is an important motivator (Q12); accessibility is a human rights issue (Q10); considering people's equality (GIQ1); discrimination faced by people with disabilities (Q12); equality (GIQ8); human rights (GIQ8); it is a human right (Q12); promotes equality (GIQ8).
Modern trend	[Accessibility] will be in high demand in the future (Q10); [accessibility] of modern age (Q9); [accessibility] is an important topic (Q5); [accessibility] is a trend of the future (Q10).
Benefit for all	A really big benefit (Q9); I think it will do a lot of good (Q9); how much it can actually help people (Q12).
Accessibility competence is useful	I feel that accessibility expertise is also useful (Q9); I feel that accessibility expertise is also useful (Q9); accessibility can nonetheless be integrated into one's work without it necessarily involving any additional work (GIQ8); accessibility competence will also be useful (Q9); accessibility expertise is also useful (Q9); accessibility is considered difficult in work life (GIQ3); accessibility is perceived as a burden (GIQ2); accessibility should be taught in a university (Q10); an essential part of everyone's job description (Q10); because accessibility requirements are a fairly new thing (Q12); competence as also being useful (Q7); I believe that university education is key (Q10); I experience accessibility expertise to be useful (Q9); really useful (G10); without accessibility expertise, content may be inadvertently restricted beyond the reach of a group of people (Q9); I think it would be good to have an integrated part (Q10); there is still development to be done (Q12).
Importance	I think it is important (Q10); I'm sure [accessibility is important] (Q9); importance of accessibility (Q12); the topic [accessibility] was important (Q7); understanding the importance of accessibility (Q6); I think accessibility is interesting (Q12).

Equality is a multifaceted category that encompasses various crucial aspects. The promotion of equality serves as a significant motivator, driving efforts to ensure that everyone is treated fairly. Accessibility is

recognized as a fundamental human rights issue (United Nations, 2006), emphasizing the importance of considering people's equality in all aspects of life. This perspective highlights the discrimination faced by people with disabilities and underscores the need to address these challenges. Equality and human rights are intertwined, with the belief that accessibility is not just a privilege but a human right. Promoting equality is essential for creating a more inclusive and just society, where everyone can thrive. For example, when asking "Should accessibility be taught at a university? Why?" (Q10) one responded:

"The realization of accessibility is a human rights issue in a digitalizing society."

The *Modern trend* of accessibility is increasingly recognized as a crucial aspect of our future. Many believe that accessibility will be in high demand, reflecting its importance in the modern age. This topic is not only seen as significant but also as a natural part of contemporary life. For instance, ten students highlighted accessibility as an important topic, illustrating how the mindset of accessibility is becoming ingrained in our society. These perspectives underscore the growing trend of prioritizing accessibility, ensuring that it remains a key focus as we move forward. The following examples show how some students see the mindset of accessibility as a natural part of modern age:

"Especially in managerial positions, this [expertise on accessibility] is extremely useful in order to design services/products for as many customers as possible. Customization is the modern age." (Q9)

"I have noticed that accessibility is a trend of the future and related jobs will certainly be in high demand in the future." (Q10)

"Yes. I think it's an important part of software development, design, and content. Thus, accessibility skills could be normalized with a university degree for those entering the workforce, and thus would likely spread as a competence requirement even to those who come from other backgrounds, for example in software development. I believe that university education is key to the wider spread of accessibility awareness." (Q10)

The concept of *Benefit for all* is highlighted by several key points. Many believe it offers significant advantages, with one respondent noting it as "a really big benefit" (Q9). This perspective is shared by others who think it will do a lot of good and recognize how much it can help people. One respondent emphasized that available content and tools often translate to usability for everyone, underscoring the widespread positive impact of accessibility. For example, when asked "Do you feel that accessibility expertise is also useful in non-accessibility specialist assignments/employment in general? Justify briefly." (Q9), one responded:

"A really big benefit. Available content/tool most often also means usability for everyone."

We gathered students' thoughts on the usefulness of having accessibility competence in various contexts. The consensus was clear: accessibility expertise is highly valued. Many students felt that *Accessibility competence is useful* and can be seamlessly integrated into their work without adding extra burden. Despite some perceiving accessibility as challenging or burdensome in the workplace, the majority agreed that it should be an essential part of everyone's job description and taught at universities. This is particularly important as accessibility requirements are relatively new. Students highlighted that without accessibility expertise, content might inadvertently exclude certain groups. They also noted that there is still room for development in this area. Interestingly, none of the respondents dismissed the importance of accessibility competence, even those not pursuing careers in computing. This underscores the broad recognition of its value across different fields. From our data set, we did not identify any respondents who do not see the competence of accessibility as useful, even in cases where they are not heading for careers in computing areas.

We identified the *Importance* of accessibility as a unique sub-theme, reflecting students' overall thoughts on the matter. Many students expressed that they believe accessibility is crucial, with some stating they are sure of its importance. The topic of accessibility was frequently highlighted as significant, and there was a strong emphasis on understanding its importance. Additionally, some students found accessibility to be an interesting subject. This collective recognition underscores the widespread acknowledgment of accessibility's vital role in various contexts. When asked "What do you think was "the thing" in the course that sparked your intention to implement accessibility?" (Q12), one student answered:

"Perhaps an understanding of how many people need accessible services. I am so accustomed to using different websites/services that I have not previously thought about or

outlined how different the "world" can be, for example, due to some physical constraint, because the smooth use of web pages is not obvious."

In conclusion, we identified overarching themes. *The promotion of equality* is underscored by the recognition that accessibility is a human rights issue and offers significant benefits for all, ensuring that everyone can participate fully in society. Despite the progress made, *There is still much to develop*, as highlighted by the modern trend of increasing demand for accessibility and the ongoing need for improvements. *Personal interest* in accessibility competence is evident, with many students acknowledging its usefulness and advocating for its integration into various professional roles. Finally, there is a growing *Understanding of the impact of accessibility*, with students recognizing its importance and expressing a strong interest in the topic. These insights collectively emphasize the critical role of accessibility in promoting equality, driving development, fostering personal interest, and enhancing overall understanding.

4.3 Characteristic Category (How do participants express intrinsic motivation regarding accessibility?)

The characteristic category constitutes from the following four sub-themes we identified: (1) Development of tools for enhancing accessibility; (2) Personal interest for the subject; (3) Willingness to improve accessibility; (4) Willingness to enhance own knowledge. The characteristic category is an overarching category that describes students' characteristics regarding their intrinsic motivation and interest in accessibility. Sub-themes and related grouped codes of characteristic overarching category are illustrated in Table 3.

Table 3. Sub-Themes of Characteristic Category with Related Codes

Sub-Themes	Codes
Development of tools for enhancing accessibility	I had an interest in how to develop it easier so that developing accessibility would not be a burden (GIQ3).
Personal interest for the subject	Personal interest in the subject (Q5); blind person's webpage accessibility, I have a blind little brother (Q12); interested (Q7); not interested (Q7); could not imagine working [within accessibility] (Q7).
Willingness to improve accessibility	My attitude has basically been one that I want to implement accessibility (Q12); promoting equality (Q12); to guarantee equal opportunities for everyone (Q12).
Willingness to enhance own knowledge	Own knowledge (Q7).

The *Development of tools for enhancing accessibility* includes only one code but it reveals an interesting viewpoint of areas of interest. This sub-theme is derived from the code found from the group interview when asked "Have you had any thoughts on how to make it [accessibility development] easier?" (GIQ3). The student who responded raised concerns among web developers about the lack, or inadequacy of tools with the following quotation:

"I was interested in finding ways to make development easier, so that improving accessibility would not feel burdensome."

In exploring the aspects of *Personal interest for the subject*, several themes emerged. One student expressed a deep personal interest, while another highlighted the importance of webpage accessibility for blind individuals, inspired by their blind little brother. The responses varied, with some students showing keen interest and others not as much, and a few even admitting they could not imagine working within the field of accessibility. Interestingly, 11 students shared that they had a personal interest in the subject, underscoring its significance to them.

The *Willingness to improve accessibility* can be seen through three distinct perspectives. Some individuals have a fundamental attitude geared towards implementing accessibility, driven by a desire to promote equality. Others are motivated by the goal of guaranteeing equal opportunities for everyone. These varied yet interconnected motivations highlight a collective commitment to enhancing accessibility for all. For example, when asked "What do you think was "the thing" in the course that sparked your intention to implement accessibility?" (Q12), one student answered:

"The interest was already there, but in general, when you sort out how much it can actually help people get to the sources of information and, in the end, pretty simple stuff. At least there would be a lot of work."

Among the 30 respondents to Q7 "Could you imagine working as an accessibility expert? Justify your response.", 20 expressed a willingness to work as accessibility experts. For 18 of them, this willingness stemmed from the importance they placed on the topic, while two felt confident due to their existing knowledge. This led to the identification of a theme we called *Willingness to enhance own knowledge*, reflecting the students' desire to improve their overall knowledge and competence, even if accessibility was not their primary interest. However, eight respondents could not envision themselves as an accessibility expert, though three acknowledged that having accessibility competence could be beneficial in other areas.

In conclusion, findings in the characteristic category refer to two overarching themes. The first, "There is still much to develop," is underscored by the sub-theme of developing tools for enhancing accessibility, indicating ongoing needs and opportunities for innovation in this area. The second theme, "Personal interest," is reflected through sub-themes such as personal interest in the subject, willingness to improve accessibility, and the desire to enhance one's own knowledge. These themes emphasize the importance of continued development and personal engagement in accessibility.

4.4 Setting Category (What is the context and actors related to accessibility?)

This overarching category consists of sub-themes that describe in what context students think accessibility should be considered and what are the actors that promote it. The setting category is constituted from the following eleven sub-themes: (1) Private sector; (2) Public sector; (3) Governmental; (4) Content production; (5) Communication; (6) Website design; (7) Software development; (8) Service/product design; (9) Education; (10) Management; (11) Overall. Sub-themes and related grouped codes of setting overarching category are illustrated in Table 4.

The list of sub-themes contains several sub-themes based only one code which is justified to make the description of the contexts as comprehensive as possible.

Table 4. Sub-Themes of Setting Category with Related Codes

Sub-Themes	Codes
Private sector	Private sector players (Q9); and non-accessibility specialist positions (Q9).
Public sector	Accessibility to having at least all public websites accessible (Q10); and public administration (Q9).
Governmental	Social service (Q9); legislative perspectives (Q12); mandatory part of websites by law (Q10).
Content production	Content production (Q9); content providers and website creators (Q9); design and implement content (Q9); content providers (Q9); production of information (Q10); content (Q10).
Communication	Communication and content production (Q9)
Website design	Content providers and website creators (Q9); website creators (Q9); design (Q10); customer-oriented development (Q10).
Software development	Software development (Q10); customer-oriented development (Q10).
Service/product design	Design services/products (Q9).
Education	Education (GIQ3); integrated part of everything in teaching (GIQ3); other educational institutions (Q10); school activities (Q9).
Management	Managerial positions (Q9).
Overall	Any future job positions (Q9); everyone working in the field (Q9); those who come from other backgrounds (Q10); working life (GIQ8).

The sub-theme *Private sector* is constituted by the codes; private sector players and non-accessibility specialist positions. On the other hand, the *Public sector* is constituted by codes indicating commitment to making all public websites accessible and its role in public administration. Additionally, we identified a sub-theme termed *Governmental*, which includes social services, legislative perspectives, and the mandatory inclusion of accessibility features on websites by law.

When examining the responsibilities for developing accessibility, students identified several key actors, such as content creators, website designers, software developers, and service designers, whom they consider responsible for implementing accessibility. *Content production* emerged as a significant sub-theme, encompassing content providers, website creators, and those involved in designing and implementing content. *Communication* was also highlighted, particularly in relation to content production. *Website design* was another crucial area, involving content providers, website creators, and those focused on customer-oriented development. *Software development* was recognized as a vital component, with an

emphasis on both software development and customer-oriented approaches. *Service and product design* were also noted for their importance in creating accessible solutions.

Students further emphasized the roles of educational and managerial actors. *Education* was seen as integral, with reference to its inclusion in teaching, other educational institutions, and school activities. *Management* was identified through the categorization of managerial positions.

Lastly, we acknowledged an *Overall* sub-theme for codes that did not fit into the previously mentioned sub-themes. This included future job positions, individuals working in the field, those from diverse backgrounds, and the broader context of working life.

In conclusion, our findings highlight how students see the intricate roles of various actors across both the private and public sectors in fostering accessibility. The private sector's contributions through content production, communication, website design, software development, and service/product design are seen crucial. Meanwhile, the public sector's commitment to accessibility, supported by governmental initiatives, underscores its importance. Educational and managerial actors further emphasize the need for integration of accessibility into educational and managerial contexts. These contexts arising from the sub-themes together form a final theme that illustrates the importance of *Understanding the impact of accessibility*.

4.5 Answer to RQ: What factors would influence master students' intention to promote accessibility in their future careers?

To answer the research question, we named final six themes that represent the factors that would influence master students' intention to promote accessibility in their future careers: (1) Theories and practices; (2) The legislative perspective; (3) Promotion of equality; (4) The "there is still much to develop" perspective; (5) Personal interest; and (6) an Understanding of the impact of accessibility;

In Figure 1, we illustrate the final themes derived from the sub-themes which represent the factors that influence information systems master students' intention to promote accessibility in their future careers.

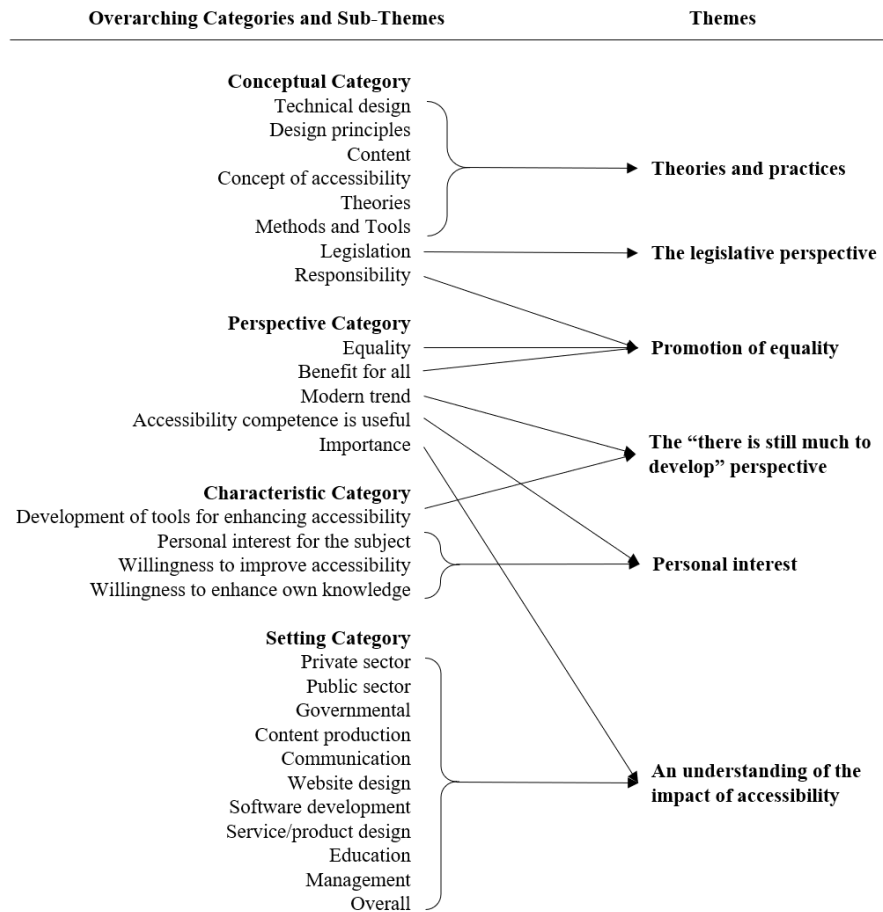


Figure 1. Factors that Influence Information Systems Master Students' Intention to Promote Accessibility in their Future Careers

Theories and practices, such as WCAG, accessibility heuristics and accessibility implementation on websites, were interesting, and knowing about them strengthened the students' intention to promote accessibility later in their careers. The participants criticized WCAG, however, as being difficult to understand in the beginning and not quite easy to use. WCAG was nonetheless understood to be particularly important to know and was considered especially useful with automated evaluation tools to detect accessibility errors. The participants, however, realized that tools alone are inadequate to make websites fully accessible.

Legislative perspective emerged when asking about what stimulated the participants' interest in accessibility, when asking about what accessibility experts should know, and when asking about what should be taught at university. Some of the participants mentioned that legislation was a boring subject – i.e. it did little to stimulate motivation – but most considered it to be crucial to know.

According to the questionnaire and the group interview, promoting equality seemed to be a motivator. The students were eager to develop systems that did not oppress people. They were also concerned with social responsibility among private companies.

The *"there is still much to develop"* perspective among students was an unexpected and interesting insight. The participants perceived that the development of accessible websites – and accessibility itself – continued to have issues that needed to be resolved. More specifically, they perceived the following challenges: different levels of awareness among stakeholders about the importance of accessibility, attitudes towards the development and management of accessibility, the elicitation of users' actual needs, and how to genuinely address these needs, as well as compromises between different solutions, definitions of the level of accessibility, and balancing between costs, visuality and accessibility. The

participants also identified research issues, such as the development of usable assistive technology and the definition of the interconnection between accessibility and usability.

Personal interest also influenced interest in accessibility among some participants. Eleven of the 31 participants expressed having a personal interest in accessibility, one which motivated them to learn more about the topic.

An understanding of the impact of accessibility was the most crucial factor that made the participants realize how important accessibility is and how much it affects interaction. The participants also stressed the importance of awareness of the topic in education and work life. Also, they emphasized that lack of awareness of accessibility in development and management was one of the biggest obstacles to its realization.

5 Discussion

This paper contributed to three issues: the teaching of accessibility in the current IS curricula, the multidisciplinary nature of accessibility, and students' perceptions of accessibility and the factors that strengthen the intention and willingness to promote accessibility.

As a contribution to the issue of teaching accessibility in the current IS curricula, we agree with prior studies that accessibility should be taught and integrate into the IS curricula (Kawas et al., 2019; Lazar, 2002; Putnam et al., 2016; Shinohara et al., 2018; Whitney, 2019). All the participants in our study stated that accessibility was important, useful, and beneficial in a variety of fields. According to Whitney (2019), accessibility is often taught as an add-on topic as it is perceived to only have a minimal impact on students' knowledge. Around half of the participants in our study stated that they had gained their knowledge of accessibility in previous courses before entering the course covered by the study. However, in our only seven of the 31 participants claimed that they would be confident applying for expert positions in accessibility. The remainder of the participants were uncertain about their capacity to perform well in such positions due to inadequate knowledge, even after completing a stand-alone accessibility course. They expected accessibility experts to have comprehensive knowledge related to accessibility laws, automatic evaluation tools, WCAG and methods as well as the understanding required to identify the diverse needs of users, web technologies and linguistics. Some of the students felt that technicalities were an uncomfortable topic in accessibility and would rather focus on developing linguistic expressions, such as using easy language. On the other hand, other students were more interested in technical topics such as ARIA.

As a contribution to the multidisciplinary nature of accessibility, the group interview suggested that providing technical-orientated and communication-orientated courses on accessibility would offer the opportunity to gain competence in both areas (Greco, 2018; Teixeira et al., 2024). Because of the lack of space in the IS curricula, only a few IS faculties currently have stand-alone courses on accessibility (Kawas et al., 2019; Lazar, 2002). Kawas et al. (2019) suggested micro-integration that would include accessibility as an integrated part of different courses. The challenge of integration must be addressed by those who teach accessibility (Shinohara et al., 2018). On the other hand, the multidisciplinary nature of accessibility can be seen as a strength in teaching because each instructor is familiar with their own subject. Prior studies have recommended some courses in which accessibility would be suitable for integration, such as Software Development (Eyadat & Fisher, 2007), Programming (Eyadat & Fisher, 2007; Jia et al., 2021), Web Design (Jia et al., 2021; Lazar, 2002; Whitney, 2019), Systems Analysis and Design, E-Commerce, HCI and Computer Ethics (Lazar, 2002). The participants in the present study suggested integrating accessibility as a fundamental component of teaching and workplace conduct, like the way digital skills are taught in basic education. Digital skills are integrated into all aspects of the curriculum and are not taught as a standalone subject. For instance, Eyadat & Fisher (2007) reported on topics about which students lacked knowledge, such as UD, Section 508, WCAG and web accessibility testing tools. They also emphasized that awareness of accessibility should be the first step towards properly educating future web designers and developers (Eyadat & Fisher, 2007).

Based on the results of this study, we recommend dividing and integrating the teaching of accessibility into different courses and considering accessibility as a cross-cutting theme throughout the entire study program. We do, however, also recommend having at least one stand-alone course on accessibility – if possible – that is partly technical-orientated and partly communication-orientated to generate more in-

depth understanding and competence. For both approaches, the content of accessibility should be considered as a cross-cutting theme.

As a contribution to students' perceptions of accessibility and the factors that strengthen their intention and willingness to promote accessibility, we identified six themes, which are discussed as follows.

(1) The theme *Theories and practices* reflect students' recognition of the need for both technical and communication-oriented approaches to accessibility. This aligns with prior research emphasizing the multidisciplinary nature of accessibility as a strength in teaching (Shinohara et al., 2018). Students' preferences varied: some favored technical topics such as ARIA, while others preferred linguistic aspects like easy language. This diversity suggests that curricula should offer flexible pathways while maintaining core competencies, which would include the introduction of automatic evaluation tools, WCAG, methods to identify the diverse needs of users, accessibility practices related to programming, such as XHTML, Java, JavaScript, Cascading Style Sheets (Eyadat & Fisher, 2007), color, contrast, layout and flashing with animation and responsive design (Whitney, 2019). Theories and practices should also include accessibility practices relating to communication such as the use of Online Text Accessibility Heuristics (Mäkipää & Isohella, 2022), easy language, videos and PDFs. For this topic, we recommend a stand-alone course, but, if not possible, then the topic can be included in, for example, an HCI, User Interface Design, Web Development or similar course in which students learn to apply the principles of user-centered design (Leidig & Salmela, 2020, p. 151), programming (Jia et al., 2021; Shinohara et al., 2018) or communication.

(2) The *Legislative perspective* emerged strongly in students' expectations that accessibility experts should master laws, standards (e.g., WCAG), and compliance tools. Legislative perspective should include the introduction to at least local legislation as well as accessibility standards – for example, the EU directive on the accessibility of websites and mobile applications of public sector bodies (Directive 2016/2102 (2016) of the European Parliament and of the Council of 26 October 2016, 2016) and the Americans with Disabilities Act (ADA) (U.S. Department of Justice, 2020) in the U.S. The topic can be included in, for example, courses related to IS ethics.

(3) The *Promotion of equality*, which should be introduced in courses related to IS ethics (Lazar, 2002). This would include an introduction to the nature of accessibility and to human rights. The theme Promotion of equality aligns with students' recognition of accessibility as beneficial across fields and their desire to integrate it as a fundamental component of teaching. This perspective echoes Whitney's (2019) critique that accessibility is often treated as an add-on topic, whereas participants in this study advocated for an approach similar to digital skills integration in basic education.

(4) *"There is still much to develop"*: Prior research indicates that introductory-level students often perceive a good website as one they personally like, assuming themselves to be typical users. This mindset reflects the belief that if a design works for them, it works for everyone (Rosmaita, 2006; Waller et al., 2009). In contrast, our study reveals a different perspective among master's-level students: the *"there is still much to develop"* mindset. Rather than assuming completeness, students recognize gaps in their accessibility knowledge, which creates uncertainty but also sparks curiosity and motivation for further learning.

(5) *Personal interest* is an intrinsic factor that emerges before or during a course and is therefore not a teachable topic. However, personal interest was a key driver of engagement, influencing whether students focused on technical or communicative aspects. Some participants had a personal interest rooted in their values or because they had a close relative with a disability, which made them more engaged with the topic. This variability highlights the importance of offering specialization options while ensuring foundational knowledge. Moreover, this influential factor has rarely been considered in prior research or in the design of accessibility education.

(6) *An understanding the impact of accessibility* reflects students' awareness of its societal benefits and the diverse needs of users. This aligns with prior recommendations that raising awareness should be the first step toward educating future designers and developers (Eyadat & Fisher, 2007). Basics of accessibility, which should be taught at the introductory level so that an understanding of the impact of accessibility can impact as many students as possible (Rosmaita, 2006). The aim of this approach would be to ensure that students think of website users as people different than themselves (Genaro Motti & Dura, 2021) and that they understand not just the definition of accessibility but the basics of users' disabilities as well. The topic can be included in, for example, a System Analysis and Design course or a similar course that introduces the elicitation of user requirements.

5.1 Limitations and Future Work

This study was limited to the views of 31 master's-level students in Finland, which constrains the generalizability of the findings. The sample size and context mean that the results should be interpreted as exploratory. While the data provide valuable initial indications of how accessibility teaching might be improved, these insights remain preliminary and require further validation across diverse educational settings, cultural contexts, and program structures.

Another consideration is the self-reported nature of the data, which may reflect students' perceptions rather than actual future behavior. For example, some participants expressed strong interest in accessibility but simultaneously reported low confidence in their ability to work as accessibility professionals. This discrepancy suggests that intention alone may not translate into competence or career choices, highlighting the need for longitudinal studies that track how attitudes evolve over time and how they influence professional practice.

Future research should therefore aim to confirm these patterns using larger and more varied samples, and to identify effective pedagogical strategies that not only spark interest but also build confidence and practical skills. Mixed-method approaches, including observational studies and performance-based assessments, could strengthen the validity of findings and provide deeper insights into how accessibility education can be optimized to prepare students for real-world challenges. Moreover, future research should involve practitioners responsible for understanding their perspectives and requirements for education.

Another interesting further research topic is that when asked about human factors in the interview, it did not motivate the students. We assumed it could be one of the factors because it was discussed in the course, but this study did not prove to be. Therefore, research should be expanded by examining students' perceptions of human factors and how those are interpreted by students.

6 Conclusions

Information Systems programs have a clear responsibility to prepare future professionals to address accessibility as part of their core competencies. While prior research has focused on how accessibility should be taught, our study contributes by identifying the factors that most strongly influence students' interest in accessibility and their intention to promote it in their future careers. To explore these factors, we employed a questionnaire and a group interview with 31 master's-level university students enrolled in a standalone web content accessibility course and analyzed by thematic analysis. We found six themes that represent the factors that would influence master students' intention to promote accessibility in their future careers: (1) Theories and practices; (2) The legislative perspective; (3) Promotion of equality; (4) The "there is still much to develop" perspective; (5) Personal interest; and (6) an Understanding of the impact of accessibility.

We presented the topics that should be emphasized in accessibility teaching to improve awareness of and increase interest in accessibility. We show how these topics can be integrated into the IS curricula and propose accessibility as a cross-cutting theme in response to its inclusion in the IS curricula competency area of user interface design (Leidig & Salmela, 2020). By doing so, IS programs can ensure that accessibility becomes an integral part of professional practice, ultimately contributing to more inclusive digital environments.

Acknowledgments

We sincerely thank all participants for their time, openness, and the valuable experiences they shared during the study. Their contributions were essential to the success of this research.

Declaration of AI

During the preparation of this work, the authors used Microsoft Copilot, based on OpenAI's GPT-4 architecture, to assist with grammar correction. After using this tool/service, the authors reviewed and edited the content as needed and took full responsibility for the content of the publication.

References

- Alter, S. (2008). Defining information systems as work systems: Implications for the IS field. *European Journal of Information Systems*, 17, 448–469. <https://doi.org/10.1057/ejis.2008.37>
- Baker, C. M., El-Glaly, Y. N., & Shinohara, K. (2020). A Systematic Analysis of Accessibility in Computing Education Research. *Proceedings of the 51st ACM Technical Symposium on Computer Science Education, SIGCSE '20*, 107–113. <https://doi.org/10.1145/3328778.3366843>
- Bong, W. K., & Chen, W. (2024). Increasing faculty's competence in digital accessibility for inclusive education: A systematic literature review. *International Journal of Inclusive Education*, 28(2), 197–213. <https://doi.org/10.1080/13603116.2021.1937344>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Clifford, N., Cope, M., Gillespie, T., & French, S. (2016). *Key Methods in Geography*. SAGE.
- Directive 2016/2102 (2016) of the European Parliament and of the Council of 26 October 2016. (2016). On the accessibility of the websites and mobile applications of public sector bodies. *Official Journal of the European Union*, 59(L327).
- Eyadat, M., & Fisher, D. (2007). Web Accessibility and Information Systems Curriculum. *Fourth International Conference on Information Technology (ITNG'07)*, 341–346. <https://doi.org/10.1109/ITNG.2007.207>
- Finnish National Board on Research & Integrity TENK guidelines 2019. (n.d.). *The ethical principles of research with human participants and ethical review in the human sciences in Finland*. Publications of the Finnish National Board on Research Integrity TENK 3/2019. Retrieved https://tenk.fi/sites/default/files/2021-01/Ethical_review_in_human_sciences_2020.pdf
- Genaro Motti, V., & Dura, E. (2021). Evaluating an accessibility intervention based on persona cards with diverse needs to teach accessibility to undergraduate students. *Universal Access in the Information Society*. <https://doi.org/10.1007/s10209-021-00853-9>
- Greco, G. M. (2018). The nature of accessibility studies. *Journal of Audiovisual Translation*, 1(1), 205–232. <https://doi.org/10.47476/jat.v1i1.51>
- Gregor, S., & Jones, D. (2007). The Anatomy of a Design Theory. *Journal of the Association for Information Systems*, 8(5), 312–335. <https://doi.org/10.17705/1jais.00129>
- Inal, Y., Guribye, F., Rajanen, D., Rajanen, M., & Rost, M. (2020). Perspectives and Practices of Digital Accessibility: A Survey of User Experience Professionals in Nordic Countries. In *Proceedings of the 11th Nordic Conference on Human-Computer Interaction: Shaping Experiences, Shaping Society* (pp. 1–11). Association for Computing Machinery. <http://doi.org/10.1145/3419249.3420119>
- Initiative (WAI), W. W. A. (n.d.-a). *W3C Accessibility Standards Overview*. Web Accessibility Initiative (WAI). Retrieved December 8, 2021, from <https://www.w3.org/WAI/standards-guidelines/>
- Initiative (WAI), W. W. A. (n.d.-b). *Web Accessibility Evaluation Tools List*. Web Accessibility Initiative (WAI). Retrieved August 18, 2025, from <https://www.w3.org/WAI/test-evaluate/tools/list/>
- International Organization for Standardization. (2018). *ISO 9241-11:2018, Ergonomics of human-system interaction—Part 11: Usability: Definitions and concepts*. <https://www.iso.org/obp/ui/#iso:std:iso:9241:-11:ed-2:v1:en>
- Jia, L., Elglaly, Y. N., Baker, C. M., & Shinohara, K. (2021). Infusing Accessibility into Programming Courses. *Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems, CHI EA '21*, 1–6. <https://doi.org/10.1145/3411763.3451625>
- Kawas, S., Vonessen, L., & Ko, A. J. (2019). Teaching Accessibility: A Design Exploration of Faculty Professional Development at Scale. *Proceedings of the 50th ACM Technical Symposium on Computer Science Education, SIGCSE '19*, 983–989. <https://doi.org/10.1145/3287324.3287399>
- Kuang, E., Bellscheidt, S., Pham, D., Shinohara, K., Baker, C. M., & Elglaly, Y. N. (2024). Mapping Accessibility Assignments into Core Computer Science Topics: An Empirical Study with Interviews

- and Surveys of Instructors and Students. *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems, CHI '24*, 1–16. <https://doi.org/10.1145/3613904.3642097>
- Lazar, J. (2002). Integrating accessibility into the information systems curriculum. *Proceedings of the International Association for Computer Information Systems*, 3.
- Lazar, J., Dudley-Sponaugle, A., & Greenidge, K.-D. (2004). Improving web accessibility: A study of webmaster perceptions. *Computers in Human Behavior, The Compass of Human-Computer Interaction*, 20(2), Article 2. <https://doi.org/10.1016/j.chb.2003.10.018>
- Leidig, P. M., & Salmela, H. (2020). *IS2020 A Competency Model for Undergraduate Programs in Information Systems*.
- Leidig, P. M., & Salmela, H. (2022). The ACM/AIS IS2020 Competency Model for Undergraduate Programs in Information Systems: A Joint ACM/AIS Task Force Report. *Communications of the Association for Information Systems*, 50(1), 470–480. <https://doi.org/10.17705/1CAIS.05021>
- Lewthwaite, S., & Sloan, D. (2016). Exploring pedagogical culture for accessibility education in computing science. *Proceedings of the 13th International Web for All Conference, W4A '16*, 1–4. <https://doi.org/10.1145/2899475.2899490>
- Mäkipää, J.-P., & Isohella, S. (2022). Designing Heuristics for Accessible Online Text Production. *Scandinavian Journal of Information Systems*, 34(1), 35.
- Mäkipää, J.-P., Norrgård, J., & Vartiainen, T. (2022). Factors Affecting the Accessibility of IT Artifacts: A Systematic Review. *Communications of the Association for Information Systems*, 51, 666–702. <https://doi.org/10.17705/1CAIS.05129>
- Mallary, K., Simons, R., Copeland, C., Nikiema, J., & Dorman, E. (2023). Are Library and Information Science Educators Teaching Accessibility? : Content Analysis of Syllabi. *Proceedings of the ALISE Annual Conference*. <https://doi.org/10.21900/j.alise.2023.1376>
- Martins, J., Gonçalves, R., & Branco, F. (2017). A full scope web accessibility evaluation procedure proposal based on Iberian eHealth accessibility compliance. *Computers in Human Behavior*, 73, 676–684. <https://doi.org/10.1016/j.chb.2016.12.010>
- Poor, G. M., Leventhal, L. M., Barnes, J., & Hutchings, D. R. (2009). Accessibility: Understanding attitudes of CS students. *Proceedings of the 11th International ACM SIGACCESS Conference on Computers and Accessibility, Assets '09*, 219–220. <https://doi.org/10.1145/1639642.1639684>
- Putnam, C., Dahman, M., Rose, E., Cheng, J., & Bradford, G. (2016). Best Practices for Teaching Accessibility in University Classrooms: Cultivating Awareness, Understanding, and Appreciation for Diverse Users. *ACM Transactions on Accessible Computing*, 8(4), 13:1-13:26. <https://doi.org/10.1145/2831424>
- Rosmaita, B. J. (2006). Accessibility now! Teaching accessible computing at the introductory level. *Proceedings of the 8th International ACM SIGACCESS Conference on Computers and Accessibility, Assets '06*, 277–278. <https://doi.org/10.1145/1168987.1169053>
- Sharp, H., Lotz, N., Mbayi-Kwelagobe, L., Woodroffe, M., Rajah, D., & Turugare, R. (2020). Socio-cultural factors and capacity building in Interaction Design: Results of a video diary study in Botswana. *International Journal of Human-Computer Studies*, 135, 102375. <https://doi.org/10.1016/j.ijhcs.2019.102375>
- Shinohara, K., Kawas, S., Ko, A. J., & Ladner, R. E. (2018). Who Teaches Accessibility? A Survey of U.S. Computing Faculty. *Proceedings of the 49th ACM Technical Symposium on Computer Science Education, SIGCSE '18*, 197–202. <https://doi.org/10.1145/3159450.3159484>
- Shneiderman, B. (2000). Universal usability. *Communications of the ACM*, 43(5), 84–91. <https://doi.org/10.1145/332833.332843>
- Teach Access. (n.d.). *Why Teach Accessibility? Fact Sheet – Teach Access*. Retrieved April 27, 2024, from <https://teachaccess.org/resources/fact-sheet-why-teach-accessibility/>
- Teixeira, P., Eusébio, C., & Teixeira, L. (2024). Understanding the integration of accessibility requirements in the development process of information systems: A systematic literature review. *Requirements Engineering*, 29(2), 143–176. <https://doi.org/10.1007/s00766-023-00409-8>

- Tuuri, K., & Peltola, H.-R. (2014). Imagining between ourselves: A group interview approach in exploring listening experiences. *Proceedings of the 9th Audio Mostly on A Conference on Interaction With Sound - AM '14*, 1–8. <https://doi.org/10.1145/2636879.2636887>
- U.S. Department of Justice. (2020). *A Guide to Disability Rights Laws*. <https://www.ada.gov/cguide.htm>
- United Nations. (2006). *Convention on the Rights of Persons with Disabilities and Optional Protocol*. <https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html>
- Vollenwyder, B., Iten, G. H., Brühlmann, F., Opwis, K., & Mekler, E. D. (2019). Salient beliefs influencing the intention to consider Web Accessibility. *Computers in Human Behavior*, 92, 352–360. <https://doi.org/10.1016/j.chb.2018.11.016>
- W3C. (n.d.). *Web Content Accessibility Guidelines (WCAG) 2.2*. Retrieved April 28, 2024, from <https://www.w3.org/TR/WCAG22/>
- Waller, A., Hanson, V. L., & Sloan, D. (2009). Including accessibility within and beyond undergraduate computing courses. *Proceedings of the 11th International ACM SIGACCESS Conference on Computers and Accessibility, Assets '09*, 155–162. <https://doi.org/10.1145/1639642.1639670>
- WebAIM: Survey of Web Accessibility Practitioners #2 Results*. (n.d.). Retrieved April 1, 2023, from <https://webaim.org/projects/practitionersurvey2/>
- WebAIM: Survey of Web Accessibility Practitioners #3 Results*. (n.d.). Retrieved September 11, 2024, from <https://webaim.org/projects/practitionersurvey3/#intro>
- Weeden, E. (2023). A model of an accessibility curriculum in higher education. *Frontiers in Computer Science*, 5. <https://doi.org/10.3389/fcomp.2023.1139350>
- Whitney, M. (2019). Teaching Accessible Design: Integrating Accessibility Principles and Practices into an Introductory Web Design Course. *Proceedings of the EDSIG Conference*, 5(4931).
- Zhang, Y., & Wildemuth, B. M. (2016). Unstructured Interviews. In *Applications of Social Research Methods to Questions in Information and Library Science* (Second Edition, pp. 239–247). ABC-CLIO.

Appendix A: Course Description

A short description of the content to be lectured in a stand-alone master's-level web content accessibility course:

Lesson 1. Accessibility Basics

- Definitions of accessibility
- Accessibility in human interaction with a computer
- Theories of human abilities
- The effects of accessibility

Lessons 2 and 3. Accessibility legislation and WCAG introduction

Lesson 4. Design and evaluation of accessibility

- User involvement in design process
- Methods and techniques at different stages of software development
- Evaluation tools, including automatic evaluation tools and manual evaluations, such as accessibility heuristics and Barrier Walkthrough
- Consideration of assistive technology in design

Lessons 5 and 6. Introduction to online text accessibility heuristics and easy language

Lesson 7. An accessible user interface or website

- What are the features of an accessible user interface, website or service? Connection to usability, user experience and assistive technology (ARIA)
- What causes barriers (users' perspective)? Examples of typical accessibility issues that cause problems related to sight, hearing, movement of the limbs, cognition and motion

Lesson 8. Which factors affect to realization of accessibility (developers' perspective)?

- What should be considered in the design process of the accessible interface?
- The organizational-level factors that affect accessibility
- Matters to be considered at development and management levels
- Practices for planning to consider these problems when designing navigation, structure, content, input methods and output methods of the interface

Appendix B: Questions (Q) in the questionnaire

- Q1: What is your master's program?
- Q2: Which of the following options best describes your HTML expertise?
- I know how to build web pages using HTML
- I know how to interpret HTML and edit it
- I understand the basic principles of HTML
- I don't know HTML
- Q3: If desired, you can comment on the previous question [Question 2].
- Q4: Did you have prior knowledge of accessibility before this course? If yes, from what connection?
- Q5: If the web content accessibility course is not part of your compulsory studies, what made you choose this course?
- Q6: Did the course spark your interest in accessibility? If yes, then what about the course that piqued your interest?
- Q7: Could you imagine working as an accessibility expert? Justify your response.
- Q8: What things do you expect an accessibility expert to know?
- Q9: Do you feel that accessibility expertise is also useful in non-accessibility specialist assignments/employment in general? Justify briefly.
- Q10: Should accessibility be taught at a university? Why?
- Q11: What do you think is the biggest challenge in implementing accessibility?
- Q12: What do you think was "the thing" in the course that sparked your intention to implement accessibility? If nothing, why?

Appendix C: Group Interview Questions (GIQ)

In the interview, we discussed what increased participants' interest in accessibility, whether they thought accessibility was important to study, accessibility practices, and which factors they felt would increase the motivation to promote accessibility. In total, 16 of the initial 31 students participated in the group interview. We asked the following questions in the interview:

- GIQ1: "I would like to ask about your own feelings about accessibility and how it should be taught and what things should be emphasized in order to inspire you to make accessible systems in the future. Was there something in the course in general that generated more interest in accessibility in you then before you entered the course?"
- GIQ2: "So is it important that accessibility is already learned at university or at some school before you go there for a job?"
- GIQ3: "Have you had any thoughts on how to make it easier?"
- GIQ4: "When you start to evaluate accessibility, what do others think would be helpful in promoting it?"
- GIQ5: "Was WCAG familiar to you before or, even if it was, how did it feel to deploy and think about how websites meet WCAG requirements?"
- GIQ6: "How did these types of technical guidelines respond to your image of accessibility or did they somehow violate it?"
- GIQ7: "What were the things you wanted to learn? Were they like human-related things?"

GIQ8: "When we introduced people's different abilities, did they motivate you to make content and web pages that consider the different abilities of people? Was it any help that we addressed the different abilities of people in this course?"

About the Authors

Juho-Pekka Mäkipää is a university lecturer in Information Systems at the School of Technology and Innovations, University of Vaasa, Finland, and a Visiting Researcher at the Asia AI Institute, Musashino University, Japan. His research focuses on human factors in socio-technical human-computer interaction, including biological, psychological, and social dimensions, as well as the design of information systems and interaction artifacts. He is particularly interested in multidisciplinary research related to accessibility, user experience, co-creative innovation, and digital artifact design.

Suvi Isohella is a senior lecturer in communication at the University of Applied Sciences, in Vaasa, Finland. She works in the unit of technology where she teaches courses in technical communication and Finnish language. Before starting at the university of Applied Sciences in August 2023, she worked at the University of Vaasa for 25 years. Her research interests include collaborative online international learning (COIL), user-centered technical communication, accessibility of textual web content, technical communication curriculum development, and minimalist document design.

Copyright © 2026 by the Association for Information Systems. Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and full citation on the first page. Copyright for components of this work owned by others than the Association for Information Systems must be honored. Abstracting with credit is permitted. To copy otherwise, to republish, to post on servers, or to redistribute to lists requires prior specific permission and/or fee. Request permission to publish from: AIS Administrative Office, P.O. Box 2712 Atlanta, GA, 30301-2712 Attn: Reprints or via e-mail from publications@aisnet.org.