

DO JYU MAKE YOUR ONLINE CONTENT ACCESSIBLE?

Providing clear instructions on how to improve accessibility

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<p>Abstract</p> <p>Jyväskylän yliopistossa englannin kielen opintosuunnasta voi valmistua joko kieliasiantuntijaksi tai opettajaksi. Riippumatta siitä kumpaa opintolinjaa edustaa, kohtaa työelämässä digitaalisten materiaalien saavutettavuuden ja monipuoliselle yleisölle sisällön tuottamisen. Sekä kieliasiantuntijan että aineenopettajan opinnoissa käsitellään kuitenkin saavutettavien digitaalisten materiaalien tuottamista hyvin pinnallisesti. Olisi ensisijaisen tärkeää opettaa tuleville ammattilaisille nämä taidot jo opintojen aikana, jotta tämä aihe ei tulisi ensimmäistä kertaa vastaan työelämän puolella.</p> <p>Euroopan unionin direktiivin myötä Suomessa on otettu käyttöön vuonna 2019 digitaalista saavutettavuutta koskeva lainsäädäntö, joka koskee tässä vaiheessa erityisesti julkisen puolen toimijoita, yliopistoja ja ylioppilaskuntia. Tiedon saavutettavuus on tärkeää kaikille, eikä pelkästään vammaisille ihmisille.</p> <p>Tämän tutkielman ytimenä on englanniksi toteutettu neliosainen videosarja, jossa pyrin lähestymään aihetta kevyesti ja selittämään auki, miksi näitä nimenomaisia asioita täytyisi huomioida suunnitellessaan omia digitaalisia materiaalejaan. Ensimmäinen osa esittelee erilaisia verkon ja dokumenttien selaustapoja, esimerkiksi ruudunlukijalla. Toinen osa käsittelee kirjoitetun tiedon saavutettavuutta. Kolmas osa käsittelee digitaalisten sisältöjen visuaalisia Aspekteja ja neljäs video puolestaan erilaisia mediavastineita. Videoissa ei suoraan puhuta Web Content Accessibility Guidelines (WCAG)-kriteeristöä, johon laki nojaa, sillä se saattaa olla paikoin varsin hankalia ymmärtää. Tämän projektin tavoitteena oli tuottaa selkeä kokonaisuus selkeätä kieltä käyttäen ja tarjota yksinkertainen ohjeistus, jotta aihe ei tuntuisi liian monimutkaiselta.</p> <p>Avainsanat: Saavutettavuus, digitaalinen sisältö</p>	
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1 INTRODUCTION

The main career paths from studying English at this university are either a teaching position or a language specialist position. Both paths might lead to creating materials or content for a diverse audience with varied abilities. Students in both of these disciplines would tremendously benefit from an understanding of accessibility and universal design.

Being aware of the principles of Universal design and the requirements of accessible documents and web content from an early stage would guarantee that, for example, a teacher will not get caught off-guard, if they suddenly have a disabled student in their classroom. Moreover, making accessible materials to begin with would mean that more time does not have to be put into reworking existing materials into an accessible form.

I set out to share my knowledge of creating more accessible content in the form of a four-part video series that covers such topics as language choices, color contrast, headings and the various media alternatives. The aim of this thesis is not to scare, but to inform and educate you about the benefits of accessible features and the positive effect it has on the majority of users.

2 BACKGROUND

2.1 Why is accessibility important in higher education studies?

The University Student Health Survey is conducted in Finland every four years by Finnish Student Health Service. In 2016, Kunttu, Pesonen & Saari found that 8.2 per cent of university students had some kind of condition, illness or disability that affects their studies. Comparing these numbers to the previous questionnaire from 2012, when the same number was at 4.6 per cent (Kunttu, Pesonen & Saari 2016: 30). Meaning that that in four years this among grew by 3.6 per cent. However, the authors clarify that in 2012 the question was phrased slightly differently. It should also be highlighted that the study focuses only on undergraduate students under the age of 35. (Kunttu et al. 2016: 3). Thus, it is not clear how prevalent these types of conditions are in the older students.

WebAIM conducted their ninth Screen reader survey in 2021. These have been conducted to evaluate preferences in screen reader usage of users globally. The survey also asks users of their disabilities. In both of the last two surveys, over 15% stated that they have multiple disabilities, with 15.8 per cent in 2019 and 18.8 per cent of respondents in 2021 (WebAIM Screen Reader User Survey #8 & #9).

2.2 What are visual disabilities?

The Finnish Federation of the Visually Impaired defines a visually impaired person by either having low vision or having no sight at all. A majority of visually disabled people are elderly people as many of the conditions affecting sight are related to aging. Other causes for visual disabilities can be accidents or genetic conditions. They

also state that one in three has some other condition, such as hearing limitations, limited mobility or some other long-term condition in addition to their visual disability (The Finnish Federation of the Visually Impaired).

An official evaluation of vision impairment is always done by a doctor using a classification created by the World Health Organization. As stated above, a visually disabled person is either blind or has low vision. A person is not visually disabled if their sight can be fixed with glasses or if they have normal sight in one eye. Low vision affects people in different ways – A person may not be able to read but might go out without a white cane. Total blindness is very rare. Blind people can see light or some even shapes. (The Finnish Federation of the Visually Impaired: Näkövammaisuus)

A third type of visual impairment is color blindness. Although it might not impact daily life as significantly as the above mentioned, but it can cause problems when browsing the internet, for example. Concisely, colour blindness makes certain colour combinations difficult to distinguish from one another. The most common of these are red-green deficiencies. In rare cases, some people may not see any colour at all. (WebAIM: Visual Disabilities)

2.3 Accessibility related legislation in Finland

It is important to look at the newly implemented accessible web services law that public institutions, such as universities, must now follow, that has been in effect since 2019. The law defines the various public sector bodies, institutions and organizations that need to follow the law. The law is the national equivalent of the directive (EU) 2016/2102 of the European parliament and of the council of 26 October 2016 on the accessibility of the websites and mobile applications of public sector bodies. The law does not mention The Web Content Accessibility Criteria by name, but as outlined by the EU directive, essentially the WCAG criteria is the set of guidelines that the web services need to fulfil.

The legislation also instructs that the various public sector bodies have to maintain an accessibility statement on their page, which also has to be easily accessible. Accessibility statements documents that these bodies have to create and maintain. An accessibility statement needs to contain information on

1. What sections of a web service currently do not meet the accessibility requirements.
2. Instructions on how the user can obtain materials in an alternative way if a part of the service is not accessible.
3. A way of providing accessibility feedback.

4. Contact information of the supervising body, if the user wishes ask further questions or to make a complaint.

If a service is found not to comply with the legislation may result in sanctions. The monitoring body, the Regional State Administrative Agency for Southern Finland, can issue a warning or a fine.

2.4 What features make a platform accessible?

Web Content Accessibility Guidelines (WCAG) is a list of criteria that web sites of public organizations, such as universities within Finland, must now comply to. The various standards are divided under four principles: perceivable, operable, understandable and robust. Every guideline has three levels of success (A, AA and AAA). The law requires that a site meets the A and AA levels. These four main principles contain criteria and are also broken down into smaller sub-sections. All-in-all there are a total of 78 different criteria included in WCAG 2.1.

Perceivable includes guidelines to check that the information is presented in an equal manner, meaning that it cannot be invisible to all of their senses. This is vital for people with loss of hearing or vision. Operable stands for ease of use and navigation. The elements of the site must be navigable so that it does not require interactions that a user cannot perform. These guidelines make sure that sites are accessible for people with limited motor skills. Understandable simply contains guidelines for ensuring that the information presented and navigation is clear to the user. Robust guidelines are implemented to make sure that the information is legible and not distorted, even if using assistive technologies, such as a screen reader. This means that users have to be able to access the content even as technologies develop. (The World Wide Web Consortium)

2.5 What is a screen reader?

A screen reader is a piece of software for both computers and smartphones. Screen reader features are also beginning to appear in other smart devices, such as smart televisions. Screen readers interpret the underlying code and structure of a web page or document and translate the content into speech. By accessing the code, screen readers can inform the users if something is a link or if an image has an alternative text. Accessing the underlying code of a document also enables the use of shortcut keys, meaning that users can, for example, jump from one heading to another, which makes interpreting the structure of a document easier. Thus, despite the name, screen

readers do not literally read what is on the screen. NVDA is an example of a screen reader on the personal computer and VoiceOver, which is a built-in feature in the iOS devices, is a screen reader on Apple phones and tablets.

2.6 Universal design

Universal design emerged alongside the disability rights movement. The core idea is to eliminate discrimination based on disability and to provide equal opportunity to participate in the society. From these beginnings the movement has become worldwide (Steinfeld & Maisel 2012: 24) Core values are removing barriers in built environments, but with the adoption of the Internet, virtual environments are equally important as sources of information.

As the name suggests – Universal design – proposes benefits for various other groups in addition to the disabled. The authors use the example of unisex bathrooms, something that got its start due to cost saving measures to avoid having to make both bathrooms meant for males and females. It was soon noticed that this change benefited more than just the disabled as now a mother is able to help their son or an elderly couple can help each other without embarrassment (Steinfeld & Maisel 2012: 24).

Steinfeld & Maisel (2012) start with presenting various definitions of Universal design, they highlight the similarity of these definitions, but also note that all of them have shortcomings. They then attempt to give a more complete definition themselves:

“Universal design is a process that enables and empowers a diverse population by improving human performance, health and wellness, and social participation.” Steinfeld & Maisel (2012: 29)

Steinfeld & Maisel elaborate on what universal design is definition the seven principles of universal design. These principles were developed by a multidisciplinary group, including Edward Steinfeld, developed in the late 1990’s. Defining the following principles aided in increasing the communicability of Universal design (Steinfeld & Maisel 2012: 74):

1. Equitable use. The design does not disadvantage or stigmatize any group of users.
2. Flexibility in use. The design accommodates a wide range of individual preferences and abilities.
3. Simple and intuitive use. Use of the design is easy to understand, regardless of the user’s experience, knowledge, language skills, or current concentration level.
4. Perceptible information. The design communicates necessary information effectively to the user, regardless of ambient conditions or the user’s sensory abilities.

5. Tolerance for error. The design minimizes hazards and the adverse consequences of accidental or unintended actions.

6. Low physical effort. The design can be used efficiently and comfortably, and with a minimum of fatigue.

7. Size and space for approach and use. Appropriate size and space is provided for approach, reach, manipulation, and use, regardless of the user's body size, posture, or mobility

These principles can easily be carried over to digital services and content. Just to mention a few examples: The content should be flexible and allow for various preferences, which can include assistive technology, such as screen readers. Content is easily understood regardless of the user's level of knowledge or language skills. This could refer to the language used in the content or structural elements, such as headings. The fourth principle can be interpreted to refer to providing information equally and adding alternative texts for images, for example, so that blind or low vision users can get the same info from images as seeing users.

Despite referring to built environments in this case, the authors make the exact same point that I am trying to make with this thesis for accessible documents and online content. To increase the adoption and knowledge of these skills. Education programmes need to embrace such new concepts to raise awareness and better prepare graduates for their professional careers (Steinfeld & Maisel 2012: 74).

3 CONCLUSION

I attempted to tackle the issue of limited knowledge of making accessible documents and content in the courses of my university. As a result, I created a multiple-part video series on how to get started and why specific things need to be considered when creating digital content. The goal was to create a video series that would be easy to follow. Also, a core idea was to show that even simple steps can make a big difference and that digital content can easily be made more accessible to all and that separate content do not have to be made for disabled users following the values of Universal design.

I created a number of examples myself and tried to find as many examples as possible from the university web pages to showcase both good practices and aspects that could be improved. To keep the series as easily digestible as possible, the series does not really discuss the law or the WCAG criteria. There are numerous sources that are more knowledgeable on those specific topics that are widely available. For the future, there are always aspects that could be improved. Nevertheless, I hope this work can get the ball rolling. Hopefully the videos could be incorporated on their own or redone and incorporated into some course for increasing the knowledge of future graduates.

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APPENDICES

APPENDIX 1: LINKS TO THE VIDEO MATERIALS

Below are the links to the videos created:

Video 1 - Explaining various user types

<https://drive.google.com/file/d/1w7shErfoeJdXfAhmanN-bYEF01NGWKjRx/view?usp=sharing>

Video 2 - Language and structure

<https://drive.google.com/file/d/1O6jMyVOL0ZegP2Px4CoE9wv-k1lihThb/view?usp=sharing>

Video 3 - Visual aspects

<https://drive.google.com/file/d/1LMNQI9L2Hlcf0TywMiR4OhI3x8BnK7JF/view?usp=sharing>

Video 4 - Media alternatives

<https://drive.google.com/file/d/1zhj7cZzqzaSCfR1zUNhzeRgoPk6Us3P6/view?usp=sharing>