

How to make your teaching accessible

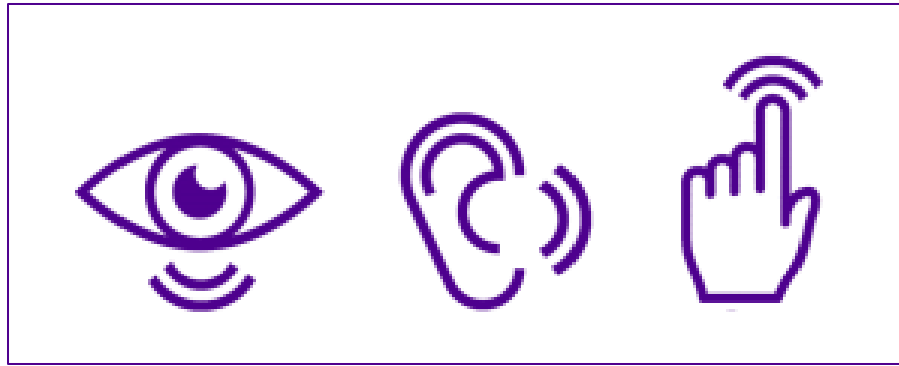
Webinar, Fri Nov 6, 2020, 12-14

Webinar outline

- *Introduction. User groups and needs* (Anne Ketola)
- *Web Accessibility Directive* (Maija Hirvonen)
- *TUNI Moodle from an accessibility viewpoint* (Markku Turunen)
- *Accessibility of teaching materials and accessibility tools* (Pauliina Baltzar)



About TACCU



TACCU –Tampere Accessibility Unit

- multidisciplinary group
- accessibility-related research
- novel education contents
- active collaboration with external stakeholders (associations and companies that work with accessibility)
- Research.tuni.fi/taccu

Accessibility in a Digital Society (20 ECTS)

Online, during 2021

Course 1: Fundamentals of Accessibility

- Multidisciplinary introduction course

Course 2: Methods and technologies for accessibility and their evaluation

- 20 minimodules to choose from, based on students' interests and needs
- Options on next slide

Course 3: Independent Project work

- e.g. creating an accessibility report of a company's website

Course 2

Student picks 10 minimodules, 1 ECTS credit each

Defining and discussing accessibility in society	Picture communication	Spoken interfaces	Accessibility and UX	Image description
Plain language	Easy spoken interaction	Subtitling, print interpreting, speech recognition	Games, gamification, serious games and accessibility	Video/audio description
Haptics and gestures	Rehabilitation and assistive augmentation	Audiodescription of art	Entertainment and accessibility	Sound description
Web accessibility I (technology)	Web accessibility II (content)	Machine translation	Accessible AI	Trends in accessibility research

User groups and needs (Camilla Lindholm)

Web accessibility barriers

- **Cognitive, learning, and neurological**
- **Visual**
- Physical
- Speech
- Auditory
- Etc.

But first: Avoiding categorizing people according to medical classifications!

- Anyone's ability to use a webservice can be impaired at some point:
 - Developing **age-related** impairments
 - **Health conditions** that affect stamina or concentration
 - **Temporary impairments** (accident, surgery, or medication)
 - **Situational and social limitations, e.g.** loud environment, bright sunlight, not being able to afford some technologies, etc.
 - **Changing abilities:** progressive or recurring functional limitations

Cognitive, learning, and neurological barriers

Examples:

- **Attention deficit hyperactivity disorder (ADHD)**
 - difficulty focusing on a single task, focusing for longer periods, or being easily distracted
- **Autism spectrum disorder (ASD)**
 - impairments of social communication and interaction abilities
 - sometimes restricted habits and interests
- **Mental health disabilities**
 - anxiety, depression, paranoia, schizophrenia etc.
 - difficulty focusing on information, processing information, or understanding it
- **Memory impairments**

Examples of barriers for people with cognitive, learning, and neurological disabilities

- Complex navigation mechanisms and page layouts
- Complex sentence, unusual words
- Long passages of text without images, graphs, or other illustrations to highlight the context
- Moving, blinking, or flickering content, and background audio that cannot be turned off

Examples of visual disabilities

- Color blindness
 - difficulty distinguishing between colors such as between red and green, or between yellow and blue, and sometimes inability to perceive any color.
- Low vision
 - poor acuity, tunnel vision, central field loss, etc.
- Blindness
 - substantial, uncorrectable loss of vision in both eyes

Examples of barriers for people with visual disabilities

- Images and controls that do not have equivalent text alternatives
- Text, images, and page layouts that cannot be resized
- Video content that does not have text or audio alternatives, or an audio-description track
- Text and images with insufficient contrast

EU's Accessibility Directive and what the Finnish law imposes on university teaching

saavutettavuusvaatimukset.fi

Legislative background

- Digitalisation of society and the strive for **equal rights** to participate:
 - UN's Universal Declaration of Human Rights (1948)
 - UN's Convention on the Rights of Persons with Disabilities (2006–2016)
 - EU's Audiovisual Media Services Directive (2010)
 - EU's [Act on the Provision of Digital Services](#) ("**web accessibility directive**"), 2016/2012/EU
 - Requirements base on the W3C (World Wide Web Consortium) *Web Content Accessibility Guidelines* (WCAG)
 - [Laki digitaalisten palvelujen tarjoamisesta](#) ("digipalvelulaki", the **Finnish Act on the Provision of Digital Services**) implements the EU directive in Finland.
 - More info (in Finnish and Swedish): saavutettavuusvaatimukset.fi

The law on digital public services is NOW operative

- The aim of the law is to promote equal rights to use quality public services in digital platforms
- Accessibility means "principles and techniques" of various kinds (both technical and content-related) to ensure access and use by everyone, in particular by the disabled
- Digital services = websites and mobile applications and their functionalities

[Laki digitaalisten palvelujen tarjoamisesta 306/2019](#)

The law on digital public services is NOW operative

- Applies to public sector bodies, such as
 - State, municipal and regional authorities
 - Public educational institutions (eg **universities**)
- With some exceptions
 - The law does not apply to
 - **Workplaces'** digital services with restricted use (eg intranet)
 - **Education and teaching**, when digital content and services are for a restricted group and used temporarily



Teaching > exception

- **In teaching, accessibility requirements DO NOT apply in certain restricted/limited cases.**
- If use is **not public**, ie. for a restricted audience, and **temporary**, such as one semester (but not extending over several years), the accessibility requirements do not apply (but can be taken into account!).
- The exception **allows** students and teaching staff alike to produce content and experiment with it, without the need of applying accessibility requirements or technologies.
 - Eg a test that measures listening comprehension must not be made textually accessible (and usable without listening) because the function of the material would change considerably.
- If temporary educational material or service becomes **permanent**, it should be accessible. For example, if learning platforms, e-courses and educational videos are repeatedly used over the years, they should be accessible.
- **Any teaching material or service that can be accessed publically** is under the law and should be made accessible.

[Saavutettavuusvaatimukset.fi](https://www.tamperet.fi/taaj/taaj-vaatimukset)

How to make your teaching accessible: TUNI Moodle* and Accessibility

*including DigiCampus Moodle

Markku Turunen & TACCU – Team

Accessibility Webinar, Fri Nov 6, 2020, 12-14

Moodle Accessibility

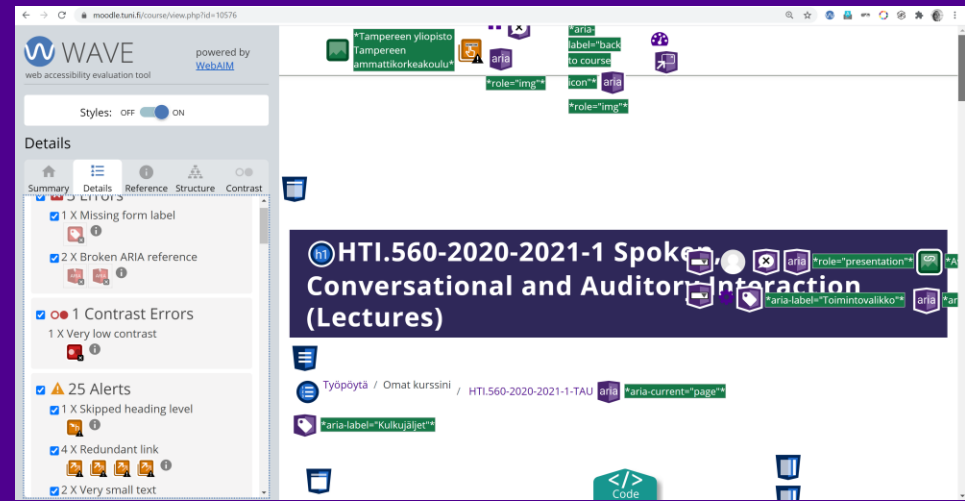
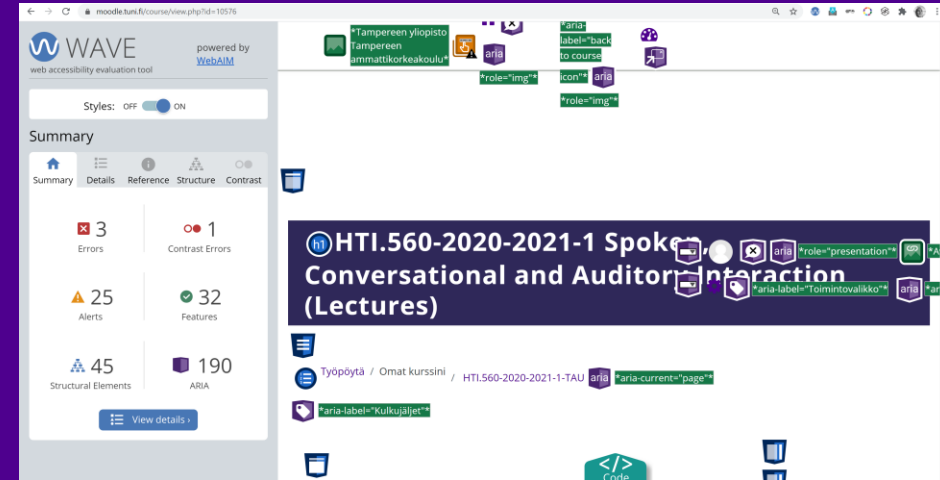
- First of all, Moodle developers take accessibility seriously:
 - [Moodle Accessibility](#)
- However, Moodle installations are seldom out of the box, and customizations often introduce accessibility issues:
- Also, additional elements might cause accessibility issues, even they take accessibility into account:
 - [H5P Accessibility](#)
- Finally, there are some extensions to help with accessibility
- Here, we are focusing on two Moodle installations:
 - [TUNI Moodle](#)
 - [Digicampus Moodle](#)
- In practice, accessibility focuses on visual accessibility, and screen readers are a major part of accessibility

Moodle Accessibility issues in practice

- Accessibility (violation) issues might be introduced in any phase, and in practice Moodle installations are layered products
- If accessibility issues are introduced once, they will be appearing in all further work, and it is next to impossible to address them
- In practice this means that some issues can't be fixed by you, and even there might be workarounds, these issues should be reported.

How to check accessibility?

- There are several tools to check a webpage accessibility
- [Wave](#) is one example
- These tools have often to modes:
 - giving a we address
 - using as a browser extension



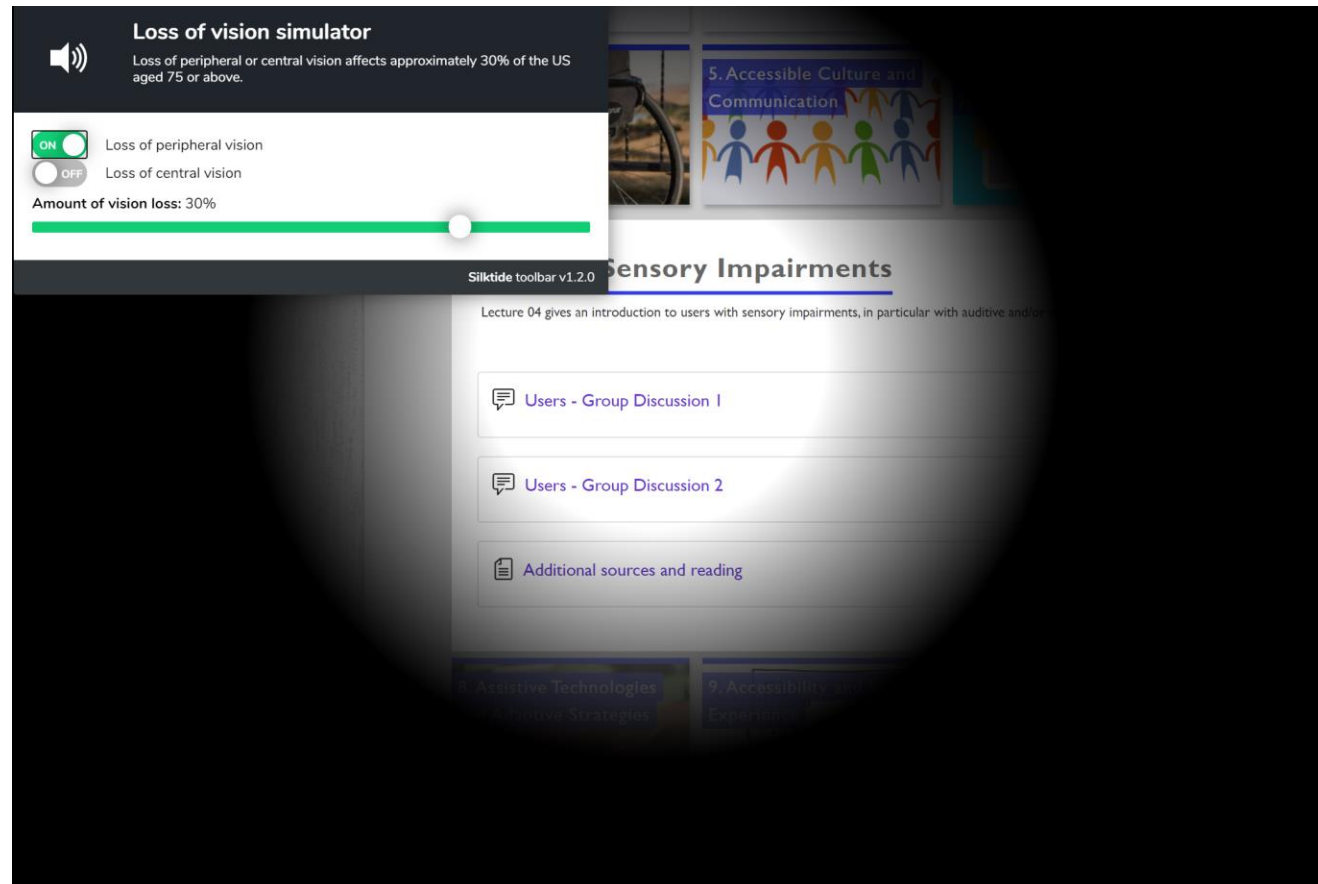
What those results mean?

- **Errors**
 - Issues that will impact certain users.
 - Failures to meet the WCAG ([Web Content Accessibility](#)) guidelines.
- **Contrast Errors**
 - Text that do not meet WCAG requirements.
- **Alerts**
 - Elements that may cause accessibility issues.
 - An evaluator must decide the impact.
- **Features**
 - Improve accessibility if implemented correctly.
- **Structural Elements**
 - Presents the structure of the website, and navigation

Accessibility challenges in practice

- [Funkify](#)
- [Web Disability Simulator](#)
- [Disability simulator for the web](#)

Web Disability Simulator – Loss of vision (peripheral / central)



Loss of vision simulator
Loss of peripheral or central vision affects approximately 30% of the US aged 75 or above.

ON Loss of peripheral vision
 OFF Loss of central vision

Amount of vision loss: 30%

Slidkitide toolbar v1.2.0

Sensory Impairments

Lecture 04 gives an introduction to users with sensory impairments, in particular with auditive and/or visual impairments.

- Users - Group Discussion 1
- Users - Group Discussion 2
- Additional sources and reading

8. Assistive Technologies
9. Accessibility

Web Disability Simulator – Small Vocabulary

Yojugiirrohh iuvvalvro

4. Uvyfu: Hroivyi Nylbaphibde

5. Pgigyksiik Ohmyugr and lyjuaxdayygex

6. Gticyi Tymomiu Pgigyksiik

7. Pgigyksiik Aduos-Lgoidmodxa Arraxahbyl

4. Uvyfu: Hroivyi Nylbaphibde

Uxycaxe 04 sixyi an rytouldefvaa to ypuko with oituawu boweuxuttuu, in particular with cuguwaff miw/ox uibgud weopsyiceho.

Nymky - Group Otutditeni 1

Nymky - Group Otutditeni 2

Bsijjanzyz hkidoxo and uajuoco

8. Yyecumoyl Rektabeodebx and Daoceedt Zmeykunune

9. Geywaimyaruey and Zdep Experience

10. Wue Geywaimyaruey

Uuym

Simulation active!

Small vocabulary


A large part of the world's population can't read at all and many adults don't read as well as expected after finishing grade school.

Think about this

Links for better understanding

Reset

Web Accessibility Simulator – Color Blindness




Color blindness simulator

Color blindness affects 8% of all men and about 0.5% of all women. Try different kinds of color blindness below.

<input type="checkbox"/>	OFF	Green appears weak	1 in 20
<input checked="" type="checkbox"/>	ON	Green greatly reduced	1 in 100
<input type="checkbox"/>	OFF	Red appears weak	1 in 100
<input type="checkbox"/>	OFF	Red greatly reduced	1 in 100
<input type="checkbox"/>	OFF	Blue appears weak	1 in 100,000
<input type="checkbox"/>	OFF	Blue greatly reduced	1 in 100,000
<input type="checkbox"/>	OFF	Color appears weak	1 in 10,000,000
<input type="checkbox"/>	OFF	Color greatly reduced	1 in 10,000,000

Silktide toolbar v1.2.0



5. Accessible Culture and Communication

Sensory Impairments

roduction to users with sensory impairments, in particular wi

up Discussion 1

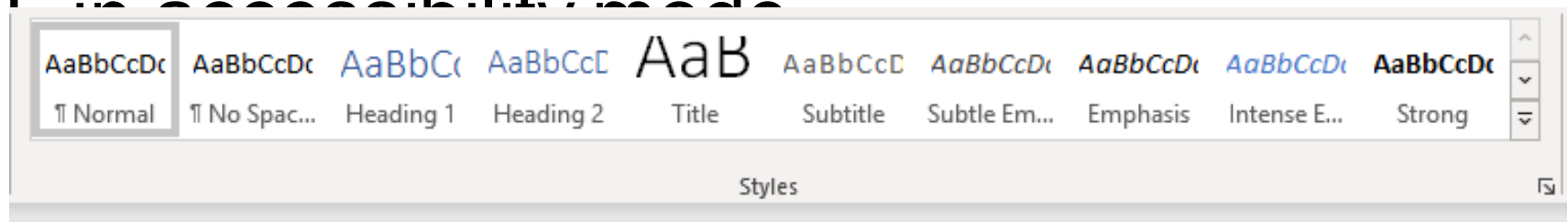
Users - Group Discussion 2



Accessibility of teaching materials and accessibility tools

Basic guidelines for accessibility

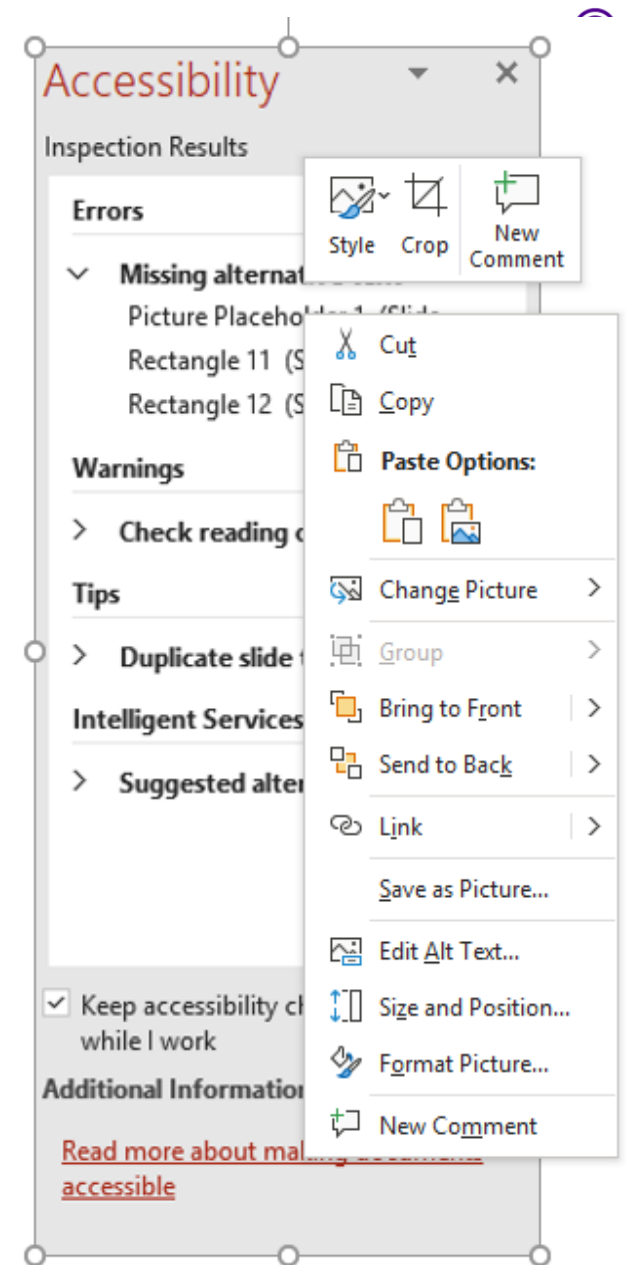
1. Use styles and clear font
2. Use easy and understandable language
3. Create text alternatives (alt texts) for pictures
4. Name the links clearly, check that they work
5. Use colors carefully
6. Use tools to help
7. Save the PDF in accessibility mode



Adding Alt Text

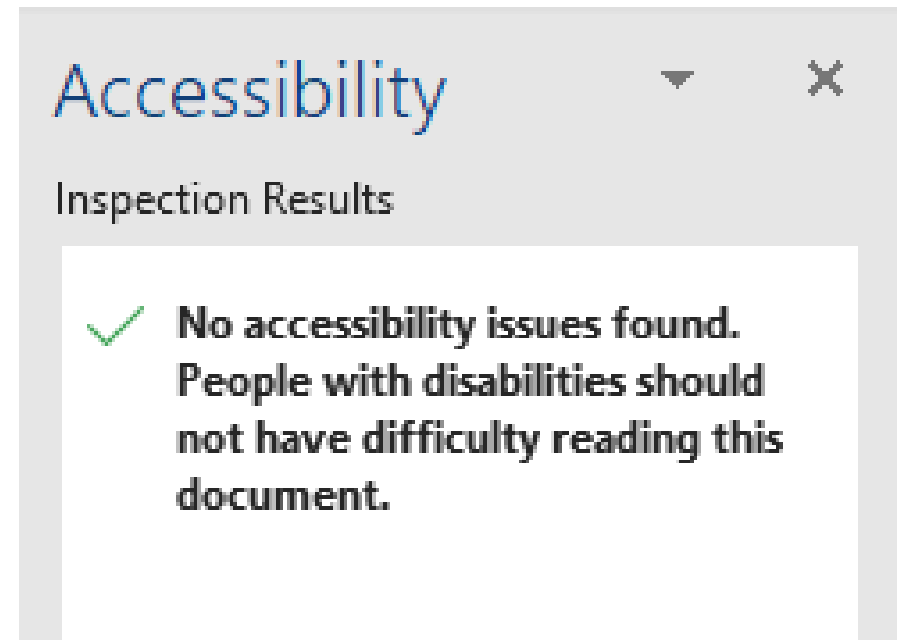
- Click the picture with right mouse button “Edit Alt Text”
- Write a descriptive text
- You can also mark the picture as decorative
- Don’t use automatically created alt texts

“A large brown dog holding a frisbee in its mouth”



Checking accessibility

- **With office programs (Word, PowerPoint, Excel)**
- With different apps and add-ons (web pages, colors)
- With checklists (WCAG 2.1.)
- With user tests



Word, Powerpoint, Excel – checking accessibility

- The tool in the programs checks the accessibility of the file for the most part
 - Doesn't for example check easiness of language
- It indicates errors and warnings and offers instructions how to improve accessibility
- File -> Check for Issues – >Check Accessibility

The screenshot shows the 'Check for Issues' menu in a Microsoft Office application. The menu is open, showing several options. The 'Check Accessibility' option is highlighted with a grey background. The 'Inspect Presentation' option is also visible at the top of the menu.

Inspect Presentation
 Before publishing this file, be aware that it contains the following information:
 ■ Document properties, document server information, and author's name

Check for Issues

- Inspect Document**
 Check the presentation for hidden properties or personal information.
- Check Accessibility**
 Check the presentation for content that people with disabilities might find difficult to read.
- Check Compatibility**
 Check for features not supported by earlier versions of PowerPoint.

Presentation



Word, Powerpoint, Excel – checking accessibility

Accessibility [dropdown] [close]

Inspection Results

Errors

- Missing alternative text
 - Picture Placeholder 1 (Slide...)
 - Rectangle 11 (Slide 5)
 - Rectangle 12 (Slide 5)

Warnings

- Check reading order (3)

Tips

- Duplicate slide title (1)

Intelligent Services

- Suggested alternative text (7)

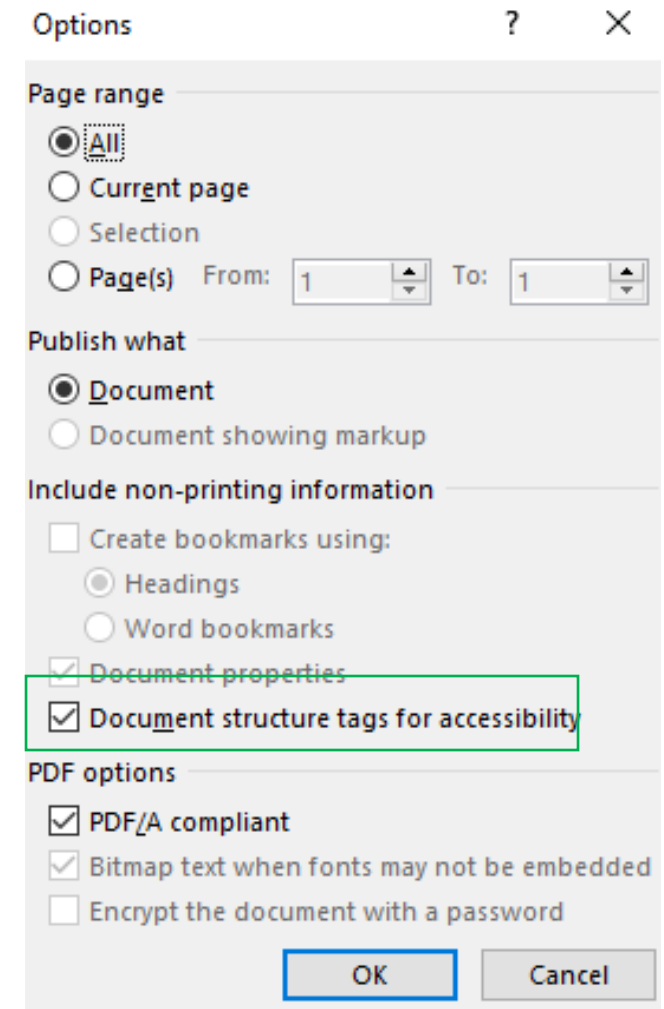
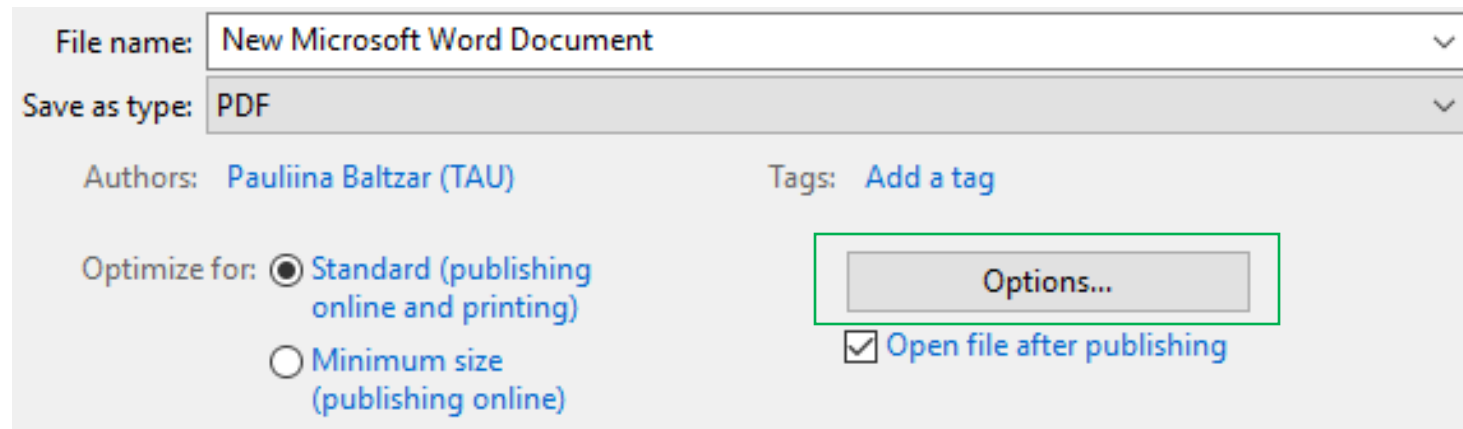
Keep accessibility checker running while I work

Additional Information [dropdown]

[Read more about making documents accessible](#)

Saving PDF

- Save PDF-> Settings -> “Document structure tags for accessibility”
- **do NOT use “print pdf”**



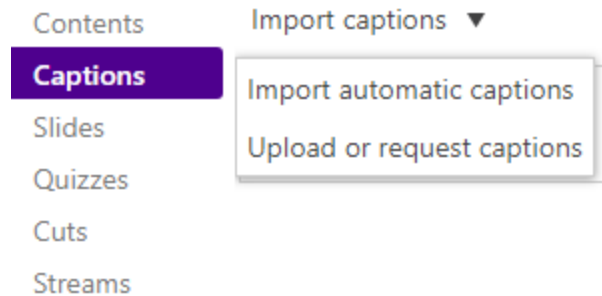


Moodle Accessibility

- Make files accessible, use PDF-format in Moodle
- Use clear language, avoid unnecessary design, use headings
- Name the links
- Add texts to images
- Subtitle videos
 - Automatic captions in English Microsoft Stream
 - Automatic captions in Finnish Panopto?

Automatic captions - Panopto

- Edit video
- Import automatic captions



Automatic Captions – Microsoft Stream

- Edit video
- Choose language
- Autogenerate captions

Editing "Meeting with Pauliina Baltzar (TAU)"

↓ Download video ↑ Replace video 🗑 Delete video

Details

Name

Description

Describe your video. Include timecodes (hh:mm:ss) to create chapters for easier navigation. For example: 00:24 Introduction

Introduction

Setting a video language enables automatic closed captioning for supported languages. [Learn more](#)

Video Language ⓘ

English

Thumbnail

Permissions

Allow everyone in your company to view this video ⓘ

Share with ⓘ

People Search for People

Viewers ⓘ	Owner ⓘ	Display ⓘ
✕ Pauliina Baltzar (TAU) (pauli...	<input checked="" type="checkbox"/>	<input type="checkbox"/>
✕ Pauliina Baltzar (TAU) (pauli...	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Options

Comments ⓘ

On

Captions ⓘ

Autogenerate captions ⓘ

Subtitles ⓘ

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