Guideline Universal Design
Sheet 11: PowerPoint

What? [1]

> PowerPoint (PPT) is a digital presentation software programme. A universally accessible PowerPoint supports the learning of all students. A good PowerPoint contains images, sounds, videos, text and graphs that are accessible to everyone to make an interactive presentation.

Why and for whom? [2, 3, 4, 5, 6, 7, 8, 9]

The use of an accessible PowerPoint presentation (PPT) has **educational benefits** for all students, in particular for students with a disability:

- ☐ **Structure** | PPT provides structure for the content and supports the speaker in formulating clear summaries.

- ☐ **Time** | PPT facilitates more efficient use of time: less time is spent writing on the blackboard or whiteboard, making the presentation easier to understand.

- ☐ **Motivation and understanding** | Students experience positive effects: they find lessons more interesting and are more motivated. They report a higher self-efficacy, can write better and with more structure on handouts and understand the lesson content better.

- ☐ **Disability** | PPT offers benefits for students with a disability. Having access to the slides of a lesson in advance may be necessary, for example, for students with dyslexia, a motor or visual impairment, autism spectrum disorder or ADHD. The student can prepare the lesson this way, distinguish the main and side issues and master the structure. For students with a visual disability, it may also be necessary to be able to follow the lesson through the magnification software.

- [ ] **Facilitates target groups** | PPT facilitates specific target groups, such as students with a different mother tongue or students with a lower reading speed. PPT also facilitates reading speed and taking notes.

Teachers sometimes show **resistance to making the lesson slides digitally available in advance**, on the one hand from the concern that students would no longer come to class, and on the other that this would provoke a passive attitude during class. However, research shows that supplying complete or reduced slides (key words) doesn't have an effect on the presence and notation during the lesson. If the teacher does not make the PowerPoint universally available (discouraged), the PowerPoint must be offered to students with specific needs as a reasonable adjustment. Preferably offer the PowerPoint in the original format (.ppt format) so that the student can adapt it to his own specific needs (font size, tab order, software, etc.).

Tips & Tricks [5, 10, 11, 12, 13, 14, 15, 16]

Settings, structure and layout

- [ ] **Meaningful name** | Give the document a meaningful name (e.g. lesson_subject_date).
- [ ] **Language file** | Set the primary language of the document via file > options > language (needed for reading software). Even if the language of only one text fragment differs from the language of the rest of the document, it is still necessary to indicate this language change.
- [ ] **Template** | Use the design templates that are available in PPT.
- [ ] **Slide titles** | Provide a unique title for each slide (via start> arrange> selection pane you can make it invisible on the slide, but make it detectable for reading software).
- [ ] **Structural elements** | Use the offered structural elements (e.g. numbering, tables, etc.).
- [ ] **Tab order** | Set the tab order via the start screen> arrange> selection pane.
- [ ] **Structure and multimedia** | Structure information and offer it multimedial (e.g. text, video, audio,…).

- ☐ **Course of presentation** | Show the course of the presentation (e.g. the number of the current slide below).
- ☐ **Hyperlinks** | Always give hyperlinks a meaningful description (e.g. not just "click here" but "click here to view the presentation").
- ☐ **Notes** | Use notes with the slides.
- ☐ **Check accessibility** | Check accessibility via check > check accessibility.
- ☐ **Export / convert** | Keep the accessibility characteristics when exporting / converting. Check the following boxes when creating a PDF file: "convert document information" and "labels for document structure for accessibility".

Text

- ☐ **Font** | Use a font size of at least 24 pt in a sans serif font (e.g. Arial or Calibri) and ensure a contrast between text and the (simple) background.
- ☐ **Emphasize text** | Emphasize elements by using bold text. Do not use capital letters, italics or underlined text. Avoid using only color.
- ☐ **Language** | Use simple language.
- ☐ **1-6-6 rule** | Dose information on the slides, use only key concepts in direct writing style. Use the 1-6-6 rule: 1 idea per slide, 6 words per line and 6 lines per slide.

Non-textual elements

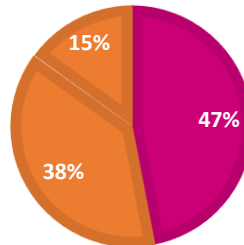- ☐ **Tables** | Make legible tables that can be understood without explanation.

Brana fastest payback period

Machine	Investment (millions euro)	Paypack period (months)
Argo	1000	48
Brana	1500	42
Cronux	2000	55

- ☐ **Graphs** | Choose appropriate graphs based on the content, add the message explicitly.

DIVISION INCOME COMPANY X IN 2018

■ Advice ■ Training ■ Sales

47%
38%
15%

- ☐ **Images** | Images speak more than words, but only if they have educational value.
- ☐ **Alt text** | Use an alternative text (Alt text) for images: format image> size and properties> alternative text.

Image sort	Alternative text
Informative	Adequate description of image
Clickable	Destination of hyperlink
Image with text	Text in the image
Non-informative image	No alternative text

- ☐ **Contrast** | Provide sufficient contrast between the image and the background.
- ☐ **Clear image** | Do not use scanned or unclear images.
- ☐ **Subtitles** | Provide video or audio material with synchronized subtitles.
- ☐ **Text equivalent** | Provide a text equivalent for audio clips.
- ☐ **Controls** | Provide volume control and functions to quickly forward, pause and navigate (also via the keyboard!).

Know more?

- ☐ Read the article '[make your PowerPoint presentations accessible to people with disabilities](#)' by Microsoft Office.

In practice

" "Releasing the note pages: we are experimenting with that. As a teacher you have to think about what you write down here. It does increase accessibility. It shows why a presentation looks a certain way. For example, you may have exam questions in your notes, which you must remove. With small changes it can become very accessible."

" "There is a field of tension: PowerPoint is presentation material, but it is used as course material. You have other principles that apply when presenting than when learning. Consider, for example, Mayer's principles and his cognitive overload: you cannot put too much on the PowerPoint. But of course students can't learn from that."

References

[1] Business Dictionary (z.d.). Definition Microsoft-PowerPoint. Geraadpleegd op 17 maart 2018 via http://www.businessdictionary.com/definition/Microsoft-PowerPoint.html

[2] Hlynka, D., & Mason, R. (1998). PowerPoint in the Classroom: What Is the Point? Educational Technology, 38(5), 45–48.

[3] Lowry, R. B. (1999). Electronic presentation of lectures-effect upon student performance. University Chemistry Education, 3, 19–21.

[4] Daniels, L. (1999). Introducing technology in the classroom: PowerPoint as a first step. Journal of Computing in Higher Education, 10(42–56).

[5] Mantei, E. J. (2000). Using Internet Class Notes and PowerPoint in the Physical Geology Lecture. Journal of College Science Teaching, 29(301–305).

[6] Susskind, J. E. (2008). Limits of PowerPoint's Power: Enhancing students' self-efficacy and attitudes but not their behavior. Computers and Education, 50(4), 1228–1239.

[7] Susskind, J. (2005). PowerPoint's power in the classroom: enhancing students' self-efficacy and attitudes. Computers & Education, 45(2), 203–215.

[8] Fichten, C. ., Ferraro, V., Asuncion, J., Chwojka, C., Barile, M., Nguyen, M., … Wolforth, J. (2009). Disabilities and e-learning problems and solutions: An exploratory study. Educational Technology & Society, 12(4), 241– 256.

[9] Maydosz, A., & Raver, S. A. (2010). Note taking and university students with learning difficulties: What supports are needed? Journal of Diversity in Higher Education, 3(3), 177–186

[10] Worthington, D. L., & Levasseur, D. G. (2015). To provide or not to provide course PowerPoint slides? The impact of instructor-provided slides upon student attendance and performance. Computers & Education, 85, 14–22.

[11] Burke, L. A., & James, K. E. (2008). PowerPoint-based lectures in business education: An empirical investigation of student-perceived novelty and effectiveness. Business Communication Quarterly, 71(3), 277– 296.

[12] Williams, R. L., & Eggert, A. (2002). Notetaking predictors of test performance. Teaching of Psychology, 29(3), 234–237.

[13] Werkgroep Digitale Toegankelijkheid KU Leuven (2011). *Toegankelijkheid van documenten en media*. Leuven. Geraadpleegd op 10 december 2017

14 Inclusive Design Research Centre (2011). *Authoring Techniques for Accessible Office Documents:*

Documents:

Microsoft Powerpoint 2010. Geraadpleegd op 16 maart 2018

15 http://www.arteveldehogeschool.be/studielicht/presentatie

16 European Agency for Special Needs and Inclusive Education. (2015). Richtlijnen voor toegankelijke informatie: ICT voor toegankelijkheid van informatie bij het leren (ICT4IAL). Geraadpleegd op 10 december 2018 via https://www.european-agency.org/sites/default/files/Guidelines%20for%20Accessible%20Information_NL.pdf