



Accessibility and Inclusion in Virtual Facilitation for the Perspective of Finnish Non-governmental Organizations

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Bachelor of Business Administration, Business Information Technology

Bachelor's Thesis

2023

Abstract

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Degree Bachelor of Business Administration, Business Information Technology
Report/Thesis Title Accessibility and Inclusion in Virtual Facilitation for the Perspective of Finnish Non-governmental Organizations
Number of pages and appendix pages 57 + 4
<p>Digital skills can be regarded as a new civic skill, and it is essential to understand what are the elements that make up a reachable digital experience. This bachelor's thesis explores the concepts of accessibility and inclusion in connection with virtual facilitation. The topic is discussed from the Finnish non-governmental organizations' point of view.</p> <p>Most non-governmental organizations (NGOs) have limited resources or inadequate technical know-how to thoroughly understand our contemporary digital environment. Members of the NGOs have different levels of digital skills, and NGOs' successful digital presence requires a basic understanding of accessibility, inclusion, and virtual facilitation.</p> <p>This thesis aimed to understand the current state of accessibility knowledge and virtual facilitation skill level of Finnish NGOs. The broad topic was approached using Järjestödiggi 2020 and 2022 surveys as a quantitative basis and then conducting theory-driven qualitative research for five Finnish national-level NGOs. All these NGOs were voluntary national defense organizations formed from regional-level districts consisting of local associations. Qualitative research was conducted through semi-structured email interviews in April 2023.</p> <p>The objectives of the thesis were to identify the basic principles behind accessibility and inclusion; to understand the current state of accessibility knowledge and utilization in Finnish NGOs; to identify the basic principles behind virtual facilitation; to discover the current skill level of virtual facilitation in Finnish NGOs; to present how to ensure accessibility and inclusion in virtual facilitation; and create a simple and practical accessibility and inclusion preparation tool for virtual facilitation that anyone can use to understand the topic better.</p> <p>The research results show that accessibility is currently understood in different ways among Finnish NGOs, but it is also seen as an interesting and important topic. Finnish NGOs are not utilizing accessibility and virtual facilitation as well as they could, even though there is a lot of potential. One reason for this may be the inadequate resources of the NGOs. The modest sample size of qualitative research impacts the reliability of the results, but there are possible topics for further accessibility and virtual facilitation research within Finnish NGOs.</p> <p>The final result chapter of the thesis presents a brief introduction to accessibility, inclusion, and virtual facilitation, followed by a practical accessibility and inclusion preparation tool for virtual facilitation. The tool offers a simple approach to the topic, but by using it carefully and iteratively, it can provide a way to organize more successful, accessible, and inclusive virtual events. The tool could be developed further into more precise and graphical training material for NGOs and other entities who want to learn about the topic.</p>
Key words Accessibility, Inclusion, Facilitation, Virtual facilitation, Non-governmental organizations

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1 Introduction

Learning the basics of accessibility and inclusion is a small step toward making the world a better place. As technology and digitalization are ever-increasing parts of everyone's daily lives, it is essential to understand what elements make up a reachable digital experience and how to use them in everyday digital design. This bachelor's thesis aims to explore the concepts of accessibility and inclusion in connection with virtual facilitation. The topic is examined from the Finnish non-governmental organizations' point of view.

The word accessibility has two translations in the Finnish language. The first one is *esteettömyys*, which means ease and functionality in the physical world, e.g., moving around with a white cane, a wheelchair, or a baby stroller. The other translation is *saavutettavuus*. That means accessibility in the digital world. When digital services (e.g., websites and mobile apps) and their contents are created with accessibility in mind, they are easier to use for everyone. Thus, they also improve equality in the digital world. (Regional State Administrative Agency for Southern Finland s.a. a.) This thesis concentrates on accessibility in the digital world.

With accessibility, it is also natural to talk about inclusion or inclusivity. The terms mean that everyone is included and can feel valued and welcome (Cambridge Dictionary s.a.; University of Cambridge s.a.). In Finnish society, equality and inclusion have been the cornerstones of the welfare state. The aging population and demographic changes make inclusion extremely important also in the digitalizing future. (Valtioneuvosto s.a.) Digital skills promote inclusion and participation in our society. That is why it is essential to ensure that everyone can develop their digital skills as they can be regarded as a new civic skill. (Valtioneuvosto 2022, 17.)

An enormous digital leap has happened during the past few years when the COVID-19 pandemic has changed how we live and work. Progressively more collaboration happens online, and different forms of participatory design and co-creation are increasingly common. Often the most fruitful result is obtained when there are diverse people involved. That implies we need to ensure that the ways we are working are both usable and accessible for all participants. Doing so may also require facilitation, which is a goal-oriented, content-neutral group guiding process toward a better result (Grape People s.a.). However, all this may seem challenging, and many organizations still need help to give their best performance in a digital world.

Accessibility and inclusion in the digital world may appear difficult or time-consuming concepts to master. Many small and medium-sized enterprises (SMEs) and most non-governmental organizations (NGOs) have limited resources or inadequate technical know-how to understand thoroughly our contemporary digital environment. NGOs are especially interesting because their members

have different levels of digital skills. Using digital platforms should not hinder anyone's participation because it directly affects inclusion and people's will to engage with the organization. At its best, NGOs' successful digital presence could provide learning experiences to their members. For some members, NGOs may even act as digital educators without the organizations being aware of it.

A basic understanding of accessibility, inclusion, and virtual facilitation is vital for creating meaningful events in a non-physical space. This thesis tries to understand this vast topic through theory-driven qualitative research of five Finnish NGOs. The objectives of this thesis are

1. to identify the basic principles behind accessibility and inclusion
2. to understand the current state of accessibility knowledge and utilization in Finnish NGOs
3. to identify the basic principles behind virtual facilitation
4. to discover the current skill level of virtual facilitation in Finnish NGOs
5. to present how to ensure accessibility and inclusion in virtual facilitation
6. to create a simple and practical accessibility and inclusion preparation tool for virtual facilitation that anyone can use to understand the topic better.

The theoretical framework of the thesis is broad because it includes the concepts of accessibility, inclusion, facilitation, and virtual facilitation. It also discusses legislation and guidelines related to accessibility and inclusion. The theoretical framework tries to give a successful overview of the specific characteristics of virtual facilitation and what to consider when organizing an event online. The scope of the thesis concentrates on understanding how to implement accessibility and inclusion from everyone's point of view. In addition, the thesis does not consider the technical implementation of the solutions or testing of them.

Qualitative empirical research was conducted through semi-structured email interviews. It aimed to understand the current state of accessibility knowledge and virtual facilitation skill level of Finnish NGOs. The results were combined with the theory to create a simple and practical accessibility and inclusion preparation tool for virtual facilitation. The tool is not meant only for NGOs but for everyone interested in creating more reachable virtual events.

The objectives mentioned above are approached through five research questions presented in an overlay matrix in Table 1. Each of these research questions is related to one objective. The first research question is related to the first objective, the second research question is related to the second objective, the third research question is related to the third objective, the fourth research question is related to the fourth objective, and the fifth research question is related to the fifth objective. The sixth objective is carried out throughout the thesis, and the finished practical accessibility and inclusion preparation tool for virtual facilitation is presented in Chapter 5.5.

Table 1. Overlay matrix about the research conducted in this thesis

Research questions	Objective	Theoretical framework (chapter)	Results (chapter)	Qualitative interview questions
1. What are the basic principles behind accessibility and inclusion?	1.	2.1–2.2, 2.5–2.9	5.5	–
2. How well is accessibility understood and utilized in Finnish NGOs?	2.	2.1, 2.3–2.4, 4.1	5.1, 5.4	1–3
3. What are the basic principles behind virtual facilitation?	3.	3.1–3.4	5.5	–
4. What is the skill level of virtual facilitation in Finnish NGOs?	4.	3.6, 4.1	5.2, 5.4	4–6
5. What to consider when planning accessibility and inclusion in the process of virtual facilitation?	5.	3.5–3.8	5.3–5.5	7–9

2 Disability, accessibility, and inclusion

When designing any form of digital services, it is important to understand the basic principles behind accessibility and inclusion (Research question 1). That will also help to recognize how well accessibility is understood and utilized in Finnish NGOs (Research question 2). Considering accessibility in the digital world benefits us all because permanent or temporary disabilities and situational limitations can affect anyone (Regional State Administrative Agency for Southern Finland s.a. a).

2.1 Definitions

Disability is “a physical, mental, cognitive, or developmental condition that impairs, interferes with, or limits a person’s ability to engage in certain tasks or actions or participate in typical daily activities and interactions” (Merriam-Webster 2023a). The World Health Organization (WHO 2023) estimates that 16 % of the population experience disability, and people with disabilities are diverse. Disabilities are a combination of health conditions, personal factors, and environmental circumstances (WHO 2023), and anyone can have a temporary disability or situational limitations (Dowden and Dowden 2019, chapter 1).

Berners-Lee (W3C 1997), the inventor of the World Wide Web, has declared that “the power of the Web is in its universality. Access by everyone regardless of disability is an essential aspect”. The Internet has the power to remove obstacles of the physical world, but poorly designed web solutions can create barriers excluding people with disabilities (Gilbert 2019, chapter 2). Accessibility and inclusivity are needed to remove those barriers.

Accessibility is defined as “capable of being reached”, “easy to speak to or deal with”, “capable of being used or seen”, “capable of being understood or appreciated”, “capable of being influenced”, and “easily used or accessed by people with disabilities” (Merriam-Webster 2023b). That suggests that accessibility can be seen simply as an ability to access. The effect of accessibility can be summarized as “If something is annoying, it’s probably not accessible” (Gilbert 2019, chapter 3).

Accessibility refers to the properties of content published in digital form (Selovuuo 2019, 11). However, accessibility is not only checklists to complete but also usability-related (Gilbert 2019, chapter 1). Accessibility can be divided into three areas: technical implementation, ease of use, and comprehensibility and clarity of content (Regional State Administrative Agency for Southern Finland s.a. a). Accessibility aims at making more usable products, services, and environments for people with disabilities. It can also be seen as an overlapping concept, sub-case, or a degree of usability. (Gilbert 2019, chapter 8; Kalbag 2017, chapter 1.) On the other hand, accessibility also means that people are treated equally (Selovuuo 2019, 13).

Inclusion is defined as “the act of including” and “the state of being included” (Merriam-Webster 2023c). One definition of *inclusive* is “including everyone” (Merriam-Webster 2023d), and *inclusivity* means making everyone feel valued and welcome (University of Cambridge s.a.). Hence it seems that accessibility can promote inclusion. Demos Helsinki (2019, 9) sees accessibility as a solid foundation for inclusion: accessibility is a base layer of the pyramid leading to inclusion and participation (Figure 1). Therefore, accessibility can be seen only as a minimum requirement, and it demands a lot more to create meaningful experiences for people with disabilities (Joyce 2022).

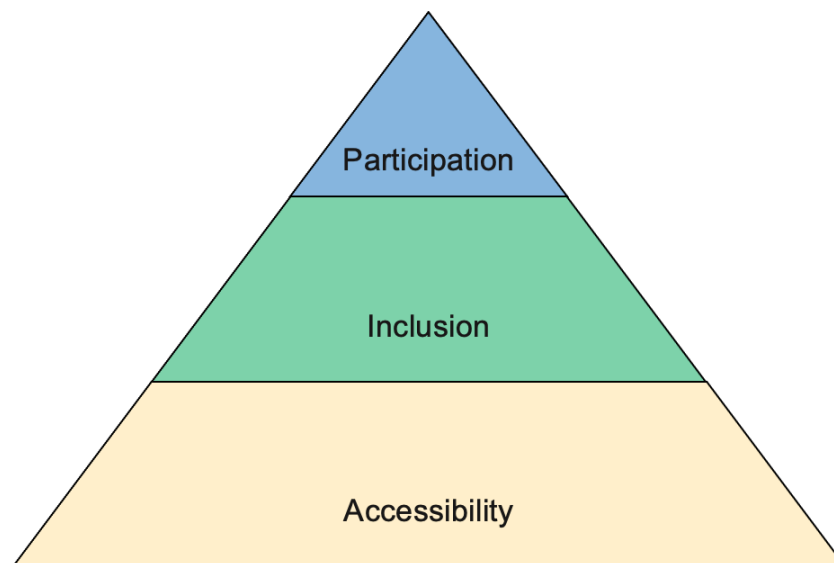


Figure 1. Accessibility enables inclusion and participation (adapted from Demos Helsinki 2019, 9)

Inclusive design implies that the creation methodology behind products understands people from all backgrounds and abilities (Joyce 2022), and products are made available to the largest possible group of users. The difference between accessibility and inclusive design is that accessibility makes everything more approachable (often content-wise), and with inclusive design, it is possible to make products for everyone. (Gilbert 2019, chapters 1–2.)

2.2 Importance of accessibility and inclusion

Accessibility may feel like a cumbersome topic at first, and it can be mistakenly seen as tedious, complex, or beneficial to only a few people. However, well-thought accessibility improves overall usability and favors everyone. (Kalbag, chapter 1; Gilbert 2019, chapter 8.) That includes, among other things, new users, older adults, people who are using devices with smaller screens, people who are not native talkers of the language, people who have temporary disabilities, people who have situational or environmental limits (W3C 2022a; Gilbert 2019, chapter 8).

Accessibility can be seen as an **ethical, legal, economic, and personal** matter (Dowden & Dowden 2019, chapter 3). From an *ethical* point of view, it is easy to understand that accessibility is the right thing to do as it helps to create equity. A *legal* point of view is essential, too, because many countries have laws and regulations concerning accessibility. *Economic* perspective means that the lack of accessibility can lead to a lower user base, lost revenue, and decreased search engine visibility. Lastly, accessibility becomes a *personal* matter when people have their private reasons to care about the topic. (Dowden & Dowden 2019, chapter 3; Selovuo 2019, 15–16; Kalbag 2017, chapters 1–2; Gilbert 2019, chapter 8.)

In order to get the best benefits, accessibility factors should be considered already at the beginning of the development work. That is useful for the teams, too, as they gain more experience working with accessibility. (Dowden & Dowden 2019, chapter 3.) When accessibility and inclusion are guiding design decisions, products and services can be used by a more extensive user base, and thus their impact may increase. This impact can be seen as an equation: “**Impact = (People reached x Impact on each person) - (People excluded x Impact on each person)**”. (Chadha 2022, chapters 1–2.)

Inclusion is a relevant concept in today’s society because it helps to understand how to create an environment that is welcoming to everyone. That includes individuals with disabilities but also people of different ages, people from different cultural backgrounds, and people with varying socio-economic statuses. Accessibility can be seen as a necessary component of inclusion (Demos Helsinki 2019, 9), and designing with inclusion in mind ensures that everyone can use the end product. That can also be called *Design for All* or *Universal Design*. (W3C, 2016.)

It is essential to understand that inclusive products can be enjoyable for everyone, and good design can be both accessible and visually appealing. In addition, accessibility-related problems have given us incredible inventions such as typewriter, audiobooks, and email. (Chadha 2022, chapter 1, chapter 4.) As the purpose of accessibility is to remove obstacles and bring the digital world closer to everyone to interact (Dowden & Dowden 2019, chapter 1; W3C 2022a), there are no excuses for neglecting accessibility and inclusion in digital design.

2.3 Inclusion and accessibility legislation in Finland

The legislation provides a solid base for inclusion in Finnish society. Section 6 of the Constitution of Finland (731/1999) declares that all people must be treated equally, and the Non-discrimination Act (1325/2014) prevents discrimination and promotes equality in all areas of society. In addition, sections 6 and 9 of the Administrative Procedure Act (434/2003) emphasize that authorities should treat all service users equally and use language that is clear and easy to understand. In our ever-

digitalizing environment, it is essential that all people have an equal right to find content and participate online (Selovuuo 2019, 13). That is protected by the Act on the Provision of Digital Services (306/2019).

Section 1 of the Act on the Provision of Digital Services defines that the Act is an implementation of the European Union (EU) directive 2016/2102, also known as the Web Accessibility Directive. The Web Accessibility Directive entered into force in 2016, and the member states of the European Union had to make it law latest in September 2018. The main goal of the directive is to provide better accessibility for public sector websites and mobile applications and harmonize standards within the European Union. (European Union 2021.) That is an important step towards inclusion and a more accessible online environment.

The Web Accessibility Directive requires that all public sector websites and mobile apps should have a detailed and clear accessibility statement. The accessibility statement should indicate the level of accessibility and accessible alternatives to non-accessible content. There are a few exclusions for content elements in specific internet services, but they are a clear minority. In addition, the accessibility statement should provide working feedback and complaint mechanisms for reporting accessibility problems to the owner. The Web Accessibility Directive also obliges the member states to raise awareness about accessibility requirements, offer training programs, and share the best practices. (European Union 2021.)

The implementation of the Web Accessibility Directive was done through two implementing decisions in 2018. The Commission Implementing Decision (EU) 2018/1523 established a model of accessibility statement, and the Commission Implementing Decision (EU) 2018/1524 established monitoring and reporting arrangements. There also existed a third implementing decision concerning a harmonized standard. This standard is EN 301 549, which follows the WCAG 2.1 Web Content Accessibility Guidelines to a great extent. (European Commission s.a. a.) WCAG 2.1 Web Content Accessibility Guidelines are introduced in more detail in Chapter 2.4.

As discussed above, Web Accessibility Directive is implemented through The Act on the Provision of Digital Services. In addition, The Act on the Provision of Digital Services is influenced by the UN Convention on the Rights of Persons with Disabilities. The Act helps to improve content accessibility, availability, quality, and information security of digital services, and hence it is also improving inclusion. Section 3 of the Act defines that it applies to digital services provided by the government, authorities, and other public entities, private entities operating in vital sectors of society, and private entities and non-governmental organizations funded at least 50 % by public entities. (Act on the Provision of Digital Services; Regional State Administrative Agency for Southern Finland s.a. b.)

The Act on the Provision of Digital Services presents three requirements for digital services in its scope. The first one is that digital service and its content must meet level A and AA criteria of WCAG 2.1 Web Content Accessibility Guidelines. These levels are introduced in more detail in Chapter 2.4. The second requirement is the evaluation of the accessibility of digital service and its contents, which also must be presented in the accessibility statement of the service. The third requirement is that the digital service should have an electronic accessibility feedback channel for users, and feedback should be responded to within 14 days. The authority in charge of implementing the Act on the Provision of Digital Services is the Regional State Administrative Agency of Southern Finland. (Regional State Administrative Agency for Southern Finland s.a. b.)

Unfortunately, the requirements of the Act on the Provision of Digital Services cannot guarantee that the digital services obliged by the Act are entirely accessible to everyone. However, the Act aims to make accessibility a key principle to guide digital services' planning, implementation, and maintenance. (Regional State Administrative Agency for Southern Finland s.a. b.) That is a significant trend, and hopefully it will spread to the private sector, too. Even though the Act on the Provision of Digital Services only obliges certain entities, accessibility means equality and fairness in digital services, and it should be every organization's moral obligation as it increases inclusion (Se-lovuo 2019, 6, 13, 17).

2.4 Standards and guidelines

The most important standards and guidelines related to accessibility are heavily engaged to an organization called W3C, which is an acronym that stands for the World Wide Web Consortium. W3C is an international community founded by the inventor of the World Wide Web, Tim Berners-Lee, in 1994. In January 2023, W3C became a public-interest non-profit organization and its own legal entity. That means it can be an even more international and neutral developer of the Web. W3C has created a lot of standardization, tools, and resources to ensure the successful evolution of the Web. (W3C s.a.; W3C 2023a.)

Web Content Accessibility Guidelines, also known as WCAG, is an international standard created by W3C. It currently includes versions WCAG 2.0, WCAG 2.1, and WCAG 2.2 (unpublished). There is also an in-progress draft of WCAG 3, which takes a broader scope to accessibility (W3C 2022b). The purpose of WCAG is to help to make web content more accessible to people with disabilities. The first version, WCAG 2.0, was published in December 2008 and later approved as an ISO/IEC 40500:2012 standard. The second version, WCAG 2.1, was published in 2018, and it has all the previous accessibility success requirements of WCAG 2.0 with new additions. WCAG 2.2 is a draft version scheduled to be published in May 2023. (W3C 2023b.)

WCAG 2.1 has a wide range of recommendations for more accessible internet content. These include four basic principles, 13 guidelines, three levels of success criteria, and certain sufficient and advisory techniques to provide content accessibility guidance. Recommendations cover desktops and laptops but also tablets and mobile devices. European accessibility standard EN 301 549 builds heavily on WCAG 2.1, but it also includes some requirements beyond WCAG 2.1 (European Commission s.a. b). (W3C 2018.)

In WCAG 2.1, the four foundational principles of accessible content are **Perceivable**, **Operable**, **Understandable**, and **Robust**. The principles are also known as the acronym POUR (Figure 2). *Perceivable* means that content, such as user interface components and information, should be presented in a way that users can access and perceive. Interaction with user interface components and navigation should be *Operable*, and information content and user interface operation *Understandable*. Content is *Robust* when it can be interpreted reliably with assistive technologies, such as screen readers. These principles make content more usable to all internet users. (W3C 2018.)

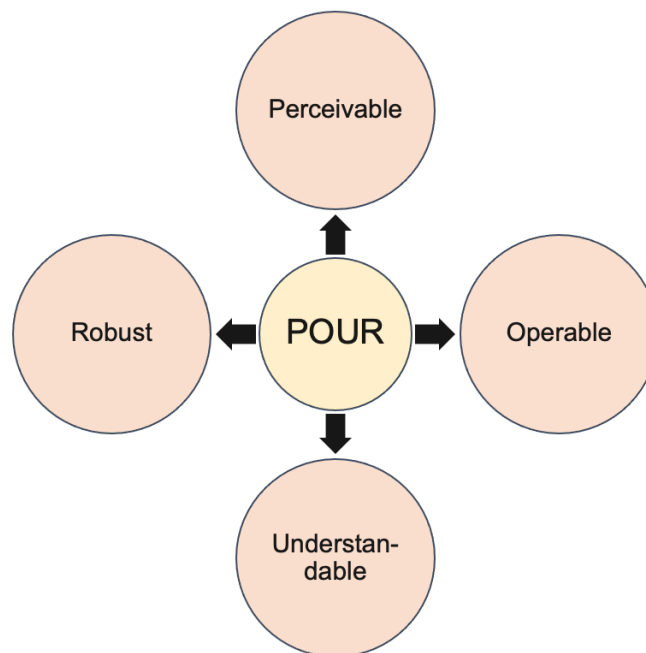


Figure 2. POUR is an acronym for the four principles of web accessibility

WCAG 2.1 include altogether 13 guidelines, which are organized inside the POUR principles. Guidelines are divided further into success criteria, which have three levels of conformance: A, AA, and AAA. A is the lowest level, and AAA is the highest. The Act on the Provision of Digital Services requires that the digital services in its scope meet the conformance levels A and AA of the success criteria (Regional State Administrative Agency for Southern Finland s.a. b). (W3C 2018.)

The first POUR principle, Perceivable, includes four guidelines (1.1 Text Alternatives, 1.2 Time-based media, 1.3 Adaptable, and 1.4 Distinguishable). The second principle, Operable, includes five guidelines (2.1 Keyboard Accessible, 2.2 Enough Time, 2.3 Seizures and Physical Reactions, 2.4 Navigable, and 2.5 Input Modalities), and the third principle, Understandable, includes three guidelines (3.1 Readable, 3.2 Predictable, and 3.3 Input Assistance). The last principle, Robust, includes only 1 guideline (4.1 Compatible). (W3C 2018.) These guidelines create a solid base for accessibility.

2.5 Accessibility in practice

In practice, accessibility can be built with proper technical implementation and improved with well-designed content. W3C (2016) states that accessibility includes both technical requirements relating to underlying code and requirements concerning visual design and user interaction. Technical implementation is vital for assistive technologies to work correctly, and proper user interaction and successful visual design help to remove barriers for disabled people and improve overall usability (W3C 2016). WAI-ARIA (Web Accessibility Initiative – Accessible Rich Internet Applications) is a technical recommendation published by W3C that helps to increase accessibility on the Web (Selovu 2019, 95–101).

Content is the main reason people visit websites (Gilbert 2019, chapter 2). Therefore, accessible content is crucial, and it is necessary to understand that it is not only text but also images, videos, forms, and all other elements that give information to users (Dowden & Dowden 2019, chapter 1). According to Selovu (2019, 105–119), the accessibility of content can be reviewed from visual, audio, physical, and cognitive perspectives. Physical accessibility also includes people with mobility impairments, and cognitive accessibility includes linguistic accessibility (Selovu 2019, 105–119).

2.6 Visual accessibility

It may be challenging to think about all the possible disabilities or all the potential users. However, approximately 80 % of accessibility issues are associated with blindness (Gilbert 2019, chapter 5), and most of the content on the Web is visual. Thus, visual accessibility is an excellent starting point. Visual accessibility may appear important only for blind people, but it is a significant topic for everyone with low vision or color blindness (Cunningham 2012, chapter 2). In addition, well-executed visual accessibility can help people with environmental limits (like bright sunshine) and cognitive disabilities like dyslexia or attention-deficit disorders (Cunningham 2012, chapter 5; Gilbert 2019, chapter 8).

Visual accessibility aims at making content easy to see. That means both seeing the content and accessing it with assistive technologies. (Kalbag 2017, chapter 4.) Some crucial settings related to visual accessibility (like font sizing and color inversion) are now part of general display settings because people prefer different visual options regardless of disability (Chadha, chapter 2). However, visual accessibility starts already from the design. The design (and content) of a digital service should be consistent, organized, and digestible. In this way, it also improves usability. For example, complicated user flows can make navigation difficult, and two-way scrolling may be uncomfortable for blind users. (Dowden & Dowden 2019, chapter 1; Chadha 2022, chapter 3, chapter 5.)

People with complete or partial blindness use screen readers to transform content into speech or braille. That means digital services should be appropriately programmed and reachable using only the keyboard. In addition, there should be a meaningful hierarchy and grouping of the elements. Screen readers process all the content they meet, so the consistent and usable structure of pages is essential. No content should be presented only in visual form, and links should be visually distinguished and tell where they lead. Also, content should be clearly organized and well-titled (with enough subheadings), and all downloadable files should be in an accessible format. (Gilbert 2019, chapter 1; Selovuo 2019, 108–109; Cunningham 2012, chapter 1; Chadha 2022, chapter 3.)

All non-text content (e.g., images and actionable components) must have a descriptive alternative text, i.e., alt text. Alternative texts describe the important elements of the content. In the picture, alt text describes what the image represents and why it is presented. However, it is important to remember to write alt texts without unnecessary repetition because screen readers read all the text content on the page. Alt text can be left blank if the image is purely for decoration purposes. Factors related to the structure of the page and the use of alternative texts are successful not only in improving accessibility but also in enhancing search ranking within search engines. (Selovuo 2019, 108–109; Cunningham 2012, chapter 1; Chadha 2022, chapter 3.)

For people with low vision, it is essential that the structure and layout of the page are clear and that there is enough negative space between different content elements. Also, font size and line spacing should be sufficient, and the contrast between the background and the text should be high enough. Font size should be at least 16 pt, and sans serif font is a good selection for a typeface. Peculiarly, people with dyslexia have reported that the notorious Comic Sans font is relatively easy to read: the reason for this is the hand-drawn and unique feel of the letters. There are special fonts designed for dyslexic people (Dyslexie font s.a.). However, a clean sans serif font like Arial, Verdana, or Helvetica is a good font choice that is easier to read also for people with dyslexia. (Selovuo 2019, 110–111; Cunningham 2012, chapter 5.)

Sufficient contrast between the text and the background benefits everyone, but especially those with low vision or color blindness (Cunningham 2012, chapter 2). According to W3C (2018), the contrast with normal text size should be at least 4.5:1 to pass the AA level of conformance of WCAG 2.1 and 7:1 to pass the AAA level of conformance. With large text size (regular font size 18 pt or larger, or bold font size 14 or larger), the contrast should be at least 3:1 to pass the level AA level of conformance and 4.5:1 to pass the AAA level of conformance (W3C 2018). There are free-of-charge color checker tools available to easily review if the colors of a webpage or design fulfill the WCAG 2.1 criteria (Bureau of Internet Accessibility s.a.).

A pure black text on a pure white background has a maximum contrast ratio value of 21:1 (Bureau of Internet Accessibility s.a.). However, that may not be the best and eye-friendliest contrast for the reader: a high-contrast text is problematic, especially for a part of dyslexic people (Kalbag 2017, chapter 4). Instead, off-black text on off-white background works better for almost everyone. It is also best not to use any images in the background of the text, and the contrast ratio should never be neglected for design reasons. (Cunningham 2012, chapter 2, chapter 5.)

Figure 3 presents the same pt-sized serif and sans serif texts with different color combinations. The text on the left is pure black (hex color code #000000) on a pure white background (hex color code #FFFFFF) with a serif font (Times New Roman). The text on the right is off-black (hex color code #111111) on an off-white background (hex color code #EEEEEE) with sans-serif font (Arial).

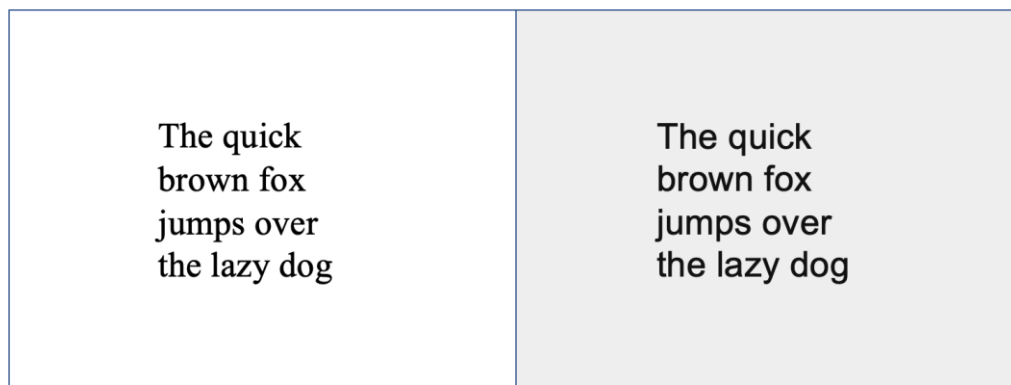


Figure 3. Text on the left has a contrast ratio of 21:1 and text on the right a contrast ratio of 16.27:1

Contrast is not the only issue related to color. Color blindness, more accurately known as color vision deficiency, is an inability to identify certain color shades (American Optometric Association, s.a.). The most common color vision deficiencies are red–green and green–red, which affect 8 % of men and 0,5 % of women in the Finnish population. In addition, even 40 % of men with red–green color vision deficiency are unaware of it. (Duodecim Terveyskirjasto 2021.) Also, people with complete color vision deficiency (monochromacy) exist, but that is quite rare (Gilbert, chapter 1).

Color schemes are especially important when presenting figures, diagrams, maps, or any graphical material in which color plays a significant role (Cunningham 2012, chapter 2). The meaning of something should never be indicated only with color (W3C 2018), and removing the colors completely should not affect the meaning of the content. It is a good design choice to use restrained colors with sufficient contrast and also to understand the cultural meaning of the colors chosen. When using colors in figures or diagrams, the colors must be distinguishable from each other also for users with color vision deficiency. (Selovuo 2019, 106–107.) Figure 4 illustrates how using a pattern can support even insufficient color choices.

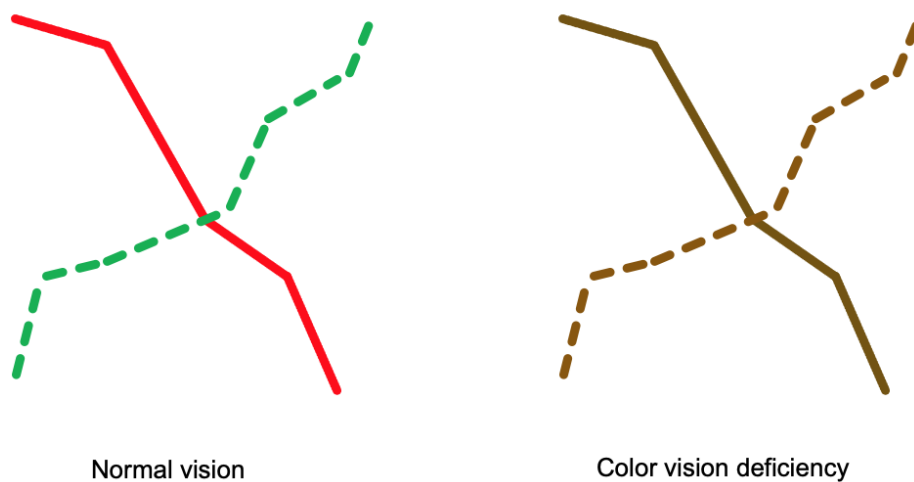


Figure 4. Differently structured lines are easier to distinguish from each other (adapted from Cunningham 2012, chapter 2)

Visual accessibility can also be enhanced by the clear and readable layout of the page and the ability to zoom the page without any discomfort. The text should be justified on the left to improve its readability. The line length should be a maximum of 80 characters, and for dyslexic readers, the optimal maximum length is 60 to 70 characters. Plain language, complete and short sentences (10 to 15 words per sentence in English), and concise paragraphs (approximately five sentences long) work best. Images can break the content into appropriate sections and support its message. Using symbols and icons may help the user to navigate, and leaving enough space to design helps readability. (Selovuo 2019, 110–111; Cunningham 2012, chapter 5; Gilbert 2019, chapter 3.)

2.7 Audio accessibility

Audio accessibility is essential when dealing with audio and video files. In addition to the hearing disabled, audio accessibility benefits people with environmental limits like forgotten headphones or

a noisy background (Kalbag 2017, chapter 2; Gilbert 2019, chapter 8). Time-based media like audio and video content must have alternative presentation methods, which usually means the content must have a text equivalent. (Selovuo 2019, 112–113.)

Videos can have subtitles, closed captions, or transcripts. Chadha (2022, chapter 3) also mentions audio descriptions, which include the original soundtrack and a description of what is happening visually. Subtitles tell the viewer simultaneously what is being spoken on the screen. Closed captions, on the other hand, are a more detailed transcription of auditory parts of the video. They also include the atmosphere by telling important non-verbal background information like the sounds in the environment or what kind of music is playing. (Kalbag 2017, chapter 4; Dowden & Dowden 2019, chapter 1; Cunningham 2012, chapter 3.)

Closed captions should be kept short, in one to two lines, and they should appear in real-time. In addition, the visual accessibility of the text is important. That includes, for example, background color, typeface, font sizing and color, and spacing of the text. There should be enough contrast between the background and the text, and captions should not hide anything vital behind them. Also, the text is more readable when it is not entirely written in capital letters. (Kalbag 2017, chapter 4; Dowden & Dowden 2019, chapter 1; Cunningham 2012, chapter 3.)

Both subtitles and closed captions are useful for translating the audio into different languages, thus engaging the users more. In addition, they can improve the searchability of the content. However, it is good to be aware that some users with attention-deficit disorders (like ADHD) may find closed captions challenging to focus on. They can also cause anxiety for dyslexic users. (Gilbert 2019, chapter 1; Chadha 2022, chapter 5.)

Transcripts help to describe both video and audio files. They are text-only versions of the spoken dialogue of the entire auditory content of the file, often in document form. They can also have time stamps, speaker labels, and audio descriptions. Transcripts can be read on the screen or through assistive technologies, but they are also useful for searching a specific part of the topic or having an overall idea of the content. They can also be translated into different languages relatively easily. (Dowden & Dowden 2019, chapter 1; Kalbag 2017, chapter 4; Chadha 2022, chapter 3.)

Content is not the only thing to be considered in audio accessibility. Usability is important, too: any audio content that plays over for more than 3 seconds should have pause, mute, and volume controls. In addition, the quality of the sound should be clear and understandable. In user interfaces, signal tone cannot be the only way to communicate with a user. If an online service has a contact information section, there should also be other contact options than just a phone number. (Dowden & Dowden 2019, chapter 1; Selovuo 2019, 112–113.)

It is also important to understand that The Act on the Provision of Digital Services obliges some organizations to provide subtitles to their video content within 14 days of publication (Selovuo 2019, 112–113). Unfortunately, this means that organizations with insufficient subtitling resources may be unable to offer accessible versions of their webinars or training sessions. All in all, audio accessibility benefits all users: the research conducted in 2019 by Verizon Media and Publicis Media showed that 80 % of American consumers aged 18 to 54 were more likely to watch a video until the end if captions were available. In addition, 80 % of the people using captions did not have a hearing disability, and as many as 69 % liked to watch videos without sound in public places and 25 % in private places. (Klimeš 2021.)

2.8 Physical accessibility

Users may have a broad spectrum of physical or motor limitations affecting their use of technology. These limitations can be temporary (illness or accident) or permanent (disability or old age). Physical limitations may slow the user down or require assistive technologies or technical aids like voice-activated applications. (Selovuo 2019, 114-115; Gilbert 2019, chapter 1; Chadha 2019, chapter 3.)

A website should be operable using only a keyboard, and the main title of every page should be placed high enough to see without any scrolling. In addition, the elements of a website should be clear, large enough, in a logical order, and have a proper distance from each other. Usability is increased if a site is operable with gestures on a touch screen and supports both orientations (portrait and landscape). (W3C 2019; Selovuo 2019, 114-115; Gilbert 2019, chapter 1; Chadha 2019, chapter 3, chapter 5.)

Time limitations in different services can be frustrating. If they are used, the time should be long enough to be able to finish the activity (there are some exceptions for this, like auctions). According to W3C (2019), a user should be warned at least 20 seconds before the time limit expires, or there should be a possibility to stop or adjust the timing. Usability can also be enhanced by using dropdown menus that stay down until the wanted option is activated. (Cunningham 2012, chapter 4; Selovuo 2019, 114-115; Chadha 2022, chapter 3.)

2.9 Cognitive accessibility

Cognitive accessibility makes content, user interface, and errors easy to understand (Kalbag 2017, chapter 4; Gilbert 2019, chapter 1). That also includes linguistic accessibility (Selovuo 2019, 118–119). Cognitive disabilities are diverse, including difficulties with memory, attention, problem-solving, and text, math, or visual processing (Kalbag 2017, chapter 2). Dyslexia, attention-deficit disorders (e.g., ADD or ADHD), and information-processing disorders are some examples of cognitive

disabilities (Cunningham 2012, chapter 5). People with cognitive disorders often also benefit from visual, audio, and physical accessibility (Dowden & Dowden 2019, chapter 1).

Dyslexia is a language-based reading and writing disability, varying from mild to severe. Approximately 6 to 10 % of the adult population suffer from some form of reading and writing difficulties. A person with dyslexia has difficulties interpreting and processing phonetics-related information, and this leads to slowness and sensitivity to errors in reading and writing. The effects of dyslexia may also include memory problems, disruptions in the ability to organize information and learning disabilities. (Celia 2015.) Dyslexia can also be considered through visual accessibility, e.g., some combinations of text and background color can make a text more readable (Kalbag 2017, chapter 2).

People with attention-deficit disorders and people with dyslexia can benefit from similar kinds of design choices. Navigation and the overall look and feel should be consistent, backgrounds neutral and muted, and sentence and paragraph lengths short because smaller chunks of information are both easier to read and focus on. Compact pages with well-thought and organized design make it easier to keep on track with content. Important information should be highlighted or accented in some manner, but all blinking or flashing content should not be used to avoid distraction or possible seizures. In addition, bulleted or numbered lists can break up long text blocks and make items easier to read and understand. (Cunningham 2012, chapter 5; Kalbag 2017, chapter 2, chapter 4.)

People with cognitive disabilities often find visual clutter distracting and large amounts of information difficult to focus and understand (Gilbert 2019, chapter 1). Accessible video or audio content can clarify the text, and photos, illustrations, graphs, and placeholder texts may help to increase the content's understandability. It is good to notice that forms and other pages with a time-out function can cause problems (if there is no auto-save option), and auto-playing videos or animations can cause distraction. (Kalbag 2017, chapter 2; Dowden & Dowden 2019, chapter 1; Cunningham 2012, chapter 5; Chadha 2022, chapter 3.)

Using plain language and avoiding jargon helps also non-native speakers to understand the content better. It is estimated that 500 000 people in Finland need plain language, but using it helps even more people. The more important the content, the more clearly it must be expressed; misinterpretation of the content is always the writer's mistake. (Selovuuo 2019, 118.)

3 Facilitation and virtual facilitation

Facilitation is already an acknowledged approach, but it gains new characteristics in the digital world. To be able to organize better virtual events, it is vital to understand the basic principles behind virtual facilitation (Research question 3). This basic knowledge is needed to understand the current skill level of virtual facilitation in Finnish NGOs (Research question 4). In addition, understanding what to consider when planning accessibility in the content and process of virtual facilitation (Research question 5) helps to organize successful online events.

3.1 What are facilitation and virtual facilitation?

Facilitation is defined as “the act of facilitating” (Merriam-Webster 2023e), and the verb *facilitate* as “to make easier” (Merriam-Webster 2023f). In addition, Andersen, Nelson, and Ronex (2021, chapter 1) mention that the word *facilitation* originates from Latin, and the root word “*facilis*” means “to make something easier or to move freely”. The idea of facilitated meetings started during the 1970s and the 1980s. In their book “How to Make Meetings Work”, writers Straus and Doyle proposed that it would be beneficial for the meetings to have a leading person who is neutral and focuses only on the process of the meeting, not the content of it. (Nummi 2021, 26–27.)

Content neutrality is a significant feature of facilitation (Schwarz 2016, 14; Sipponen-Damonte 2020, chapter 1; Grape People Finland Oy s.a.). Another crucial aspect is the importance of a group: facilitation has also been described as a mindset and a way of working successfully with groups (Schwarz 2016, 4). Facilitation means goal-oriented guidance of a group (Sipponen-Damonte 2020, chapter 1), and the group is a facilitator’s client (Schwarz 2016, 28). The group is the best authority on the topic at hand, and the facilitator is responsible for making the work easier and guiding the group’s wisdom toward a common goal (Sipponen-Damonte 2020, chapter Introduction).

A facilitated group can be either a group or a team. A group consists of people who have come together as individuals for a particular purpose, like communicating or tackling a problem. They all have their own individual goals, and they can be more argumentative and competitive in their collaboration. A team, however, is a group of people that has come together to achieve a specific common goal. A team can be more permanent than a group, and it can develop more openness and trust in its communication. A team is more coordinated than a group and has its own norms or rules, which define the team’s culture. A team goes through five stages of development during its lifecycle: forming, storming, norming, performing, and adjourning. A group can evolve into a team, but it is not necessary if the group is only supposed to be together for a short time. (Bens 2018, chapter 5.)

Facilitation is always goal-oriented and should have a purpose (Sipponen-Damonte 2020, chapter Introduction). A facilitated session should have a real reason to gather and something to discuss. The facilitator's job is to make sessions relevant to participants and invite the right people along. A facilitated session can be, for example, a meeting, a workshop, or training; it can also contain multiple elements. A meeting is a re-occurring event that often focuses on planning, discussing the status of progress, or sharing knowledge. Compared to a meeting, a workshop is more interactive. The size of a workshop can vary from five to 1000 people, and they are used for creating something new, like ideas or specific input from participants. Training session usually builds up participant knowledge about a certain topic, and participants also get feedback from their progression. (Andersen & al. 2021, chapter 1.)

Facilitation is a process of channeling energy and a way to impact the participants to take ownership (Andersen & al. 2021, chapter 1). Successful facilitation experiences may even help the group to become more self-facilitating (Schwarz 2016, 24). Successful group facilitation can make individuals feel better and more motivated, and it can help to gain a sense of purpose (Schwarz 2016, 3–4; Grape People Finland Oy s.a.). To sum up, successful facilitation helps the group to deliver better results than it would be able to achieve when working alone (Andersen & al. 2021, chapter 1; Schwarz 2016, 4).

Virtual facilitation is a special case of facilitation: it means that the facilitation process is happening online. The COVID-19 pandemic was a strong enabler of virtual facilitation, making it increasingly common. However, successful virtual facilitation needs more technical skills from the facilitator, and it uses online tools and some special techniques to ensure the engagement of participants. (Smart 2022.) Facilitation in virtual meetings is at least as necessary as in face-to-face meetings. Physical distance brings its own limitations, but on the other hand, technology can also bring new opportunities for facilitation. (Sipponen-Damonte 2020, chapter Introduction.)

3.2 Role and competences of a facilitator

Anyone can become a good facilitator, and it is a role that requires constant maintenance. A skilled facilitator is “being interested instead of being interesting” and has a lot of emotional intelligence. (Andersen & al. 2021, chapter 3.) A facilitator can be external or internal, but he or she should not be a member of the facilitated group. In addition, the facilitator does not have decision-making power on the result of the facilitated occasion. However, from time to time, the facilitator may have to take the role of an expert to explain something or prevent the group from making a wrong decision. In these situations, everyone must notice and understand this temporary role change. (Bens 2018, chapter 1, chapter 4; Andersen & al. 2021, chapter 3; Schwarz 2016, 14–16.)

Facilitator holds tremendous but subtle power to the group, and he or she should be trusted (Clacey & Morris 2020, chapter Principle 4: Nurture Connection, chapter Why Is Remote Collaboration Difficult?). One way to use this power wisely is not to share the facilitator's own opinions and even not agree with the group's views by saying things like "good point". Instead, the facilitator can use "okay". This way facilitator is also preserving his or her content-neutral role and achieving the trust of the group (Schwarz 2016, 14–16; Bens 2018, chapter 1). However, a good facilitator asks many questions to activate the group's own thinking process (Bens 2018, chapter 1).

A facilitator is a process expert who knows how to enable the smooth performance of a group and how to take care of the well-being of an individual participant (Schwarz 2016, 17). He or she creates a suitable structure and atmosphere for the group to work effectively and successfully together (Bens 2018, chapter 1). The facilitator is an enabler who makes participation easy and a helper who can boost the group to improve its performance temporarily (Bens 2018, chapter Introduction; Schwarz 2016, 24; Clacey & Morris 2020, chapter Principle 4: Nurture Connection).

As seen above, a facilitator does not give ready-made solutions. Instead, he or she offers a framework, tools, and guidance to help the group to achieve high-quality results (Bens 2018, chapter 1). When facilitating, the facilitator is present, honest, flexible, shows a good example, and keeps things running smoothly (Bens 2018, chapter 1, chapter 9; Clacey & Morris 2020, chapter Principle 4: Nurture Connection). Maxey and O'Connor also remind that reserving enough time for facilitation is crucial and that a facilitator should never finish late (Maxey & O'Connor 2013, 6, 55–56).

Facilitation skills are helpful for anyone who is working with groups (Schwarz 2016, 3–4). Besides staying neutral, some of the most important competencies of a facilitator are paraphrasing and summarizing. Paraphrasing means a facilitator can describe the essence of what the other person said, which requires active listening and being constantly present. Summarizing, on the other hand, means that the facilitator can recapitulate what is said in a conversation or during a particular phase of the process (Maxey & O'Connor 2013, 9–10; Bens 2018, chapter 1). A facilitator should also record and synthesize ideas, test assumptions, and manage the atmosphere (Bens 2018, chapter 1).

The International Association of Facilitators (s.a.) has defined six core competencies of a facilitator. These core competencies have 18 subcategories altogether, and their purpose is to ensure the professionalism of facilitation (Sipponen-Damonte 2020, chapter Introduction). Core competencies include successful client collaboration, suitable group processes, a welcoming atmosphere, goal-oriented guidance, continuous maintenance of knowledge and skills, and a great attitude. (International Association of Facilitators s.a.)

The first core competence is “Create Collaborative Client Relationships”. That means that the attitude towards clients is positive and collaborative, and the client’s needs are adequately addressed. The second one, “Plan Appropriate Group Processes”, ensures that suitable facilitation methods and processes are chosen and that the implementation and use of time are well-planned. The third one, “Create and Sustain a Participatory Environment”, honors diversity and ensures inclusivity and a safe space for all the participants. (International Association of Facilitators s.a.)

The fourth one, “Guide Group to Appropriate and Useful Outcomes”, means that the group is led to use its wisdom with suitable methods and techniques. The fifth one, “Build and Maintain Professional Knowledge”, means that maintaining professional knowledge is a continuous task. The last one, “Model Positive Professional Attitude as a Process Facilitator”, is about the right attitude, self-awareness, integrity, and trusting the group. (International Association of Facilitators s.a.)

It is important to remember that every group and every facilitation situation is different. The facilitator must ensure the group can focus on the topic and enjoy the ride. Learning to be a good facilitator is a life-long journey enriched by the facilitator’s personality and life experience. (Sipponen-Damonte 2020, chapter Introduction.)

3.3 The Double Diamond model in facilitation

The Double Diamond is a visual process model for design and innovation. It was first launched in 2004 by Design Council and has become one of the most popular design frameworks. The Double Diamond model consists of four phases: **Discover**, **Define**, **Develop**, and **Deliver**. These phases are divided into two squares standing on their tips: the diamonds. The model starts with a problem and ends with a solution, making the design and problem-solving process visible. In 2019, Design Council relaunched the model as evolved Double Diamond and called it the Framework for Innovation. (Design Council 2019.)

The Framework for Innovation model represents the process of design (Figure 5). This process is iterative, divergent, and convergent. That means the topic is explored widely (divergent thinking) and more focused (convergent thinking) with several iterative process rounds. The first diamond of the model focuses on the problem, and it has two phases, Discover and Define. *Discover* is a divergent phase that helps to understand the challenge better and discover what the problem really is. *Define* phase is convergent, and it helps to understand and define what to focus on to solve the problem. (Design Council 2019.)

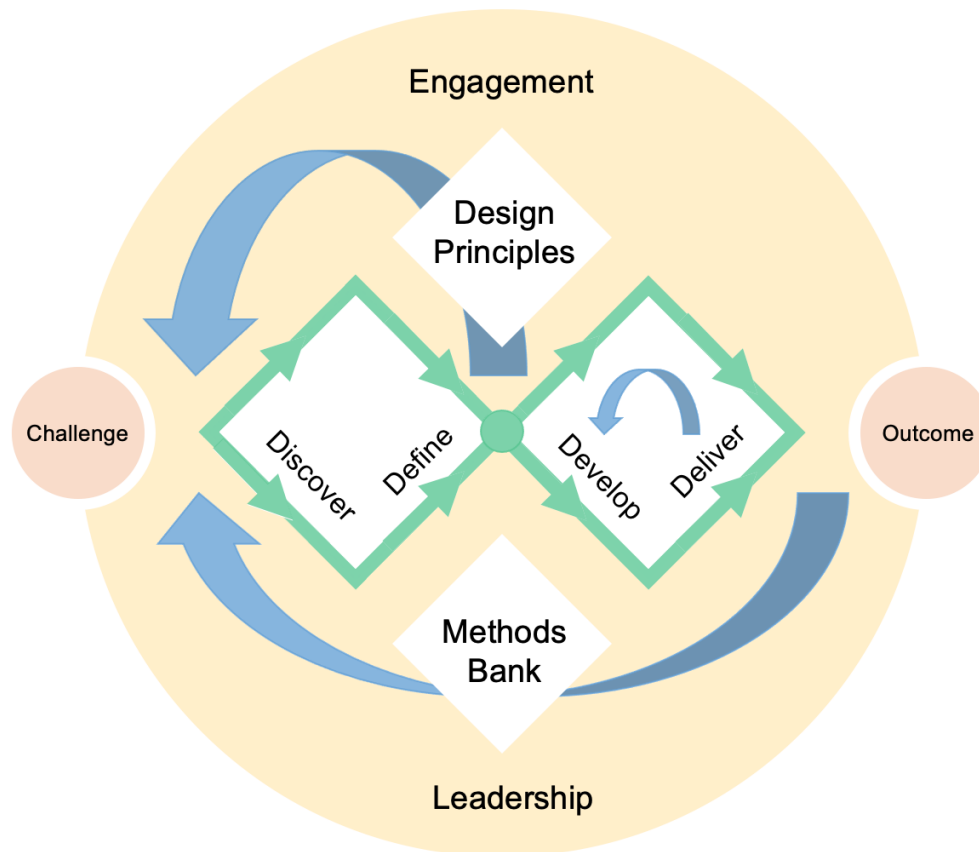


Figure 5. Framework for Innovation is an evolved version of Double Diamond visual process model (adapted from Design Council 2019)

The second diamond of the model focuses on the solution, and it also has two phases, *Develop* and *Deliver*. *Develop* is a divergent phase that encourages finding and developing different answers to the problem. *Deliver* phase is a convergent phase that involves testing solutions and improving them. Framework for Innovation also includes Design Principles and Methods Bank, which help to achieve the process's design goals. Design Principles guide designers to put people first, communicate visually and inclusively, collaborate and co-create with others constantly, and iterate multiple times to spot errors and develop better solutions. Methods Bank helps designers to explore challenges and opportunities, shape prototypes, and build ideas to design better. (Design Council 2019.)

Engagement and Leadership create a background for the whole process. Engagement means developing and maintaining good relationships between different participants of the project. Leadership creates conditions that make it possible to innovate in an agile way and encourage experimentation. Iteration is a vital part of the whole process, and it helps to dig deeper into the problem and understand what kind of solutions there are to solve it. It is better to develop and test already at the early stage of the process in order to see what solutions work. (Design Council 2019.)

The Double Diamond (or the Framework for Innovation) model is also suitable for describing participatory group processes like facilitation. Divergent and convergent phases are needed to understand the problem deeply and get the best result out of the process: divergent thinking helps create new ideas, and convergent thinking chooses the best of them. Between divergent and convergent thinking lies a Groan Zone, where the facilitated group can experience confusion and frustration (Kaner 2014, chapter 1). This phase is crucial for moving into the solution phase, and the facilitator has to be aware of it. (Sipponen-Damonte 2020, chapter 2; Nummi 2021, 25, 28–29.)

The facilitated topic must be well-prepared because it tends to broaden during the divergent phase. This stage often needs its own meeting or a workshop in order to plan the rest of the process successfully. Divergent phases take longer than convergent ones, but they are essential in order to be able to solve the problem. The facilitator is responsible for successfully planning and guiding the process through the different phases. (Sipponen-Damonte 2020, chapter 2; Bens 2018, chapter 7.)

3.4 Special characteristics of virtual facilitation

Virtual facilitation has a lot in common with traditional facilitation, and many facilitation tools can be transferred into a virtual form. However, creating successful events in a virtual space is usually more demanding. Therefore, having a facilitator in a virtual event is crucial whenever possible. When participants are in a virtual space, getting people to work together may be more difficult. The facilitator controls the flow of the event and advises participants on how they can and should contribute to different phases. Without a skillful facilitator, virtual sessions may not be as valuable and effective as they can be. (Andersen & al. 2021, chapter 1.)

Nowadays, professionals are spending approximately a quarter of their time in meetings. However, virtual events often offer an easy way to be only partially present or multitask while participating. According to Andersen & al. (2021, chapter 2), 65 % of participants did other work-related tasks, 50 % were cooking or eating, and 47 % went to the toilet during a virtual meeting. That suggests that virtual meetings could be more efficient, and people should be more engaged and present during the meetings. In order to achieve this, a facilitator must be prepared and show a good example: be the change you want to see is an excellent guideline for virtual facilitators. (Andersen & al. 2021, chapter 2.)

The benefits of virtual events are getting people together and offering the ability to work together with fewer resources. That saves money, time, and climate. Also, experts may be easier to get on board when the event is organized virtually and does not require traveling. In addition, a virtual event may be more accessible and equal to participants. Short follow-up meetings are easier to organize online, and they can create a new kind of continuity. Documentation of the outcomes may

be more straightforward when the process is already in a virtual form, and last but not least, a well-prepared virtual session can be more effective timewise than a face-to-face one. (Andersen & al. 2021, chapter 2; Schwarz 2016, 335, 345.)

Virtual meetings have their constraints and disadvantages. The planning phase is more critical than in physical meetings, and it also takes significantly more time. In a virtual world, reading the room or swiftly changing the plan may be more difficult. In addition, virtual meetings may encounter four barriers: **physical**, **social**, **cultural**, and **technological distance**. (Andersen & al. 2021, chapter 2, chapter 6.)

Physical distance is difficult because the facilitator cannot control the surroundings and the possible distractions. Participants can multitask, or it may be challenging to get their full attention. Also, producing information overload is much easier in virtual facilitation. Controlling physical distance may be easier if the facilitator has met all the participants in the physical world. That is not always possible, but the facilitator should be adequately prepared, take enough breaks, and communicate clearly. Using a webcam can shorten the physical distance because it is easier to notice body language and facial expressions. (Andersen & al. 2021, chapter 2; Clacey & Morris 2020, chapter Why Is Remote Collaboration Difficult?; Schwarz 2016, 340.)

Social distance means that people find connecting more difficult in a virtual world. Facilitator has to be able to create trust and engagement in order to shorten this distance. A good practice is to set the start of the meeting a couple of minutes earlier and include some small talk at the beginning. Using polls, communicating actively, offering frequent breaks, and constant monitoring of energy levels are important. In addition, encouraging participants to use a webcam and dividing people into smaller groups can enhance social connection. (Andersen & al. 2021, chapter 2; Schwarz 2016, 345.)

Cultural distance means that a facilitator must be aware of cultural differences and how they can affect meetings. There could be differences in how fast people react or how much preparation time participants need. Good preparation, telling each participant what is expected from them, and setting some common ground rules may help to adjust the meeting on a cultural level. Asking for feedback and changing the process accordingly is also essential. (Andersen & al. 2021, chapter 2; Haapakoski, Niemelä & Yrjölä 2020, 64–65.)

Technological distance is an obligatory evil in virtual events. Technical details can create annoyance even in a physical space, and in a virtual meeting, the effect is multiplied when the facilitator runs the process and controls the technology simultaneously. The technological distance can be avoided by selecting a suitable technology, carefully training and testing it before the session, and

asking the participants to do the same. Inviting people to the meeting a little earlier gives an opportunity not only for small talk but to test the equipment. (Andersen & al. 2021, chapter 2, chapter 3; Schwarz 2016, 341–344.)

In order to get the best results from virtual facilitation, it is advised to go fully remote whenever possible. Hybrid events are even more difficult to plan and control than entirely virtual ones, and often either physical or online participants suffer from the situation. Another piece of advice is to have only one person per device to increase engagement and set everyone in equal possession. The environment of the virtual facilitator should be tranquil and suitable for facilitation, and it is essential to have a Plan B in case of technical difficulties. (Clacey & Morris 2020, chapter Principle 1: Create Equal Opportunity; Andersen & al. 2021, chapter 2–4, chapter 9; Schwarz 2016, 341–344.)

3.5 Structure of facilitation

The structure of facilitation can be divided into before, during, and after phases. All these phases need special consideration and planning. It is also fundamental to understand the distinction between the content and the process of facilitation. Being content-neutral in facilitation does not mean the facilitator gives up control of the process or cannot use specific facilitation techniques. (Andersen & al. 2021, chapter 1; Bens 2018, chapter 1; Clacey & Morris 2020, chapter What is the Role of a (Remote) Facilitator?).

Content and process are the two dimensions of interaction. The content of facilitation means what is happening (e.g., task, topics of discussion, and decisions that are made), and the process means how it is happening (e.g., framework, methods, tools, and climate). The content consumes participants' attention because it is primarily verbal; the process is more silent, enabling the participants to concentrate on the content. Process tools allow the facilitator to guide the content toward the goal of the virtual event, e.g., by asking many questions. The facilitator can use the pronoun "you" when referring to a content-related issue (e.g., Do you feel that this has been discussed enough?) and the pronoun "we" when referring to a process issue (e.g., Do we need to take a break?). (Bens 2018, chapter 1, chapter 10; Clacey & Morris 2020, chapter What is the Role of a (Remote) Facilitator?)

Content of facilitation can easily drift away from the original idea. A good way for a facilitator to set up a scope for content is to define "corner flags" at the beginning of the session to mark what is in the discussion. This way everyone can understand what is in the scope and what is out of it. There is also a great technique called the Parking Lot, in which the content irrelevant to the occasion is parked for later use. However, using the Parking Lot means there must be a plan for how proceeding with the issues that are parked during the session. (Bens 2018, chapter 1, chapter 3, chapter 9;

Andersen & al. 2021, chapter 1; Clacey & Morris 2020, chapter What is the Role of a (Remote) Facilitator?, chapter Tying it Together.)

3.6 Planning and preparation of virtual facilitation

Planning and preparation are crucial part of virtual facilitation. Even when a person is experienced with organizing physical events, the virtual world demands a different kind of approach. However, proper planning leads to more efficient virtual sessions and shorter follow-up activities, as most process documentation is already done. (Andersen & al. 2021, chapters 1–2.) It is a good practice to think of a virtual facilitation session through the *PDSA (Plan–Do–Study–Act) model*, as facilitation is an iterative process that uses continuous improvement (Ala-Nikkola & Ylikahri 2020). Andersen & al. (2021, chapter 6) introduce the *Design Star model* (Figure 6) to help to plan a successful virtual facilitation session.

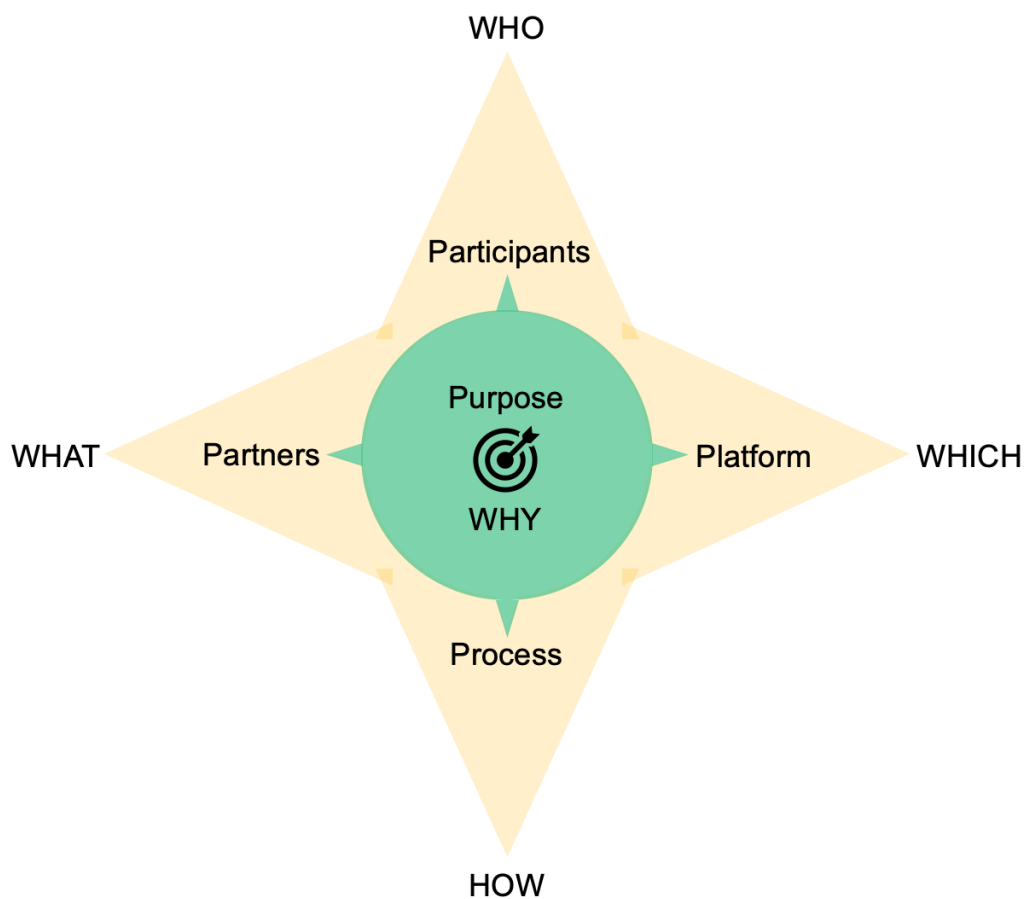


Figure 6. The Design Star is a model that helps to understand the most crucial elements of virtual facilitation (adapted from Andersen & al. 2021, chapter 6)

Often people start planning a virtual session simply by writing an agenda, but the Design Star concentrates on the overall design before going into details. Before the session, preparations include planning the focus of the session and inviting and preparing the participants. People invited have to know why they are participating and in what role. The model consists of 5 Ps: **Purpose, Participants, Platform, Process, and Partners**. When designing a virtual event, the facilitator should consider all these elements. (Andersen & al. 2021, chapters 1–2, chapter 6.)

In the middle of the Design Star is the most crucial element of it, the *Purpose*. There is no point in organizing an event without a clear purpose and understanding of what the goal of the event is. One way to find the root purpose of the event is to use *the 5 Whys* technique. With this technique, it is possible to understand the reasoning behind the session by asking five times why it is held. Each answer helps to understand the deeper layers behind the reasoning. The purpose can define the deliverables of the event, and it has to be realistic compared to the time available for the event. It is specific enough if it has some success criteria and can be evaluated after the session. Besides the primary purpose, there can be multiple intangible sub-purposes like building trust or socializing. However, there should be only one primary purpose, which must be defined as clearly as possible. (Andersen & al. 2021, chapters 6–7.)

The element of *Participants* defines who is participating in the session. That is heavily related to the purpose because it defines who must be there in order to achieve the goal of the event. It is essential to have only the right people to participate and plan the event accordingly. That will also get the people to the event because they feel it has importance for them. If the event participants are given (and not chosen), it is a good idea to go back to the purpose and see if it fits those participants. It is good to consider the participants' roles and cultural backgrounds, whether they participate voluntarily, and whether they are skilled with technology. Also, the number of participants is crucial: there is a significant difference if three or eight people are in a virtual session. (Andersen & al. 2021, chapter 6, chapter 8; Bens 2018, chapter 9; Schwarz 2016, 343.)

The element of *Platform* defines which digital platforms and tools are needed to organize the event and used during the session (Andersen & al. 2021, chapter 6). In Finland, Microsoft Teams is the widest-used event platform, and also Zoom and Google Meet are popular (North Patrol 2022). Whiteboard and collaboration tools such as Miro, Mural, Trello, and Howspace have become more popular during the past two years (North Patrol 2022). In addition, different free-of-charge tools can support participation and activation in virtual events (Innokylä s.a.).

The element of *Platform* also means the mental platform of the participants when they are coming to an online event. It is important to tell whether it will be a meeting or a workshop and what to expect. Chosen digital platforms have to support the digital skill level of the participants, and the

platforms should be suitable for their purposes and the purpose of the session. In addition, the facilitator has to know how to use the tools he or she has chosen, and it is always necessary to have a backup plan if technology fails. (Andersen & al. 2021, chapter 6, chapter 9; Schwarz 2016, 341–344; Clacey & Morris 2020, chapter Principle 6: Master Your Tools.)

Participants should be informed beforehand about the platforms used and the devices needed (e.g., is it possible to participate only using a mobile phone, and is a mouse needed). The technological entry barrier of the participants can be minimized by setting up a pre-session to test the platform or tools. Alternatively, there is a possibility to give them a tour before the actual session starts. A video introduction can be helpful and shows that the facilitator is prepared for the session. The platforms and tools must be chosen carefully. If the session is only a one-time thing and the participants are not very experienced, it may cause unnecessary stress to use an excessive amount of virtual tools. There is also a possibility to send something tangible for the participants to have in the session. If there is a plan to send something physical beforehand, it has to be done early enough. (Andersen & al. 2021, chapter 4, chapter 6, chapter 9.)

The next element, *Process*, defines all the processes needed before, during, and sometimes even after the event. It is best to start from the high level and try to understand how the nature of the event affects the forms of interaction. When people are not engaging, they arrive late and are not prepared. If the facilitator can prepare the online session correctly, this engagement level will be higher. In addition, the participants know why the session is taking place, what is discussed, and how they should be prepared. Keeping this engagement level throughout the session is essential because it helps the participants gain ownership and take action. (Andersen & al. 2021, chapter 1, chapter 6, chapter 10.)

The final element of the Design Star is *Partners*. That means considering what roles are needed within the session (e.g., leader, subject matter expert, someone taking notes) and who are the persons in these roles. If necessary, it can be a good idea to separate the technical role from the process role of a facilitator. That means there will be a separate person dealing with technical details, and the facilitator concentrates purely on facilitation. If there are many participants, a co-facilitator can play a useful role. (Andersen & al. 2021, chapter 3, chapter 6; Schwarz 2016, 342.)

All the elements of the Design Star are interdependent, and a change in one element also affects the others. That is why the elements must work together to ensure a successful outcome. Only after all the Ps of the Design Star are processed, it is time to plan the session in more detail. It is essential to understand that planning takes time, and sometimes it is necessary to spend even as much time in planning as the event itself. (Andersen & al. 2021, chapter 4, chapter 6.)

3.7 Bringing accessibility and inclusion into virtual facilitation

Accessibility is easier to incorporate into design already from the beginning, and accessible and inclusive experiences are well-designed when people feel good about the end result (Gilbert 2019, chapter 1, chapter 5). In the virtual facilitation process, it is possible to take accessibility and inclusion into account in the before, during, and after phases of the process.

In the before phase, accessibility and inclusion can be thought through the elements of the Design Star (Chapter 3.6). All the 5 Ps (*Purpose, Participants, Platform, Process, and Partners*) must be carefully considered from the accessibility point of view. The purpose has to be clear enough and well-explained to everyone, and the facilitator must understand the possible limitations of the participants. (Andersen & al. 2021, chapters 6–8.) It is not possible (or necessary) to know everyone's limitations on a personal level, but a facilitator can send information and relevant questions beforehand and ask if there is something specific to consider during the session.

The next elements of the Design Star, the platform and the process (Andersen & al. 2021, chapters 6–8), have probably the most significant impact on accessibility and inclusion in virtual facilitation. The right choice of platform(s) can maximize the advantages of technology and reduce its challenges. The facilitator can entirely focus on the session when he or she is mastering the platforms used and using them purposefully. However, it is also vital to understand that everyone has their premises to participate in virtual events, and the participants may be unsure or need help. (Schwarz 2016, 338; Clacey & Morris 2020, chapter Principle 1: Create Equal Opportunity.)

The process element of the Design Star includes all the processes of the event. In the before phase, it is essential to remember that the designed processes, methods, and tools must be accessible also content-wise (Chapters 2.6–2.9). The processes must fit the occasion and, of course, the participants. It is easy to design from one's own perspective and forget that most of others do not experience the end result similarly (Selovuo 2019, 14). The partners element of the Design Star needs attention if there are multiple roles in the virtual session. For over ten people to participate, it is helpful to have an extra facilitative role, either a co-facilitator or a technical assistant. This way, the participants and their potential problems are considered better, and the interaction is successful. (Andersen & al. 2021, chapter 3, chapter 6.)

During the facilitation, accessibility and inclusion are heavily related to the process element of the Design Star. There are many things to consider, which is one of the reasons why having a proper plan and being prepared for surprises is crucial. The facilitator must ensure that facilitation follows visual, audio, physical, and cognitive accessibility. That means

- steady lighting

- a proper background that does not gain too much attention
- having a webcam at the right height
- the use of an external headset
- having something to drink during the session to keep the voice clear
- having an external keyboard and a mouse
- testing all the equipment beforehand
- having the proper processes for the event
- having enough breaks. (Andersen & al. 2021, chapters 1– 6, chapter 10.)

Using a webcam during a virtual session can increase engagement and ease communication. When facial expressions can be seen, it is easier to follow the conversation and understand the current feelings of the participants. In addition, the participants' risk of multitasking is lower when the webcams are used. (Sipponen-Damonte, chapter 4; Schwarz 2016, 343; Andersen & al. 2021, chapter 1.) However, using webcams can increase anxiety and lower concentration for some participants. For example, neurodivergent participants may want to stim (e.g., tap their fingers or move their bodies) to process information better, and the excessive visual stimuli may be distracting to persons with attention-deficit disorder. (TaskUs 2022; Disability:IN 2022; Exceptional Individuals 2020.) It is best to lay some ground rules for the webcam use already before the session, and some parts of the session can be held without webcams.

A proper headset is needed for the clear sound quality. In addition, if there are more than six people at the event, it may be better if everyone is muted when they are not talking. However, this may create a barrier to participating. In a smaller meeting, participants can be unmuted the whole time, and there is a more unrestricted flow of speech. The facilitator must read the situation well and possibly ask questions from the participants. However, not everyone likes to talk; some may prefer to write on the event chat instead (TaskUs 2022). Chat is a good option for communication in virtual events, but it must be supervised constantly to interact appropriately. If there is a co-facilitator, he or she can be responsible for the chat and bring the questions and comments to facilitator's attention. Co-facilitator is also helpful to keep track of time. (Andersen & al. 2021, chapters 3–4, chapter 8; Clacey & Morris 2020, chapter Principle 4: Nurture Connection.)

Activating the group is vital to keep the engagement levels up, and everybody included. Activation of the group means asking questions from the participants, using polls or whiteboard and collaboration tools, and simply giving enough breaks. If polls are anonym, they can also create psychological safety for the event. Breaks are needed every 45 minutes in order to keep everyone happy. (Andersen & al. 2021, chapter 4, chapter 8.) Timer tools like vClock (2023) or different platforms' own tools may be helpful when tracking the break time visually

It is useful to finish the facilitated session with a summary of key points to make everyone understand whether the purpose of the session was reached. That is also an excellent way to get additional factors that might have been lost during the session. The facilitator collects the ideas from the parking lot (Chapter 3.5) and delivers them forward. It is relevant to thank everyone and not be the first to leave. **After the session**, getting feedback and sending possible follow-up materials and instructions is important. (Bens 2019, chapter 1; Andersen & al. 2021, chapter 1; Clacey & Morris 2020, chapter After the Call: How to Maintain Connection When the Call.) In addition, all the materials sent should be accessible in terms of content and ease of use.

3.8 Significance of empathy

Empathy has two translations from Mandarin Chinese. The first one is “to reason with a heart”, and the second one is “to sense the total situation” (Holmes 2020, chapter 7). Empathy is also described as “feeling with someone” (Winters 2020, chapter 8). It means the capability to understand other person’s experiences from their viewpoint and to share their feelings. Empathy can help designers create better solutions as they understand other people’s problems better. It is not easy to truly understand other people’s experiences, but it is well worth a try. (Kalbag 2017, chapter 1; Winters 2020, chapter 8.)

When designing, it is easy to exclude accidentally. We design from our perspective because we understand our needs and reasoning best. Confirmation bias means we tend to interpret and favor information that confirms our existing beliefs, especially on emotional topics. We all have our own lenses to interpret the world: they could be inherited (like nationality), developed (like religious views), or behavioral. Awareness of these lenses and what they apply to design is crucial. (Gilbert 2019, chapter 5; Kalbag 2017, chapter 1.)

Creating useful, accessible, and inclusive products demands working in diverse teams. That includes various ages, ethnicities, personal backgrounds, and other characteristics. Working in diverse teams helps to understand people with different experiences than our own, develop empathy, and solve users’ problems better. It also requires trust, which can be achieved by frequent and honest communication and inclusive listening. (Kalbag, chapter 1; Winters 2020, chapter 8.)

When people are excluded, it causes social pain. This pain activates similar pathways in our brain as when we feel physical pain. (Clacey & Morris 2020, chapter Principle 1: Create Equal Opportunity). Constantly imagining different situations and other persons’ circumstances can help to develop empathy skills. Using research and diverse sources on the base of design can help to create better products. If people are not feeling good when using the product or service, accessibility and inclusion need improvement. (Gilbert 2019, chapter 1, chapter 5.)

4 Research within non-governmental organizations

Accessibility is an exciting research topic because it is relatively new and still foreign to many operators. Although the laws and regulations concerning accessibility do not oblige all organizations, accessibility will become a crucial foundation for a digitalizing society of the future (Valtioneuvosto 2022, 29). However, the skill level related to accessibility and the resources to adopt it seem to vary significantly between different organizations.

This thesis tries to understand the broad topic of accessibility, inclusion, and virtual facilitation through theory-driven qualitative research of five Finnish NGOs. As this qualitative research has a quite modest sample size, the research part also utilizes former quantitative research done for Finnish NGOs through a survey called Järjestödigi. Järjestödigi is a large Finnish survey researching the state of digitalization in Finnish NGOs, and it has already been conducted five times since 2017. Chapter 4.1 presents accessibility-related findings from Järjestödigi 2020 and 2022 surveys to get a basic understanding of the topic.

The qualitative research was conducted for 5 Finnish NGOs through a semi-structured email interview. This research and the interview questions are presented in more detail in Chapter 4.2. In order to understand the objectives of the thesis, the topic was approached through the following research questions based on the objectives:

2. How well is accessibility understood and utilized in Finnish NGOs?
4. What is the skill level of virtual facilitation in Finnish NGOs?
5. What to consider when planning accessibility and inclusion in the process of virtual facilitation?

Research question 2 about accessibility was discussed in Chapters 2.1 and 2.3–2.4. In addition, Chapter 4.1 will produce more information about accessibility understanding in Finnish NGOs. Research question 4 about the virtual facilitation skill level was discussed in Chapter 3.6. Also, Chapter 4.1 gives some insight into the virtual events in Finnish NGOs. Research question 5 about planning accessibility and inclusion in virtual facilitation was discussed in Chapters 3.5 and 3.7–3.8.

Research questions were examined through nine email interview questions. These interview questions were themed into three different themes, and each theme had three questions. Themes and questions are presented in Chapter 4.2. Qualitative research concentrated only on three of the research questions. Research questions 1 and 3 (*What are the basic principles behind accessibility and inclusion?*; *What are the basic principles behind virtual facilitation?*) were examined already in Chapters 2.1–2.2, 2.5–2.9, and 3.1–3.4.

4.1 Järjestödiggi survey

Järjestödiggi is a Finnish survey that has analyzed the development of digitalization and digital skills in different-sized non-governmental organizations, from small local associations to large national unions. The survey has been conducted five times since 2017, and its objective is to offer information and insights for digitalization in Finnish NGOs. Comparing the results from different years offers impressive knowledge about the degree of digitalization in Finnish NGOs of different sizes. (Järjestödiggi s.a.) The results of Järjestödiggi surveys provide an interesting quantitative foundation for the qualitative research of this thesis.

Järjestödiggi surveys in 2020 and 2022 have investigated accessibility as one of the components of digitalization. In 2020, 504 NGOs answered the survey; in 2022, the number was 571. (Järjestödiggi 2020, 4, 9; Järjestödiggi 2022, 4, 9.) In 2020, accessibility was a current topic because of the Act on the Provision of Digital Services. The Act came into force in 2019, also obligating part of NGOs. (Act on the Provision of Digital Services.) Ever since accessibility has become a better-known and more prominent topic.

Järjestödiggi 2020 showed that the national-level organizations had spent significantly more money and resources to promote accessibility than the regional and local ones. **The most important means of achieving accessibility improvements were content, user interface development, and training. The results also brought up the limited resources of the organizations and the dependence on individual employees.** Material created by volunteers is often not as high quality and functional as it should be, and making websites more accessible may require external experts and a large budget. (Järjestödiggi 2020, 22–29.)

Familiarizing accessibility along with other work took a lot of time as the topic is so complex and multifaceted. However, there had been free of charge accessibility information and training available, and some NGOs had even a dedicated person trained for the accessibility legislation. **In 2020, approximately 30 % of NGOs did not know if the accessibility legislation obliges them; the result was even more significant in 2022, with 35 % of respondents. In addition, one-fifth of NGOs wanted to pay more attention to accessibility even when legislation does not obligate them; this result was repeated in 2022.** (Järjestödiggi 2020, 23–31; Järjestödiggi 2022, 36.)

Järjestödiggi 2022 showed that the COVID-19 pandemic accelerated the digital leap also among NGOs. In addition, almost all material has transformed into digital format over the past few years, and it is stored and archived electronically. Increased level of digitalization also affects the understanding of the importance of accessibility. **According to the survey, 64% of NGOs considered accessibility issues. Accessibility was considered the most on the content of online**

services, website development, and social media. 17% of the respondents did not consider accessibility matters at all. (Järjestödiggi 2022, 6, 18, 34.)

The results of Järjestödiggi surveys in 2020 and 2022 demonstrated that organizing virtual events has increased significantly. Virtual events are already a permanent part of operation alongside hybrid and face-to-face encounters. **The digital leap of recent years has also strengthened the NGOs' remote meeting competencies; using online environments has increased, especially in board and other meetings.** (Järjestödiggi 2020, 31; Järjestödiggi 2022, 6, 15, 117.)

In 2022, 60 % of the NGOs felt they understood enough about organizing online meetings (Table 2). With online training sessions, only 26 % of the NGOs felt this way, and with webinars, the result was 24 %. **Only 19 % of the organizations felt that they lacked some skills when organizing online meetings; the result was 18 % with online training sessions and 14 % with webinars.** Some organizations were planning to organize virtual events only further in the future. Interestingly, 13 % of the NGOs felt they do not need to organize meetings online. With online training sessions, this result was 33 %, and with webinars, 42 %. (Järjestödiggi 2022, 42.)

Table 2. The NGOs had different skill levels for organizing online events (Järjestödiggi 2022, 42)

Current skill level	Online meetings	Online training sessions	Webinars
Enough understanding	60 %	26 %	24 %
Lacking some skills	19 %	18 %	14 %
On future plans	6 %	13 %	11 %
No need	13 %	33 %	42 %
Cannot answer	3 %	11 %	9 %

It appears that Finnish NGOs still have a lot of potential to increase their online presence and learn to organize better virtual events. One reason for this unused potential is the lack of economic, human, and knowledge resources. This lack of resources was seen as an obstacle to the use of technology on all operative levels, from small local associations to large national unions. (Järjestödiggi 2022, 26.)

Järjestödiggi survey offered valuable information about the current state of accessibility understanding and utilization in Finnish NGOs. However, the survey did not reveal if organizations considered accessibility when organizing virtual events or delivering digital documents related to them. For these reasons, further research on the topic is justified and interesting.

4.2 Considering accessibility in Finnish voluntary national defense organizations

Järjestödiggi surveys 2020 and 2022 offer quantitative data about the degree of accessibility adoption in Finnish non-governmental organizations. In 2022, almost two-thirds of the 571 survey respondents considered accessibility issues in their organization, mainly in the content of online services and website development. However, the surveys provided little information about the level of understanding accessibility. (Järjestödiggi 2020; Järjestödiggi 2022, 4, 34–35.) Thus, qualitative research was needed to understand the topic more profoundly.

Qualitative research improves credibility (Stickdorn, Hormess, Lawrence & Schneider 2018, 50). The sample size is usually smaller than in quantitative research because qualitative research seeks an in-depth understanding of a phenomenon. A sufficient number of participants in qualitative research can vary from five to 50. (Dworkin 2012.) In this thesis, the purpose of qualitative research was to gain answers to three research questions:

2. How well is accessibility understood and utilized in Finnish NGOs?
4. What is the skill level of virtual facilitation in Finnish NGOs?
5. What to consider when planning accessibility and inclusion in the process of virtual facilitation?

Qualitative research was chosen to be conducted on six Finnish national-level non-governmental organizations. Organizations are an interesting accessibility research subject because they have a diverse (and possibly aging) group of members with differentiating digital skills combined with organizations' possibly insufficient resources. At its best, organizations could provide valuable digital learning experiences to their members and increase inclusion with a successful digital presence. However, this means that accessibility-related issues should not hinder anyone's participation.

All research subjects were voluntary national defense organizations formed from regional-level districts consisting of local associations. These local associations may have some entry requirements, such as age or completed military service. Umbrella organizations were not chosen as research subjects because the focus was on organizations that have direct members. This choice of organizations narrowed the response pool size and improved the answers' comparability. However, the size of the response pool could have been larger to understand the phenomenon better. Voluntary national defense organizations may have active and skilled paid personnel without any accessibility needs. However, considering accessibility helps all the members of the organization to interact better with the digital world.

The qualitative research was conducted through semi-structured email interviews. In a semi-structured interview, the same or nearly the same questions are asked in the same order by each interviewee, even though some sources suggest that the order of the questions can vary (Saaranen-

Kauppinen & Puusniekka 2006). Semi-structured interviews blend closed- and open-ended questions and often use follow-up questions. The method is time-consuming and labor-intensive, but it helps to understand the independent thoughts of each interviewee. However, there should not be too many topics in the interview. (Williams 2015, 492–505.)

A semi-structured interview follows a predetermined thematic framework (George 2022) and consists of at least five main questions and sub-questions to complement them. The chosen themes give guidance and structure to the interview. (Muotio 2022.) A maximum of three themes with three questions each can be sufficient to conduct a qualitative interview (Schwab 2015). The semi-structured interviews of this thesis were identical, and all the interviewees were asked the same questions that followed three pre-planned themes. These themes were *accessibility in general*, *organizing virtual events*, and *accessibility in virtual events*.

The semi-structured interview had a basic information section with four background questions, three interview themes with three questions each (Interview questions 1–9), and one question gathering general atmosphere and feedback. The interviewed organizations and all questions in English are listed in Appendix 1. The background information questions were asked to understand the existence of organizations, and they were as follows:

- Foundation year of the organization?
- Number of members?
- Age distribution (as accurately as it can be given)?
- Respondent's job role in the organization (not shown in the results)?

The first theme of the interview was *accessibility in general*. The theme had two open-ended questions and one closed-ended question. The purpose of the first theme was to find answers to Research question 2 (*How well is accessibility understood and utilized in Finnish NGOs?*). The questions of the first theme were as follows:

1. What is the first word that comes to mind when you think of the term "accessibility"?
2. How familiar is the subject accessibility on a scale of 1–5 (1= very unfamiliar, 2= relatively unfamiliar, 3= neither unfamiliar nor familiar, 4= relatively familiar, 5 = very familiar)?
3. Are you going to make an accessibility statement for your website, and if not, why?

The second theme of the interview was *virtual events*. This theme had only open-ended questions. The purpose of the second theme was to find answers to Research question 4 (*What is the skill level of virtual facilitation in Finnish NGOs?*). The questions of the second theme were as follows:

4. How often do you organize fully virtual events (remote participants only), and for whom?

5. Which participation platform/platforms do you use to organize virtual events (e.g., Teams, Zoom, Google Meet, and similar)?
6. What tools do you use to support participation and activation in virtual events (e.g., Miro, Mural, Google Jamboard, Mentimeter, Kahoot!, and similar)? The information about not using any tools is also equally valuable.

The third and the last theme of the interview was *accessibility virtual events*. This theme had only open-ended questions, one of which utilized multiple choice of prewritten options. The purpose of the third theme was to find answers to Research question 5 (*What to consider when planning accessibility and inclusion in the process of virtual facilitation?*). After the interview questions, there was one last question gathering general atmosphere and feedback. The questions of the last theme and the feedback question were as follows:

7. What kinds of factors related to smoothness and comfort are important to consider when planning and organizing virtual events?
8. Accessibility means the ability to access the digital world. It can be thought of through four different areas: visual accessibility, audio accessibility, physical and motor accessibility, and cognitive and linguistic accessibility. Which areas seem to be the most difficult to consider in virtual events? It does not matter if the more specific content of the areas is not familiar. Above all, I hope to get answers about which of the terms seems the most difficult when thinking about organizing virtual events.
9. How do you pay attention to the accessibility of the documents you create (e.g., Word, PowerPoint documents, and similar)?
 - Finally, I would like to ask how interesting or important the topic of accessibility seems and why? In addition to the answer to this point, you can leave free comments and feedback.

Interviewing through email can produce research data just as well as traditional face-to-face interview methods. In addition, it can save travel costs and other resources. (Dahlin 2021.) With email interviews, participants can have more reflection time for their answers. However, written interviews are more time-consuming for interviewees, and answers can be insufficient. (Hawkins 2018, 495–496.) In this thesis, the interviews were conducted via email for scheduling reasons and to give the respondents enough time to answer.

Interview questions were in Finnish because all the organizations were Finnish-speaking. The interviewed organizations and the questions in Finnish are listed in Appendix 2. The results were analyzed through a thematic analysis, which is a method for analyzing especially qualitative data (Caulfield 2022). Thematic analysis helps to identify and interpret different patterns and themes by thoroughly reading and reviewing the data (Maguire & Delahunt 2017, 3352–3355).

5 Results

The purpose of the qualitative research conducted for Finnish voluntary national defense organizations was to understand the current state of their accessibility understanding and utilization (Research question 2), to discover their current skill level in virtual facilitation (Research question 4), and to gain information about ensuring accessibility and inclusion in virtual facilitation (Research question 5). Results are introduced in Chapters 5.1–5.3 and summarized in Chapter 5.4. Chapter 5.5 presents a practical accessibility and inclusion preparation tool for virtual facilitation. This tool is based on the research and basic principles of accessibility, inclusion, and virtual facilitation.

Qualitative research was done through semi-structured email interviews, which got five responses. Finnish answers were translated into English, respecting the original answers. Unfortunately, one of the organizations chosen for interviews did not respond to the email interview request. The five respondent organizations have a long history: the oldest was founded already in 1918, and the youngest in 2004. Three of the five organizations have been operating for over 60 years, so they have strong roots.

The number of members in respondent organizations varies between 3 200 and 28 000. They reach a large number of people and therefore are valuable actors in society. The age distribution of the members of organizations varies between 16 and 98 years of age. There are age distribution differences between the organizations, but a large part of the members are between the ages of 35 and 65. All interviewees were part of the organizations' paid management.

5.1 Accessibility in general

The first interview theme, *accessibility in general*, pursued understanding the current state of accessibility knowledge and utilization in organizations (Research question 2, Chapters 2.1, 2.3–2.4, 4.1). The theme had three questions (Interview questions 1–3). The purpose of the first question (1. *What is the first word that comes to mind when you think of the term "accessibility"?*) was to lead the thought to the topic and test the basic understanding of the concept of accessibility.

The question failed to produce one-word answers as wished. However, answers provided an interesting insight into how the organizations understood accessibility. The answers were as follows:

- How easily information about the organization is available to an individual.
- Reaction time to the desired answer or completion of the requested task.
- Channels through which the organization can be reached.
- Easiness.
- Transparency, easy to find, clarity.

The answers indicate that accessibility is currently understood in different ways (cf. 2.1).

One perspective that stood out is how well the members can reach the organization. That is a significant point of view for organizations, as they need to reach their current and possible future members as well as they can. However, it seems that the main focus of this reaching is on channels instead of content. Accessibility was also seen as easiness, transparency, and clarity; these expressions actually describe accessibility quite well.

The second question of the theme (*2. How familiar is the subject of accessibility on a scale of 1–5 (1= very unfamiliar, 2= relatively unfamiliar, 3= neither unfamiliar nor familiar, 4= relatively familiar, 5 = very familiar)?*) aimed to understand how the organizations feel about their accessibility understanding level at the moment. The results are presented in Figure 7. **The average answer for the familiarity of accessibility was 3,6. That would indicate that accessibility knowledge of the organizations is guide good. However, as stated in the first question’s answers, the concept of accessibility is interpreted broadly and not entirely correct (cf. 2.1, 2.4).** In order to obtain more precise insight, it would have been better to provide a proper definition of accessibility before asking the question.

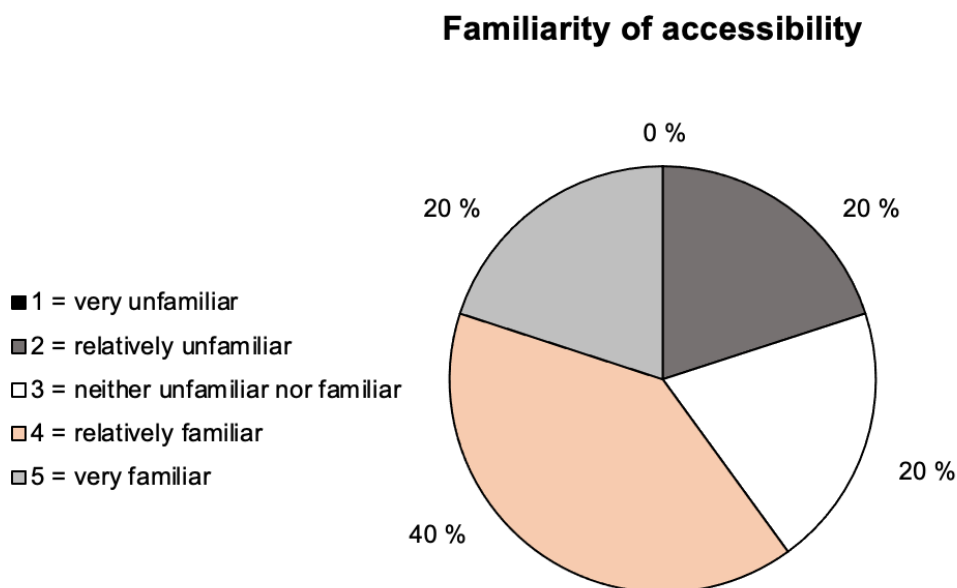


Figure 7. None of the organizations considered accessibility as a very unfamiliar topic

The last question of the theme (*3. Are you going to make an accessibility statement for your website, and if not, why?*) was placed to see how much organizations knew about the requirements of the accessibility statement and how they saw the importance of it. **The Act on the Provision of Digital Services does not apply to the interviewed organizations, and approximately half of the answers showed that the organizations knew this (see 2.3).**

Three organizations said they were not planning to make an accessibility statement because the legislation does not apply to them, or they were unaware they should make one (see 4.1). However, one organization answered that they are going to discuss about the topic (see 4.1). One of the organizations answered that they are planning to follow and analyze traffic on their new website and social media channels better than before.

5.2 Virtual events

The purpose of the second interview theme, *virtual events*, was to understand the current virtual facilitation skill level of the organizations (Research question 4, Chapters 3.6, 4.1). The theme had three questions (questions 4–6). The first question of the theme (*4. How often do you organize fully virtual events (remote participants only), and for whom?*) strived to frame the current amount and nature of the events held fully online.

All respondents organized virtual events quite regularly (see 4.1). The amounts of virtual events varied from almost weekly meetings to approximately five events per year. **Most organized events were board meetings, remote meetings for different work groups or regional-level management, and webinars (see 4.1). Two of the five respondents organized virtual events for their members (see 4.1).** The answers to this question could have been more detailed if the question had been designed differently. Now the answers tell more about the number of virtual events than their nature. Knowing how often the organizations have workshops or training sessions held fully virtually would have been interesting.

The second question of the theme (*5. Which participation platform/platforms do you use to organize virtual events (e.g., Teams, Zoom, Google Meet, and similar)?*) was placed on acquiring information about platforms for virtual events. **The results were unanimous: all five organizations use Microsoft Teams as a platform (see 3.6). In addition, one organization answered that they occasionally use Zoom as a platform (see 3.6).**

Unanimous answers were also received for the last question of the theme (*6. What tools do you use to support participation and activation in virtual events (e.g., Miro, Mural, Google Jamboard, Mentimeter, Kahoot!, and similar)? The information about not using any tools is also equally valuable.*). **None of the organizations used participation or activation tools in their virtual events (cf. 3.6), and two of the five organizations answered that the mentioned examples were unfamiliar.** Using these tools in routine meetings can be excessive. However, in webinars and other virtual events for the members, they could add a nice touch and some interaction to the event.

5.3 Accessibility in virtual events

The third and last theme was *accessibility in virtual events*. The purpose of this theme was to understand what to consider when planning accessibility and inclusion in the process of virtual facilitation (Research question 5, Chapters 3.5, 3.7–3.8). The theme had three questions (questions 7–9). The first question (7. *What kinds of factors related to smoothness and comfort are important to consider when planning and organizing virtual events?*) aimed to gather information about how well organizations already consider accessibility and inclusion when planning virtual events.

The answers (Table 3) showed that organizations considered virtual events' processes and materials (see 3.5). Factors like a working link to the event, a suitable length of the occasion, and planning and preparation beforehand were important. **The visibility of content was mentioned by one organization, the functionality of audio by two organizations, and consideration of skill level and comfort of participants by four organizations (see 3.7–3.8).** In summary, it seems that all organizations considered at least some parts of accessibility in their virtual events.

Table 3. All organizations considered some accessibility issues when planning virtual events

Organization	Answer
A	Clear presentations to support the agenda of the virtual event, paying attention to visual content, and giving instructions to participants on how to use a microphone and camera.
B	Functioning link to the event, proper operation of audio equipment.
C	The events are quite simple, and the skill level of the participants vary.
D	The events cannot be too long, and it is important to remember to include those hanging on the lines as well. Sometimes there is, e.g., group work.
E	Appropriate timing of the events, easy access to documents and materials, preparedness and preparation in advance, consideration of the participants present, smooth meeting practices and clear operating procedures, eliminating distractions and anticipation.

In order to understand the accessibility information needs of the organizations better, they were asked what area of accessibility they consider the most difficult. That was done through the second question of the theme (8. *Accessibility means the ability to access the digital world. It can be thought of through four different areas: visual accessibility, audio accessibility, physical and motor*

accessibility, and cognitive and linguistic accessibility. Which areas seem to be the most difficult to consider in virtual events? It does not matter if the more specific content of the areas is not familiar. Above all, I hope to get answers about which of the terms seems the most difficult when thinking about organizing virtual events). A combination of a multiple-choice and an open-ended question worked well because the organizations answered the question quite widely and provided interesting insight about how they feel about different areas. The unfamiliarity of the areas of accessibility is presented in Figure 8.

Unfamiliarity of the areas of accessibility

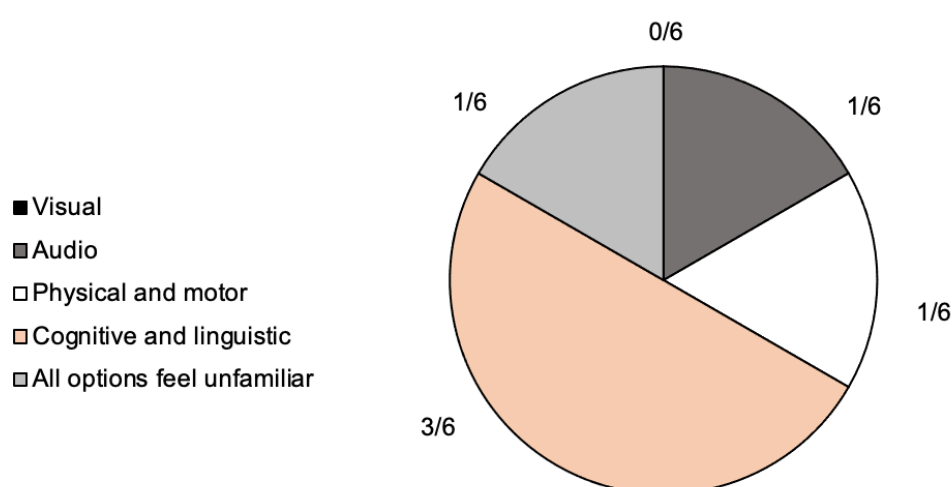


Figure 8. Three answers saw the cognitive and linguistic area as the most unfamiliar

The cognitive and linguistic area of accessibility was seen as the most unfamiliar. There had not been many of these challenges, but complicated jargon was considered a potential example of one. Audio quality was seen as a crucial aspect, and audio-related challenges were seen as especially difficult because the problems with sound quality often impact the whole event drastically, even when the visual side of the connection is fine. Physical and motor area of accessibility was seen as unfamiliar. However, there was also an excellent comment about how physical and motor challenges are minimized when the event is organized through a remote connection. Also, insufficient digital skills were seen as problematic.

The last question of the theme (*How do you pay attention to the accessibility of the documents you create (e.g., Word, PowerPoint documents, and similar)?*) was placed to gain information about the accessibility of documents. The purpose of the question was also to understand the accessibility information needs of the organizations better. **The results provided more insight into the availability of the documents than how accessible the content is. However, also the aspect of**

reachability or ease of use is essential. Organizations shared their documents through shareable file locations, video recordings, emails, and organizations' intranet. Clear naming, logical file location, and moderate file sizes helped the day-to-day operation. The development of websites and other digital channels also helped with document management. In addition, in the free comments and feedback section of the interview, one of the organizations mentioned that all material could not be in a digital form in order to be able to serve all the members of the organization.

5.4 Summary of the qualitative research results

The first theme of the interviews, *accessibility in general*, aimed at understanding the current state of accessibility knowledge and utilization in organizations (Research question 2, Chapters 2.1, 2.3–2.4, 4.1). Accessibility was currently understood in different ways and not according to its definition (cf. 2.1). The organizations were asked about the familiarity of accessibility, and the average answer was 3,6. As the concept of accessibility was not interpreted entirely correctly (cf. 2.1, 2.4), this result is not reliable. However, accessibility was also seen as easiness, transparency, and clarity.

60 % of organizations answered that they were not planning to make an accessibility statement because the legislation does not apply to them, or they were unaware they should make one (see 4.1). In addition, one organization answered that they are going to discuss about the topic (see 4.1). The Act on the Provision of Digital Services does not apply to the interviewed organizations, and approximately half of the answers showed that the organizations knew this (see 2.3). That may suggest that accessibility is not yet a very familiar topic, as the Act does not obligate the interviewed organizations. There may also be a lack of resources (Chapter 4.1), but this topic was not researched. However, accessibility was seen as an interesting topic in the interview's free comments and feedback section, and its importance was seen as even more significant in the future.

The purpose of the second interview theme, *virtual events*, was to understand the current virtual facilitation skill level of the organizations (Research question 4, Chapters 3.6, 4.1). All respondents organized virtual events quite regularly (see 4.1), and most of the organized events were board meetings, remote meetings for different working groups or regional-level management, and webinars (see 4.1). Two of the five respondents organized virtual events for their members (see 4.1).

All the organizations used Microsoft Teams as a platform when organizing virtual events (see 3.6). In addition, one organization used Zoom occasionally (see 3.6). However, none of the organizations used participation or activation tools in their virtual events (cf. 3.6), and 40 % of organizations mentioned that the tools were unfamiliar. These results suggest that the organizations' current skill level in virtual facilitation is not as high as it could be. Nevertheless, there seems to be a lot of development potential as the organizations already organize many virtual events.

The last interview theme was *accessibility virtual events*. It aimed to understand what to consider when planning accessibility and inclusion in the process of virtual facilitation (Research question 5, Chapters 3.5, 3.7–3.8). The answers showed that organizations considered the process and materials of virtual events (see 3.5). The visibility of content, the functionality of audio, and consideration of participants' skill level and comfort were mentioned (see 3.7–3.8). It seemed that all organizations considered at least some parts of accessibility in their virtual events.

The last two questions of the theme were placed in order to understand the accessibility information needs of the organizations better. The cognitive and linguistic area of accessibility was seen as the most unfamiliar. Audio quality was seen as crucial for the succession of the events, and there was also a comment about remote meetings minimizing the effect of physical and motor challenges. In addition, insufficient digital skills were seen as problematic. Organizations pay a lot of attention to the reachability of their documents, but none of them answered about the accessibility of the documents content-wise.

In retrospect, email interviews were not the most suitable way to collect answers. Instead, better results could have been achieved with a personal meeting, a phone call, or a Teams meeting combined with a form for the interviewer to fill in during the interview. This way, the answers would have formed a suitable result sheet immediately. Some of the questions turned out to be unsuccessful because the respondents misunderstood them. Even though the idea of the email interview was to provide precisely the same questions to everyone, it failed as the questions were unclear.

All in all, the results showed that accessibility is currently understood in different ways, but it is also seen as an interesting and important topic. Organizations estimate that accessibility is quite familiar to them, but the concept of accessibility was not interpreted entirely correctly. Therefore, *the practical accessibility and inclusion preparation tool for virtual facilitation* presented in Chapter 5.5 offers basic information about accessibility and inclusion before presenting the tool. Even though 60 % of organizations were not planning to make an accessibility statement, it is helpful to have some basic information about accessibility in the form of short reading.

All respondents organized virtual events quite regularly, and two of the five organized virtual events for their members. Microsoft Teams was the most used platform, but none of the organizations used participation or activation tools. These results suggest that the current skill level in virtual facilitation could be higher, but there is a lot of development potential. For this reason, Chapter 5.5 also offers basic-level information about organizing virtual events, and the tool presented offers only elementary information. Organizations already pay attention to some accessibility-related topics in their virtual events, but the interviews showed that there is a need for more information.

5.5 Practical accessibility and inclusion preparation tool for virtual facilitation

Creating meaningful events in a virtual space requires identifying the basic principles behind accessibility and inclusion (Research question 1). *Accessibility* can be approached through technical implementation, ease of use, and comprehensibility and clarity of content. The effect of accessibility can be summarized as follows: “If something is annoying, it’s probably not accessible”. *Inclusion* means “the act of including”, and *inclusivity* means making everyone feel valued and welcome. *Inclusive design* implies that the creation methodology behind products understands people from all backgrounds and abilities, and products are made available to the largest possible group of users. (Regional State Administrative Agency for Southern Finland s.a. a; Gilbert 2019, chapter 3; Merriam-Webster 2023c; University of Cambridge s.a.; Joyce 2022.)

Considering accessibility benefits us all because permanent or temporary disabilities and situational limitations can affect anyone. Examples of situational limitations are bright sunlight, forgotten headphones, or a noisy background. Accessibility can be seen from the visual, audio, physical, and cognitive perspectives, and accessible content includes text, images, videos, forms, and all other elements that give information to users. In order to be accessible, all non-text content must have a descriptive alternative text (i.e., alt text). It can be left blank if the content is purely for decorative purposes. (Regional State Administrative Agency for Southern Finland s.a. a; Gilbert 2019, chapter 8; Cunningham 2012, chapter 1, chapter 5; Kalbag 2017, chapter 2; Selovuuo 2019, 105–119; Dowden & Dowden 2019, chapter 1; Chadha 2022, chapter 3.)

Accessibility is easier to incorporate into design already from the beginning. The font size the line spacing of a text should be sufficient, and the contrast between the background and the text should be high enough. Font size should be at least 16 pt, and sans serif font is a good selection for a typeface. The text should be justified on the left to improve readability, and the line length should be a maximum of 80 characters (and for dyslexic readers, 60 to 70 characters). Plain language, complete and short sentences, and concise paragraphs work best. The contrast ratio of normal text size should be at least 4.5:1. With large text size (regular font size 18 pt or larger, or bold font size 14 or larger), the contrast should be at least 3:1. There are free-of-charge color checker tools available to review the contrast easily. (Gilbert 2019, chapter 1, chapter 3, chapter 5; W3C 2018; Bureau of Internet Accessibility s.a.; Selovuuo 2019, 110–111; Cunningham 2012, chapter 5.)

Color schemes are important when presenting figures, diagrams, maps, or any graphical material. The meaning of something should never be indicated only with color, and removing the colors completely should not affect the meaning of the content. Images can break the content into appropriate sections and support the message, and using symbols and icons may help the user. (Cunningham 2012, chapter 2, chapter 5; W3C 2018; Selovuuo 2019, 106–111; Gilbert 2019, chapter 3.)

Audio and video content must have alternative presentation methods, usually a text equivalent. Videos can have subtitles or closed captions. Subtitles tell what is being spoken on the screen, and closed captions are a more detailed transcription of auditory parts of the video. Subtitles and captions should be kept short, and contrast and spacing of the text are essential. The text should not be entirely written in capital letters. Transcripts are text-only versions of the spoken dialogue of the entire auditory content of a video or audio file. Transcripts can be read on the screen or through assistive technologies, but they are also useful for searching a specific part of the topic or having an overall idea of the content. (Kalbag 2017, chapter 4; Dowden & Dowden 2019, chapter 1; Cunningham 2012, chapter 3; Chadha 2022, chapter 3.)

A website should be operable using only a keyboard, and the main title of every webpage should be placed high enough to see without scrolling. If time limitations are used, the time should be long enough to finish the activity. Navigation and the overall look and feel should be consistent, backgrounds neutral, and chunks of information well-sized. Important information should be highlighted or accented, but all blinking or flashing content should not be used. (W3C 2019; Selovuo 2019, 114-115; Cunningham 2012, chapter 5; Kalbag 2017, chapter 2, chapter 4.)

Web Content Accessibility Guidelines, WCAG, is an international standard to provide accessibility guidance. It currently includes versions WCAG 2.0, WCAG 2.1, and WCAG 2.2 (unpublished). The purpose of WCAG is to help to make web content more accessible to people with disabilities. In Finland, the Act on the Provision of Digital Services defines that it applies to digital services provided by the government, authorities, and other public entities, private entities operating in vital sectors of society, and private entities and non-governmental organizations funded at least 50 % by public entities. The Act presents three requirements for digital services in its scope. The authority in charge of implementing the Act on the Provision of Digital Services is the Regional State Administrative Agency of Southern Finland. (W3C 2023b; Act on the Provision of Digital Services; Regional State Administrative Agency for Southern Finland s.a. b.)

In order to use accessibility in the context of virtual facilitation, it is essential to identify the basic principles behind virtual facilitation (Research question 3). *Facilitation* is goal-oriented guidance of a group, where the group is a facilitator's client. A facilitated session can be a meeting, a workshop, a training session, or contain multiple elements. Facilitation is always goal-oriented, and it should have a purpose. Content neutrality is a significant feature of facilitation. The content of facilitation means what is happening (e.g., task, topics of discussion, and decisions that are made), and the process of facilitation means how it is happening (e.g., framework, methods, tools, and climate). Successful group facilitation makes individuals feel better and more motivated, and it also helps the group to deliver better results than it would be able to do when working alone. (Merriam-

Webster 2023f; Sipponen-Damonte 2020, chapter Introduction, chapter 1; Schwarz 2016, 3–4, 14, 28; Bens 2018, chapter 1; Grape People Finland Oy s.a.)

A facilitator is a content-neutral process expert who knows how to enable the smooth performance of a group and how to take care of the well-being of an individual participant. A facilitator does not give ready-made solutions but offers a framework, tools, and guidance. Anyone can become a good facilitator, and the role requires constant maintenance. A skilled facilitator is interested and has a lot of emotional intelligence. (Schwarz 2016, 14–17; Sipponen-Damonte 2020, chapter 1; Grape People Finland Oy s.a.; Bens 2018, chapter 1; Andersen & al. 2021, chapter 3.)

Virtual facilitation means that the facilitation process is happening online. In order to get the best results, it is advised to go fully remote whenever possible. Facilitation in virtual meetings is at least as necessary as in face-to-face meetings, and successful virtual facilitation needs more technical skills from the facilitator. Physical distance brings its own limitations, but technology can also bring new opportunities for facilitation. In virtual facilitation, having only one person per device is advisable to increase engagement and set everyone in equal possession. (Sipponen-Damonte 2020, chapter Introduction; Smart 2022; Clacey & Morris 2020, chapter Principle 1: Create Equal Opportunity; Andersen & al. 2021, chapter 2–4, chapter 9; Schwarz 2016, 341–344.)

Virtual facilitation has a lot in common with traditional facilitation, and many tools and methods can be transferred into a virtual form. One benefit of virtual events is getting people together with fewer resources. In addition, a virtual event may be more accessible and equal to participants, and documentation of the outcomes is straightforward. However, virtual events may suffer from a physical, social, cultural, and technological distance. For this reason, the planning phase of the virtual event is more critical than in physical meetings, and it also takes significantly more time. (Andersen & al. 2021, & al. 2021, chapter 1, chapter 2; Schwarz 2016, 335, 345.)

In order to understand what to consider when planning accessibility and inclusion in the process of virtual facilitation (Research question 5), the basic understanding of accessibility, inclusion, and virtual facilitation (Research question 2, Research question 4) has to be combined into a suitable process tool. The Design Star is a model that helps to understand the most crucial elements of virtual facilitation. It consists of 5 Ps: Purpose, Participants, Platform, Process, and Partners. In addition, the structure of facilitation can be divided into before, during, and after phases, which all need special consideration and planning. When combining the Design Star and the phases of facilitation, it is possible to create a simple and practical accessibility and inclusion preparation tool for virtual facilitation that anyone can use to understand the topic better (Table 4). (Andersen & al. 2021, chapter 1, chapter 6; Bens 2018, chapter 1; Clacey & Morris 2020, chapter What is the Role of a (Remote) Facilitator?.)

Table 4. A simple and practical accessibility and inclusion preparation tool for virtual facilitation (Chapters 2.1–2.2, 2.5–2.9, 3.1–3.8)

	Before	During	After
Purpose	Is the purpose clear enough to plan an accessible and inclusive facilitation process?	Is the purpose communicated clearly to everyone with different means?	Was the purpose reached, was everyone heard, and are there additional key points?
Participants	How many participants are there, and do they have specific needs? What is their digital skill level?	Does everyone know why they are participating? Is everyone heard and engaged?	How is feedback collected? Are all delivered materials accessible?
Platform	What platforms are suitable for the purpose, the facilitator, and the participants? Is participation through mobile phone possible? Are pre-instructions needed? Is everything tested beforehand? What is a backup plan?	Are lighting, visuality, and audio quality ok? Should participants be muted, and are webcams used? Is anyone struggling with using platforms? What is the general feeling? Is situation under control?	Was there the right tool for the right job, or is there a need for changes to the next session? Was everyone able to participate? Would some other platform work better?
Process	Are the processes suitable for the purpose and the skill level of participants? Is the material accessible?	Are the participants engaged enough? Are the activation methods working? Are there enough breaks?	Were the chosen processes suitable and inclusive, and did they engage participants enough?
Partners	What are the roles of the participants? Is additional technical help or a co-facilitator needed?	Who will follow the chat, and who will take notes? Does the facilitator need to step out of the facilitative role?	Were the chosen roles supporting inclusion? What could be done differently next time?

6 Discussion

This thesis aimed to explore the concepts of accessibility and inclusion in connection with virtual facilitation from the point of view of Finnish non-governmental organizations. The aim was approached through six different objectives. These objectives were

1. to identify the basic principles behind accessibility and inclusion
2. to understand the current state of accessibility knowledge and utilization in Finnish NGOs
3. to identify the basic principles behind virtual facilitation
4. to discover the current skill level of virtual facilitation in Finnish NGOs
5. to present how to ensure accessibility and inclusion in virtual facilitation
6. to create a simple and practical accessibility and inclusion preparation tool for virtual facilitation that anyone can use to understand the topic better.

Objectives were explored with the help of five research questions and theory-driven qualitative research of five Finnish NGOs. Objectives one and three were achieved well through a sizable literature of the theoretical framework. However, objectives two and four would have needed more research in order to be able to understand the current state of the Finnish NGOs more profoundly. The sixth objective was only partly achieved, as the practical accessibility and inclusion preparation tool for virtual facilitation managed to offer only some basic information about the topic. However, that could offer a successful first step into the world of accessibility and inclusion.

The key results of the empirical research showed that the answers of the interviewed organizations were quite well in line with the theoretical framework and with Järjestödiggi surveys used as a quantitative basis of the research. The sample size of the qualitative research of this thesis was relatively modest, and it is hasty to draw firm conclusions based on it. However, it seems that Finnish NGOs are not utilizing accessibility and virtual facilitation as well as they could. One reason for this may be the inadequate resources of the NGOs (Järjestödiggi 2022, 25).

All the NGOs in the qualitative research part were Finnish voluntary national defense organizations, and they are not obliged by the Act on the Provision of Digital Services. These organizations represent only a tiny part of the field of Finnish NGOs, but it was interesting to see that they have a lot of unused potential for virtual events. The concept of accessibility was seen in multiple ways, but the organizations saw it as an interesting and important topic. All in all, accessibility, inclusion, and virtual facilitation could offer many possible topics for further research within Finnish NGOs. Examples could be the utilization of WCAG guidelines in organizations' digital services and the development of virtual facilitation in Finnish NGOs.

I like to think that a successful virtual presence could help NGOs to work better even with low resources. In addition, Järjestödiggi 2022 (120) visions that an optimistic future view would be that digitalization would bring the organization's members closer to each other and further strengthen the sense of community for a common cause. However, I think reaching that point would require more research and proper educational material for organizations.

In my opinion, the most successful part of this thesis was the theoretical framework. Much information was available, and the literature awoke a fiery interest in the topic. One reason for choosing this topic was my own lack of information about accessibility and inclusion. As a student specializing in digital services, I felt that it is essential to learn even the basics of accessibility and inclusion. Virtual facilitation was a natural choice to accompany them, as so many virtual events are still not appropriately planned. However, it would have been wise to narrow the topic to dive deeper into a fascinating subject. There is a lot of literature related to accessibility, inclusion, and virtual facilitation, and sometimes there was almost an abundance-shortage when choosing suitable literature.

The most important lessons from the research point of view were the importance of the interview questions and the interview technique: these should have been given more weight. A wrong choice of interviewing technique made the qualitative research part less successful than it could have been. The research part would have benefited from better planning and doing the interviews face-to-face or through an online meeting. Also, a larger sample size would have increased the reliability of the research. However, the learning experience was valuable, and the research still managed to provide information for research questions. In addition, the impact of the research technique was considered when handling the results.

The results showed no significant deviation from the theoretical framework, but accessibility was understood in multiple ways. The impact of resources is a significant point of view, and it could have been considered in the research. Now the results do not take this into account. The research matters because there has not been a lot of research about understanding accessibility and using virtual facilitation in Finnish NGOs. Also, the NGOs may become more aware of the topic when participating in research, which could provide knowledge capital to the personnel of the NGOs.

The end result, a simple and practical accessibility and inclusion preparation tool for virtual facilitation, can be used together with the beginning of Chapter 5.5 to gain basic information about the topic. However, the tool offers only a simple approach to the topic and presents nothing extraordinary. If the tool is used carefully and iteratively, it can provide a way to organize more successful, accessible, and inclusive virtual events. That means a deep focus on the different parts of the tool and considering things from different perspectives. The tool could be developed further into more precise and graphical training material for NGOs and other entities who want to learn about the

topic. One interesting approach could be to combine the tool with the forthcoming implementation of WCAG 3 (W3C 2022b), which takes a broader scope to accessibility.

This thesis was a gigantic learning journey, and I want to heartily thank all the NGOs that participated in the qualitative research. Also, I want to thank my mom and my friends Assi and Miira for their endless support. The thesis process was occasionally almost painful but also taught me a lot. All in all, this thesis ended my studies in a perfect way because it taught me a lot of new and valuable things. The choice of topic was exciting, and it will encourage me to study more about accessibility, inclusion, design for all, universal design, and successful virtual facilitation. This bachelor's thesis was a good start for understanding this vital and broad topic, and perhaps the research will continue in my master's thesis.

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Appendices

Appendix 1. Interviewed organizations and email interview questions in English

The email interview requests were sent to The Finnish Reserve Officers' Federation (FROF), The Finnish Reservists' Association (FRA), The Defence Guilds' Federation of Finland, Sotilaskotiliitto - Soldathemsförbundet ry, Maanpuolustusnaisten Liitto ry, and Suomen Lottaperinneyliitto - Lottatraditionsförbundet i Finland ry.

The email interview had a background information section and three differently-themed sections with three questions each. At the end, there was a bonus question about the importance of accessibility and a possibility for feedback. The interview structure is presented in English below.

The background information:

- Foundation year of the organization?
- Number of members?
- Age distribution (as accurately as it can be given)?
- Respondent's job role in the organization (not shown in the results)?

Accessibility in general:

- What is the first word that comes to mind when you think of the term "accessibility"?
- How familiar is the subject accessibility is on a scale of 1–5 (1= very unfamiliar, 2= relatively unfamiliar, 3= neither unfamiliar nor familiar, 4= relatively familiar, 5 = very familiar)?
- Are you going to make an accessibility statement for your website, and if not, why?

Virtual events:

- How often do you organize fully virtual events (remote participants only), and for whom?
- Which participation platform/platforms do you use to organize virtual events (e.g., Teams, Zoom, Google Meet, and similar)?
- What tools do you use to support participation and activation in virtual events (e.g., Miro, Mural, Google Jamboard, Mentimeter, Kahoot!, and similar)? The information about not using any tools is also equally valuable.

Accessibility in virtual events:

- What kinds of factors related to smoothness and comfort are important to consider when planning and organizing virtual events?
- Accessibility means the ability to access the digital world. It can be thought of through four different areas: visual accessibility, audio accessibility, physical and motor accessibility, and cognitive and linguistic accessibility. Which areas seem to be the most difficult to consider in virtual

events? It does not matter if the more specific content of the areas is not familiar. Above all, I hope to get answers about which of the terms seems the most difficult when thinking about organizing virtual events.

- How do you pay attention to the accessibility of the documents you create (e.g., Word, PowerPoint documents, and similar)?

Finally, I would like to ask how interesting or important the topic of accessibility seems and why? In addition to the answer to this point, you can leave free comments and feedback.

Appendix 2. Interviewed organizations and email interview questions in Finnish

The email interview request were sent to Suomen Reserviupseeriliitto - Finlands Reservofficersförbund ry, Reserviläisliitto - Reservistförbundet ry, Maanpuolustuskiltojen liitto ry, ruotsiksi Försvarsgillenas förbund rf, Sotilaskotiliitto - Soldathemsförbundet ry, Maanpuolustusnaisten Liitto ry, and Suomen Lottaperinneliitto - Lottatraditionsförbundet i Finland ry.

The email interview had a background information section and three differently-themed sections with three questions each. At the end, there was a bonus question about the importance of accessibility and a possibility for feedback. The interview structure is presented in Finnish below.

Taustatiedot:

- Järjestön perustamisvuosi
- Jäsenmäärä
- Ikäjakausi (sillä tarkkuudella, kun pystytte sen antamaan)
- Vastaajan työtehtävä järjestössä (ei näytetä opinnäytetyössä sellaisenaan)

Yleisesti saavutettavuudesta:

- Mikä on ensimmäinen sana, joka tulee mieleen käsitteestä ”saavutettavuus”?
- Kuinka tuttu aihe saavutettavuus on asteikolla 1–5 (1= erittäin vieras, 2=melko vieras, 3= ei vieras eikä tuttu, 4= melko tuttu, 5 = erittäin tuttu)
- Oletteko aikeissa tehdä verkkosivuillemme saavutettavuusselostetta ja jos ette ole, niin miksi?

Virtuaaliset tilaisuudet:

- Kuinka usein järjestätte täysin virtuaalisia tilaisuuksia (vain etäosallistujia) ja kenelle?
- Mitä osallistumisalustaa/-alustoja käytätte virtuaalisten tilaisuuksien järjestämiseen (esim. Teams, Zoom, Google Meet ja vastaavat)?
- Mitä työkaluja käytätte osallistumisen ja aktivoinnin tukemiseen virtuaalisissa tilaisuuksissa (esim. Miro, Mural, Google Jamboard, Mentimeter, Kahoot! ja vastaavat)? Myös tieto työkalujen käyttämättömyydestä on yhtä arvokas.

Saavutettavuus virtuaalisissa tilaisuuksissa ja dokumenteissa:

- Millaisia virtuaalisen tilaisuuden sujuvuuteen ja viihtyvyyteen liittyviä tekijöitä niiden suunnittelussa ja järjestämisessä on tärkeää ottaa huomioon?
- Saavutettavuus on digitaalisen maailman esteettömyyttä. Sitä voidaan ajatella neljän eri osa-alueen kautta: näköaistiin liittyvä, kuuloaistiin liittyvä, fyysisiin ja motorisiin rajoitteisiin liittyvä sekä kognitiivisiin ja kielellisiin vaikeuksiin liittyvä saavutettavuus. Mikä näistä osa-alueista tuntuu hankalimmalta huomioida virtuaalisissa tilaisuuksissa? Ei haittaa, vaikka osa-alueiden

tarkempi sisältö olisi täysin vieras. Toivon ennen kaikkea vastauksia siitä, mikä termeistä tuntuu mielikuvallisesti hankalimmalta virtuaalisten tilaisuuksien järjestämistä ajatellessa.

- Miten kiinnitätte huomioita luomienne dokumenttien saavutettavuuteen (esim. Word- ja PowerPoint-dokumentit ja vastaavat)?

Lopuksi kysyisin vielä, että miten kiinnostavalta tai tärkeältä aiheelta saavutettavuus tuntuu, ja miksi? Tähän kohtaan voi vastauksen lisäksi jättää myös vapaita kommentteja ja palautetta.