

Accessibility in Research: From Design to Dissemination

Developed for Royal Roads University
by Stefan Sunandan Honisch and Gwen Thompson Hill in April 2022

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Acknowledgment of Traditional Lands

Royal Roads University acknowledges that the campus is on the traditional Lands of the Xwsepsum (Esquimalt) and Lekwungen (Songhees) ancestors and families. It is with gratitude that we live, work and learn here where the past, present, and future of Indigenous and non-Indigenous students, faculty and staff come together.

In honour of the Xwsepsum (Esquimalt) and Lekwungen (Songhees) ancestors, Hay'sxw'qa si'em (hy-sh-kwa sea-em)! This means, "Thank you, respected or honourable one."

[Click here to listen to the Royal Roads University Traditional Welcome.](#)



Harvested and carved by Tsawout artist Tom Lafortune with the assistance of Howard LaFortune Jr., the name of this 25-foot-tall pole is "S'ael", a Sencoten word for harmony.

This totem pole is named "S'ael", a Sencoten word for harmony.

Aim of this toolkit

This **Accessibility in Research Toolkit** (henceforth **toolkit**) is a brief and high-level overview of building accessibility into research design. It is a living document and will be updated as our knowledge and understanding of accessibility grows. If you would like to suggest improvements, or provide feedback on the toolkit, please refer to the [Authors section on page 15](#).

Each section has its own page. Following the framing sections (pages 3 to 6), each section contains:

1. Question(s) to ask yourself throughout the process
2. Context for your consideration, including embedded descriptive hyperlinks
3. Links to further readings on each specific section

A full list of works cited throughout this document can be found beginning on page 13.

Finally, you can use the design of this toolkit itself as a frame to model accessible documents and learning tools. The Accessibility Statement on page 5 offers further details.

A captioned video recording of the toolkit, a recorded session with the authors including live transcription, and full-text transcripts for both are available through the Royal Roads University Research Resources page.

We intend for this toolkit to be a starting point for anyone conducting research to begin learning about accessibility and access needs. Please use it in ways that best meet your own access and learning needs.

Framing 1: Accessibility Statement

This Toolkit includes the following accessibility practices:

- MS Word’s built-in Headings
- [Atkinson Hyperlegible Font](#) – This font is open access for print and web use
- Table of Contents created using MS Word’s built-in templates
- Numbered and bullet point lists
- Accessibility Statement describing the design, format, and navigation options
- Navigation can be done using either a keyboard or mouse
- Footnotes are in 12-point font instead of the conventional 10 point to improve readability
- Modified American Psychological Association (APA) style emphasizes accessibility over compliance with style rules
 - Significant modifications to this Toolkit’s use of APA style include using complete words instead of abbreviations and avoiding symbols such as the ampersand. **For example:** Quoted passages and paraphrases use (“page”) and (“pages”) instead of (“p.”) and (“pp.”) to cite page numbers. In-text references and the “Further Reading” section use the complete word “and” instead of “&.” In the **Works Cited** section the abbreviation (n.d.) is replaced by (No Date) for works without a year or month of publication
- Each main word in the titles of articles and books cited in the **References** and **Further Reading** sections is capitalized
- Black or dark text on a white background

We recognize that access needs vary widely, and that no single document can be completely accessible to everyone. If you would like this toolkit in an alternative format, or if you have suggestions for including more options for navigation and readability, please contact Gwen via e-mail at gwen.3hill@royalroads.ca.

Further Reading: The [BCcampus Open Education Accessibility Toolkit](#) incorporates core principles of accessible document design, and includes an [Accessibility Statement](#) that has served as a guide for this document.

Framing 2: Background and Purpose

Academic literature on research methodologies doesn't fully address how disability-inclusive practices should be developed, taught, or put into practice¹. There is some work that looks at inclusive and participatory approaches for research involving disabled participants², and for designing assessment tools³. The available literature on accessibility in research typically addresses specific disciplines like health leadership. Some literature considers specific methods, such as focus group research. In general, though, the perspectives of disabled researchers and stakeholders are not adequately considered when accessibility and access needs are discussed. The integration of accessibility as a key component of all phases of research has not been adequately considered in academic literature and practice.

We hope to address gaps in academic literature by providing high-level summaries of important considerations, guiding questions, and links to further resources.

The toolkit has three primary aims:

1. To **provide researchers with concrete examples** of accessibility practices in study design, data-collection, data analysis, and dissemination of findings
2. To **create space for disability-inclusion and accessibility** in research practice
3. To **guide the development of learning materials** about disability-inclusion and accessibility for research methods courses

¹ Aidley and Fearon, 2021; Olkin, 2004

² Liamputtong, 2011

³ Frey, 2018

Framing 3: Disability and Language

Disability-inclusive language raises difficult questions about identity and lived experience. There is no universal agreement among **disabled people** or **people with disabilities** about disability-first language versus person-first language^{4,5,6}. [Lydia X.Z. Brown’s Autistic Hoya blog](#) is a crucial resource for understanding key issues in language about disability.

An essay on [Identity-First Language by Brown](#) for the Autistic Self Advocacy Network offers nuanced explanations of disability-inclusive language, with historical overviews of specific words, and phrases, and analyses of the different contexts of “disability-first” and “person-first” language. We highly recommend reading this essay to understand the context and history of this important conversation.

The table below summarizes each way of relating disability to identity:

Disability-First Language	Person-First Language
<p>Examples:</p> <p>“I am a disabled researcher”</p> <p>“I am an Autistic research participant”</p> <p>Context: Identifying as “disabled” is a way to emphasize that disability is not negative and that there is nothing wrong with being disabled. This way of framing disability as a source of positive, shared identity is often embraced by physically disabled people, and by Autistic people.</p>	<p>Examples:</p> <p>“I am a researcher with disability”</p> <p>“I am a research participant with disabilities”</p> <p>Context: Identifying as a “person with a disability” is a way to emphasize one’s right to be perceived as not different from other people. This way of framing disability is often important to people with Intellectual and Developmental Disabilities who often experience social isolation, institutionalization, and discrimination from both abled and physically disabled people</p>

There is no universally accepted preference for disability-first or person first language. The best practice is to ask people what they prefer.

⁴ <https://apastyle.apa.org/style-grammar-guidelines/bias-free-language/disability>

⁵ Iacovou, 2020

⁶ Two sources consulted during the preparation of this Toolkit suggest that screen readers will announce the presence of a link to users followed by the text of the link. We have therefore elected to include descriptive text over the link. The University of Washington’s Accessible Technology page includes an explanation of [Using Meaningful Link Text](#). WebAIM: Web Accessibility in Mind also provides guidance on [Links and Hypertext](#), but their approach may require a greater degree of technical knowledge.

Accessibility in Research: From Design to Dissemination

Stefan Sunandan Honisch and Gwen Thompson Hill

This Toolkit uses disability-first language throughout, reflecting the positionality of Stefan Sunandan Honisch, a wheelchair user who embraces his lived experience of disability, and Thompson Hill, who identifies as a neurodivergent person to reflect the impact of her neurodivergence on her daily life.

When beginning your research, and through an understanding of the context and history of disability- and person-first language, consider the following questions and their impact on your work:

- How do you work with colleagues and research participants who are neurodivergent to ensure they have the supports they need, in order to participate in the ways they choose?
- How are colleagues, research participants, and stakeholders with intellectual and developmental disabilities supported and recognized for their contributions?
- In what situations will you work with physically disabled research team members, participants, and stakeholders?
- How will you respond to [conflicting access needs?](#)

Working through these questions in ways that are genuinely inclusive requires familiarity with the different histories behind, and the contexts for using, disability-first and person-first language. Be aware, also, that some people may not identify with either of these approaches to disability and language.

Communities of disability are always evolving and transforming, and that such transformation has profound consequences for language, identity, and emergent forms of solidarity across difference.

Further Reading: Ladau, E. (2021). [Demystifying disability: What to Know, What to Say, and How to be an Ally](#). California: Ten Speed Press

Research Design: Core Principles

The framework of [Universal Design for Learning \(UDL\)](#) developed by The Center for Applied Special Technology (CAST) lends itself to adaptation for the design, delivery, and dissemination of research. As noted in the first section of this toolkit, there are gaps in the literature on accessibility in research, and “While UD has become an accepted practice in education in recent years, demonstrated in the development of a specific universal design for learning (UDL) framework, applying the principles to educational research designs has not been explicitly addressed” (Goegan, Radil, and Daniels, page 177).

The **core principles of UDL** are: **multiple means of engagement, multiple means of representation, and multiple means of action and expression.**⁷ Applying these core principles in research means thinking about how to integrate more than one way of working into high-level study design. These principles can also guide the ways in which your research questions and objectives can be framed.

Once you begin working with the lens of disability inclusion, you will find that small language changes in how you frame questions and objectives to allow research team members, informants, and stakeholders more than one point of access into the study. For example, take the following objective:

“How does photo cropping impact algorithms on social media?”

This is a reasonable research question or sub-question. Applying an inclusive lens to the question might look like this:

“How does photo cropping, with or without alternative text, impact algorithms on social media?”

You can see that this inclusion of alternative text, which is often used by screen readers, provides detail and depth to the question. This may not apply to all research questions or objectives, but the application of the lens and asking yourself the question can help you design more inclusive and better research.

Ask yourself:

- How do the individual components of my study, including question(s), theoretical framework, methods of data-collection and analysis, and presentation of findings use different ways to perceive, understand, and communicate information?

Further Reading: Dolmage, J. (2015). [Universal Design: Places to Start](#). *Disability Studies Quarterly*, 35 (2).

⁷ <http://udlguidelines.cast.org/>

Research Design: Easy Read and Plain Language in Proposals

Accessible design begins with crafting an accessible research proposal. Frequent objections to published academic research include:

- a reliance on technical language;
- a narrow focus on methodological rigor, and;
- engagement with specialist readers – to the exclusion of diverse audiences.

Academic writing is far less likely to be criticized for creating accessibility barriers for disabled people and stakeholders. This section of the toolkit includes links to resources that highlight the overlap between accessible design principles. These principles promote disability inclusion and accessibility responsive to the needs of a diverse, non-specialist readership⁸.

Sage Publishing provides a [helpful guide to including Plain Language Summaries](#) in ways that support the rights of marginalized communities to access research that is of direct concern to their lives and wellbeing⁹. Unfortunately, their guide does not specifically address disability.

We recommend reviewing the [Autistic Self Advocacy Network's \(ASAN\) toolkit](#) on home and community-based services for people with disabilities. The ASAN toolkit demonstrates how technical language can be provided alongside **Easy Read** and **Plain Language** versions, thereby meeting the needs of a range of stakeholders. The multi-format design and delivery recommended by ASAN centers the access needs of disabled people, who are both producers and consumers of knowledge.

The values embraced by disability-led groups such as ASAN go beyond an [Accommodations framework](#) in which alternative formats are provided only upon request. Embracing this concept in research will allow us to design more inclusive research that invites participation from all without adding more burden on people with disabilities to ask for accommodation.

Ask yourself:

- Who are the intended and potential audiences for my research?
- What expertise can I reasonably expect my reviewers to have?

Further Reading: Pulrang, A. (October 22, 2020). [Plain Language Writing—An Essential Part of Accessibility](#). *Forbes*.

⁸ Oliver, 2009

⁹ Keating and Conroy, 2022

Research Design: Inclusive Research Teams

This question is a good way to begin thinking about **who is present**, and, perhaps more importantly, **who is not present** in your research team.

In her 2011 book “The Question of Access: Disability, Space, Meaning,” Disability Studies scholar Tanya Titchkosky says “I am most interested in examining how the lack of access for disabled people (and thus our absence) is naturalized to such an extent that even when barriers and processes of exclusion are noticed they are still conceived as somehow natural, reasonable, sensible, and even seemingly justifiable” (Preface, page xi).

We also ask that you consider barriers inherent to the research you are doing, the people involved, and the places in which you are conducting the work. How do specific kinds of research methods, or research environments prevent full participation by disabled people/people with disabilities? In your research team, how will each team member respond to the access needs of co-researchers, research participants, and stakeholders?

Ask yourself:

- Who is part of my research team?
- What barriers and processes of exclusion exist at my university?

Further Reading: Haya Salmón, I., & Rojas Pernia, S. (2021). [Building a Research Team and Selecting a Research Topic within the Process of an Inclusive Research Project in Spain](#). *Journal of Applied Research in Intellectual Disabilities*, 34 (3), pages 742-751

Research Design: Budgeting for Accessibility

Research budgets are aspirational in nature, attempting to define a mostly unknowable future. It is important to remember that disability and ability are not fixed; that what is true for your research team as you write your proposal may not be true when the funding is received, and that you cannot predict the multiple, sometimes conflicting, access needs of your research team, participants, or audiences.

We recommend considering the following access supports when planning your budget:

Collaborating with disability-led organizations: Essential to accessibility in research is the input and leadership of disabled people in all phases of research. Equally important is to ensure that research budgets address the need to properly compensate disabled people for their time, labor, and expertise. When working with organizations, look to whether or not you can provide overhead funding to support administrative capacity.

Interpretation and assistive technology: Budget for sign language interpreters, Communication Access Realtime Transcription (CART), and assistive technology such as screen readers and voice-to-text in all phases of your research. This will be especially important for research based on interviews, focus groups, and participant observation.

Subject matter experts: Experts can be required for many aspects of accessibility. For example primary sources, including digitized archival materials, may not be available in accessible formats. This may require hiring subject matter experts in different disciplines who can convert these materials into accessible formats with alternative text that explains images to screen readers, while preserving essential information needed for the research.

Budgeting for accessibility is a crucial step in making sure that your research is designed for inclusion. You can build in technology and professional supports regardless of the current access needs that you have identified in the development stages, and it will only make your research better and more applicable in practice.

Ask yourself:

- What need may arise in my research participants, research team, or intended audience that would require funding?
- What needs can I plan to meet, regardless of whether or not there is an identified need during the design phase?

Further Reading: [COMPOSING ACCESS: An Invitation to Creating Accessible Events](#). The Ohio State University.

Conducting Research: Data-Collection and Analysis

Data collection and analysis are central components of research. The types of data collected and the methods of analysis used change depending on the qualitative and quantitative approaches that the researcher chooses¹⁰.

These phases of research benefit particularly from incorporating those UDL principles of multiple means of engagement, multiple means of representation, and multiple means of action and expression that we discussed in the [Core Principles](#) section of this toolkit. Research is often specific to its discipline, although multi- and interdisciplinary research are more common than ever. Although there is room within disciplines to use and analyze different types of sources and data, researchers often identify with a few particular theoretical frameworks, methodologies, and methods. One benefit of this disciplinary identity is in being able to learn and deeply understand how you can embed disability-inclusive practices into your collection and analysis.

It is important to ensure that supports are in place ahead of carrying out data collection and/or working with primary sources. The nature of these supports will depend on the type of research involved, but the following questions point to an approach that balances flexibility with advance planning, and the capacity for adjustment in response to emergent needs.

Making sure that accessibility is a priority in your research design, delivery, and dissemination can help to widen the scope for how you gather material, seek information, and interact with research participants in the field.

Ask yourself:

- What types of materials or information do you need to answer your research question (s) and how can those be made accessible?
- Where and with whom will your research be conducted, and what possible access barriers exist?
- What mechanisms are in place to respond to access barriers that emerge during data collection?
- For data collection that involves interpersonal communication, how will you meet the access needs of differently situated informants?

Further Reading: Davis, C. A., & Lester, J. N. (2016). [Graduate Students' Construction of Researcher Identities Explored through Discourse Analysis](#). *Qualitative Research in Education*, 5 (1), pages 49-76

Chiarella, D., & Vurro, G. (2020). [Fieldwork and Disability: An Overview for an Inclusive Experience](#). *Geological Magazine*, 157 (11), pages 1933 to 1938

¹⁰ Blaikie, 2009; Leavy, 2014

Dissemination

With social media, blogs, and other web platforms, researchers now have more ways to share their research findings than ever. Digital platforms are constantly drawing new audiences including disabled scholars, educators, students, self-advocates, and activists. These kinds of first-person accounts are a fantastic way to continue your own learning about the experiences of people with disabilities and access needs.

When planning or beginning your research dissemination, consider the known accessibility barriers of particular social media or digital platforms. As with each of the aspects of accessibility considerations in this toolkit, there is no one way or platform that will be responsive to all access needs.

We offer the following considerations to help guide your planning. When you are developing your dissemination materials, consider using:

- Built-in headings and templates
- Atkinson Hyperlegible Font or a sans serif font
- Tables of contents that use accessible formats
- Numbered and bullet point lists
- Descriptive hyperlinks for online dissemination of research

The University of British Columbia is working to develop a permanent site for its [Conference Diversity Toolkit](#).¹¹ Because UBC's guidelines include key considerations for improved accessibility in conferences and symposia, they are relevant to thinking about how research findings will be disseminated. The UBC guidelines also speak to how accessibility is a necessary element of conversations about research.

Three academic journals have implemented a range of accessibility practices in their publication of peer-reviewed research:

- [Review of Disability Studies](#) (plain language summaries downloadable in MS Word and PDF formats);
- [Journal of Teaching Disability Studies](#) (articles downloadable in MS Word format);
- [Canadian Journal of Disability Studies](#) (articles downloadable in PDFs designed for accessibility).

Sins Invalid, a disability-led performing-arts organization, also offers a variety of free resources on their website, including a [guide to accessible event-planning](#). Many of the recommendations in this guide can be adapted to academic events.

¹¹ **Disclosure:** Honisch is part of the core UBC committee tasked with crafting these guidelines. He thanks Greg Martin and Naznin Virji-Babul for providing him with the current link to the GitHub platform (in progress).

In Conclusion

We hope that you have found this toolkit useful as a starting point in your journey to design and conduct inclusive research. As we have already mentioned, this is a living document, so if there is something missing or incorrect, please do [let us know](#) and we will work to correct it. You can also [reach out](#) with questions or requests for further resources on a specific topic, and we will do our best to support you!

In advocacy,

Stefan Sunandan Honisch and Gwen Thompson Hill

Works Cited

The Works Cited section only includes references cited in the main text and does not include those listed in the Further Reading recommendations that accompany each section. This Accessibility in Research Toolkit uses the following practices:

For print sources not available in electronic format, descriptive hyperlinks point readers to the WorldCat entry for that item, listing the libraries that hold the material in question.

For sources available electronically in full-text formats, descriptive hyperlinks point users directly to the publisher's platform for that specific source.

Books

Aidley, D., & Fearon, K. (2021). [Doing Accessible Social Research: A Practical Guide](#). Bristol, England: Policy Press

Blaikie, N. W. H. (2009). [Designing Social Research: The Logic of Anticipation](#). Cambridge, England: Polity.

Frey, B. (Ed.) (2018). [The SAGE Encyclopedia of Educational Research, Measurement, and Evaluation](#). (Volumes 1 to 4). SAGE Publications.

Leavy, P. (2014). [The Oxford Handbook of Qualitative Research](#). New York, New York: Oxford University Press.

Liamputtong, P. (2011). [Focus Group Methodology: Principles and Practices](#). London, England: SAGE.

Payne, J. (2004). [Key Concepts in Social Research](#). Sage Publications.

Titchkosky, Tanya. (2011). [The Question of Access: Disability, Space, Meaning](#). Toronto, Ontario: University of Toronto Press.

Journal Articles

Goegan, L.D., Radil, A.I., and Daniels, L.M. (2018). [Accessibility in Questionnaire Research: Integrating Universal Design to Increase the Participation of Individuals with Learning Disabilities](#). *Learning Disabilities: A Contemporary Journal*, 16 (2), pages 177 to 190

Iacovou, M. (2021). [A Contribution Towards a Possible Re-Invigoration of Our Understanding of the Social Model of Disability's Potential](#). *Disability & Society*, 36 (7), pages 1169 to 1185.

Olkin, R. (2004). Making Research Accessible to Participants with Disabilities. *Journal of Multicultural Counseling and Development*, 32, pages 332 to 343

Online Resources

[Access Suggestions for Public Events](#). *Sins Invalid*.



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APA STYLE: "[Disability](#)." American Psychological Association.

Brown, L.X.Z. (2021). [Ableism/Language](#). *Autistic Hoya*.

Brown, L.X.Z. (No Date). [Identity-First Language](#). *Autistic Self Advocacy Network*.

Keating, A. and Conroy, E. (January 26, 2022). [Adding Plain Language Summaries to Support Research that Address Social Inequities](#). SAGE Perspectives.

CAST (2018). [Universal Design for Learning Guidelines version 2.2](#).

["Who's In Control?" Control Over Community Services for People with Disabilities](#). *Autistic Self Advocacy Network*.

Winters, B. (October 17, 2018). [Understanding Competing Accessibility Needs](#). *Thinking Person's Guide to Autism*.

The Authors

Stefan Sunandan Honisch is an Honorary Research Associate and Sessional Lecturer in the Department of Theatre and Film at the University of British Columbia, having previously held a Banting Postdoctoral Fellowship within the department. Honisch was recently invited to join Ryerson University's Responsive Ecologies Lab as Honorary Postdoctoral Associate. His research interests are at the intersection of Critical Disability Studies, Critical Pedagogy, and Music, and his teaching is guided by the principles of Disability Justice, and Universal Design for Learning.

Honisch has published in such journals as *Music Theory Online*, *Journal of Inclusive Education*, *Voices: A World Forum for Music Therapy*, *Journal of Interdisciplinary Voice Studies*, and *Journal of Teaching Disability Studies*. He has contributed chapters to *The Oxford Handbook of Music and Disability Studies*, *The Oxford Handbook of Music and the Body*, *Transnational Horror Cinema: Bodies of Excess* and the *Global Grotesque* (Palgrave Macmillan) and *Defining the Boundaries of Disability: Critical Perspectives* (Routledge). Strongly committed to community outreach, Honisch serves on UBC Arts Amplifier's Stakeholder Advisory Committee and UBC's Committee to Increase Speaker Diversity. He is part of the research team for the three-year SSHRC Partnership Development Grant, *Canadian Accessible Musical Instruments Network*.

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Gwen Thompson Hill acts as Manager of Equity, Diversity and Inclusion in Research at Royal Roads University. An uninvited settler with ancestry in France, England, Scotland, and Ireland, she was raised on the traditional lands of the Anishinaabe Huron-Wendat. She holds a Master of Arts in Interdisciplinary Studies, with subsequent education focused on inclusive leadership. She is passionate about building truly safe and inclusive places, and her job offers plenty of opportunities to put her passion to work as she collaborates with faculty, staff, and students to build inclusive, quality research. Thompson Hill currently lives and works between the traditional lands of the Xwsepsum (Esquimalt), Lekwungen (Songhees), and Tseycum First Nation ancestors and families.

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