**Project Proposal: Checking UDL and Accessibility - a Checklist for Educators.**

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# Checking UDL and Accessibility: A Checklist for Educators.

Most countries have adopted disability legislation that requires legally compliant interventions at the organizational level, including businesses, services, and educators, to accommodate the broadest possible range of human experience (Doyle, 2020). We are proposing a Universal Design for Learning (UDL) checklist tool intended to help adult educators in any context examine learning materials that they develop to address accessibility and neurodivergent users.

This tool will function in a branching decision tree to help educators determine if their learning objects have the affordances they need to accommodate all learners. The decision points will be supported with an explanation of how to employ UDL principles for that criteria and a rationale for why it is essential to support that factor, including some examples of specific (dis)abilities the factor supports.

## Intended Users

This tool is designed for educators (designers, teachers, trainers, consultants) who create learning materials (digital or physical) for adult learners.

## Setting Adult Learners Up for Success

We aim to enable adult educators to create learning materials that accommodate all facets of UDL, so the educational experience can be inclusive and accommodating to all learners.

One in five people has a neuro-difference, such as dyslexia, ADHD, autism, or anxiety disorders (Doyle, 2020). According to Statistics Canada, in a 2017 study, 14% of Canadians aged 25 to 64 with disabilities reported having at least a university qualification, compared with 27% of those without disabilities (Statistics Canada, 2019). These disabilities included neurodevelopmental condition(s) (NDC), a mental health condition (MHC), or both. These are diagnosed conditions, so the number of undiagnosed people is likely far higher. Those adults with undiagnosed learning (dis)abilities have multiple barriers to learning in place and often must look for accommodations in the workplace or post-secondary education. In fact, 43% of employees with (dis)abilities (and neuro-differences) do not feel comfortable approaching their employer to ask for accommodation (Business Disability Forum, 2020). We want to create a tool that supports educators when creating learning materials for all learners, regardless of ability, and mitigating the need for after-the-fact learning accommodations.

There are increasing resources for UDL principles; however, educators need to learn how to apply them in an organized, straightforward manner to determine whether their learning object/module/course meets UDL guidelines.

“The UDL framework is grounded in three principles:

● **Multiple means of representation –** using various methods to present information and provide a range of means to support.

● **Multiple means of action and expression –** providing learners with alternative ways to act skilfully and demonstrate what they know.

● **Multiple means of engagement –** tapping into learners’ interests by offering choices of content and tools; motivating learners by offering adjustable levels of challenge.” (TEAL Center Staff, n.d.)

Our checklist will help educators accommodate the three UDL principles. Other resources list what UDL considers but do not provide the depth or breadth required for someone to design learning materials with all the principles in mind. Given that UDL is a newer approach, many educators are unfamiliar with its benefits and drawbacks. There is a lack of resources that provide this sort of support and an easy-to-access and use tool that provides guidance and awareness on the full range of learner abilities, particularly those with unrealized and unacknowledged learning disabilities. This tool will be helpful for new instructional designers and educators to acclimate them to UDL principles.

## Creating an Interactive Decision Tree

We believe Twine will allow us to create branches for different aspects of UDL, be accessible to all educators and be easy to use. If there is an overlap between resources or rationale, we can link to the same resources without having to create them twice. Twine allows for the inclusion of videos and links to web resources, which allows us to address the multimodal framing of UDL within our design.

Our tool configures its users by determining what can be checked. Our project group selects what is essential from a UDL lens to be incorporated into learning materials, focusing on adults with unacknowledged learning disabilities. We aim to provide educators and designers with an easy-to-use tool that helps all adult learners, regardless of barriers or learning abilities.

### UDL Checklist Items

In our tool considerations, we would like to include factors such as:

● What devices might learners be using and what are their technical capabilities?

● Have you considered different (dis)ability needs?

● By making it accessible for one group, are you making it less accessible for others?

● Have you considered inclusivity (language, font style and size, colour palette, etc.)?

● Does the approach have an alternative method of delivery?

● Does it provide appropriate and sufficient cognitive support (organizing clues, background information, scaffolding)?

● Does this approach comply with ACR standards? Are there additional provincial compliance requirements?

● Does the mode of assessment consider necessities and fairness (time constraints, presentation method, learner option, authenticity, supporting resources)?

## Using Inclusion to Necessitate Usability

This tool is a checklist. One of the limiting factors of checklists is that we will have to determine what is included in the list and how that list is sequenced. Woolgar (1996) would consider this an element of configuring the user. This limitation makes the tool more usable and less overwhelming for practitioners new to UDL principles. Gee (2005) states that we learn best when we understand how things fit into a larger meaningful whole. By reducing the broad scope of UDL to more manageable subtopics, it becomes easier to digest and learn about the benefits of UDL. Chunks have long been proposed as a basic organizational unit for human memory (Laird et al., 1984). Chunking is an essential strategy for learning complex subjects. Laird et al. (1984) demonstrate that a practice mechanism based on chunking can speed up task performance and may be capable of leading to more exciting forms of learning than just simply improving the speed of acquisition.

The output of Twine creates accessible objects delivered on the web. It requires low bandwidth and does not require significant computer processing power to operate, allowing people to access this tool from a desktop or mobile device regardless of location or operating bandwidth.

**Determining Usability and Success**

Using the usability specifications (as defined by Issa and Isaiah, p. 34) we will examine performance measures such as the responsiveness of the completed site (is there a significant delay from clicking on an item?) and preference measures from a target audience focus group to examine whether this checklist tool improves their understanding of UDL. If time allowed, a longitudinal study could be conducted to see how the covered UDL principles were recalled one year after the user introduced the checklist.

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