**ONTOLOGY FOR UDL AND RELATED CONCEPTS**

**QUBES Universal Design Tagging Ontology**

**Universal Design for Learning (UDL)**

**Universal Design**

**Accessibility**

**Usability**

**Assistive Technology**

**Assistive Technology Compatible**

**Universal Design for Learning (UDL) –**A framework to improve and optimize teaching and learning for all people based on scientific insights into how humans learn (<http://www.cast.org/our-work/about-udl.html#.XV25uXt7lPY> CAST).

There are 3 aspects or tenants to this framework

* **Engagement:** Stimulate interest and motivation for learning
* **Representation:** Present information and content in different ways.
* **Action and Expression:** Differentiate the ways students can express what they know.

**Universal Design -** The design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability. An environment (or any building, product, or service in that environment) should be designed to meet the needs of all people who wish to use it (<http://universaldesign.ie/What-is-Universal-Design/> Center for Excellence in Universal Design)**.**

**NOTE:** Drew sees utility in both of these and yet both feel deficient. The former reads more like a mission statement. What does it mean to “improve and optimize teaching and learning for all”? The three tenants help a little with this. The latter is a little more explicit “accessed, understood, used,”and lays out what aspects of a person should be rendered irrelevant to their access, understanding and use. However, it feels very physical and does not address learning other than as a “service” provided in an environment. A combination may be useful. Not sure.

**Accessibility –** The ability to access and benefit from some system or entity (https://en.wikipedia.org/wiki/Accessibility). In the UDL context, this term generally refers to access for people with disabilities, particularly compatibility with assistive technologies. It is also used more broadly in the sense that a goal of UDL is to make learning accessible to the widest range of people possible. Not to be confused with usability.

**NOTE:** The distinction between UDL and Accessibility is hard to make when thinking beyond assistive tech (which people should). My own feeling is that one can work on accessibility while not truly taking a UDL approach, but good UDL requires accessibility. However, this could be argued depending on conception of Accessibility. Also, this entire conception of the term makes much less sense when thinking about accessibility in the context of open science and OER, where the question is more focused on, “Can I get my hands on it?”

**Usability –** The ease of use and learnability of a human-made thing, usually software or website. It usually refers to a specific target user group and a specific use context. In learning , a more “usable” tool imposes less cognitive load on students, allowing them to focus on content, not the tool itself. The term is primarily presented here to differentiate it from accessibility.

**NOTE:** This usability versus accessibility issue is also muddy. For instance, you could have two accessible things and yet one is more usable than the other, depending on who the user actually is. However, interpret accessibility broadly enough and you can argue that it is impossible to be accessible if usability is low.

**Assistive Technology (AT) - A**ny item, piece of equipment, software program, or product system that is used to increase, maintain, or improve the functional capabilities of persons with disabilities (<https://www.atia.org/at-resources/what-is-at/> Assistive Technology Industry Association). This can be low tech (e.g. puff-painted lines on paper) or high tech (screen reading or language processing software). AT can also be inclusive or specialized learning materials and curriculum aids.

**Assistive Technology Compatible –** Any materials tested to be compatible with one or more assistive technologies.