Cool Tools for UDL

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Recently at *Academic Forum*, a group of faculty met to explore the basics of Universal Design for Learning (UDL) and some "Cool Tools" they could easily incorporate into their courses.

The concept of UDL originated in architectural studies. The original focus was on physical access and the incorporation of assistive technologies and adaptions to the built environment. The one example most frequently referred to is curb cuts. Historically, one vital concept in universal design for physical space was the focus on adaption. Adaption allows access for everyone to use a space in an easier way. I can imagine that in the past few days you have used a curb cut or a door opener! UDL means that we consider the different ways we can provide "ramps" to our teaching: the content, the delivery, and the assessment of learning. When we use this approach, we are meeting the needs of all our unique and diverse learners! (McGuire, J. M., Scott, S. S., & Shaw, S. F., 2006).

CAST (Center for Applied Special Technology), a non-profit education research and development organization in Wakefield, MA., has been developing UDL for a number of years. CAST defines UDL as

> *a set of principles for curriculum development that gives all individuals equal opportunities to learn. UDL provides a blueprint for creating instructional goals, methods, materials, and assessments that work for everyone – not a single, one-size-fits-all solution, but rather flexible approaches that can be customized and adjusted for individual needs*. (CAST, 2018)

Their research in cognitive neuroscience has resulted in three principals for UDL:

1. multiple means of representation
2. multiple means of engagement
3. multiple means of action and expression

These three principles are reflected in the way we disseminate information over a course, how we keep students interested and motivated, and how we assess if they have achieved the

outcomes for the course. For more information about how UDL principles apply to teaching, you can visit the CAST website.

In the "Cool Tools for Universal Design for Learning" session at *Academic Forum*, faculty considered some tools to engage students in the classroom. The session was delivered using Nearpod, an interactive classroom engagement tool that allows for different activities such as brainstorming, polling, drawing boards, quizzes, etc. to be inserted into an existing lecture that might be delivered through PowerPoint slides. Other options for engaging students that were introduced were Padlet and AnswerGarden.

Next, faculty considered multiple means of representation. One delivery option explored was the use of Screencast-O-Matic, a free tool that allows users to screen record and explain interfaces such as My.Seneca for new students or to teach computer program skills such as AutoCAD. The Noun Project has over two million icons that can be used to represent content. Research has shown that conversion of content to images supports retention (Carney, Levin, 2002). Faculty also discovered that Khan Academy has an option for students to view materials in multiple languages.

To wrap up the session, we explored both summative and formative evaluation tools as we considered the UDL's principle of action and expression. Some of the guidelines in this principle of UDL allows student to vary their methods of response. When students prepare a written response, we don't know if they have typed with perfect touch typing skills, used two fingers to peck out their answer, used an assistive technology program that supports the generation of correctly spelled text, or have actually voice-typed their response. The results of what they produced is what we are evaluating. The Seneca Student Federation website has an "Essential Accessibility" tool that students can download for free. They then can use text to speech, a great editing tool. We briefly explored TextHELP, a study skills software program available to all Senecans that supports writing through such tools as word prediction, Check It (checks spelling, grammar, homophones), and a text-to-speech tool. Equatio is a digital math/STEM tool that allows notations to be handwritten or voiced and it translates it into digital text.

As we continued to explore multiple means of action and expression, participants were able to view a summative assessment assignment that was expressed in multiple formats by faculty presenting their developing teaching philosophies. One person provided a typed response while others made use of videos, infographics, and Adobe Spark. Tools such as Google Forms can be used as a way to check in at the end of class to gauge student understanding. Similar to a two-minute paper exercise, this gives students an opportunity to type their answers and you can quickly review responses. As you finish reading this article, click on this hyperlink and answer the two questions!

More details from *Academic Forum* are available in the Academic Forum 2019 article in this issue.

If you'd like to learn more about UDL, the Teaching & Learning Centre is offering a ***Teaching***

Unique Diverse Learners (UDL) course in Fall 2019. This course will explore our unique, diverse learners and the principles of UDL; participants will examine a course they currently teach and take some first steps into incorporating UDL into their teaching practice. More details will be available soon on the Teaching & Learning Centre calendar.

References:

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Image credit: "Learning" by Nithinan Tatah from the Noun Project

View the June 2019 issue of the Academic Newsletter.

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