Can One Size Really Fit All?

Using Universal Design for Learning (UDL) to Teach Information Literacy Skills

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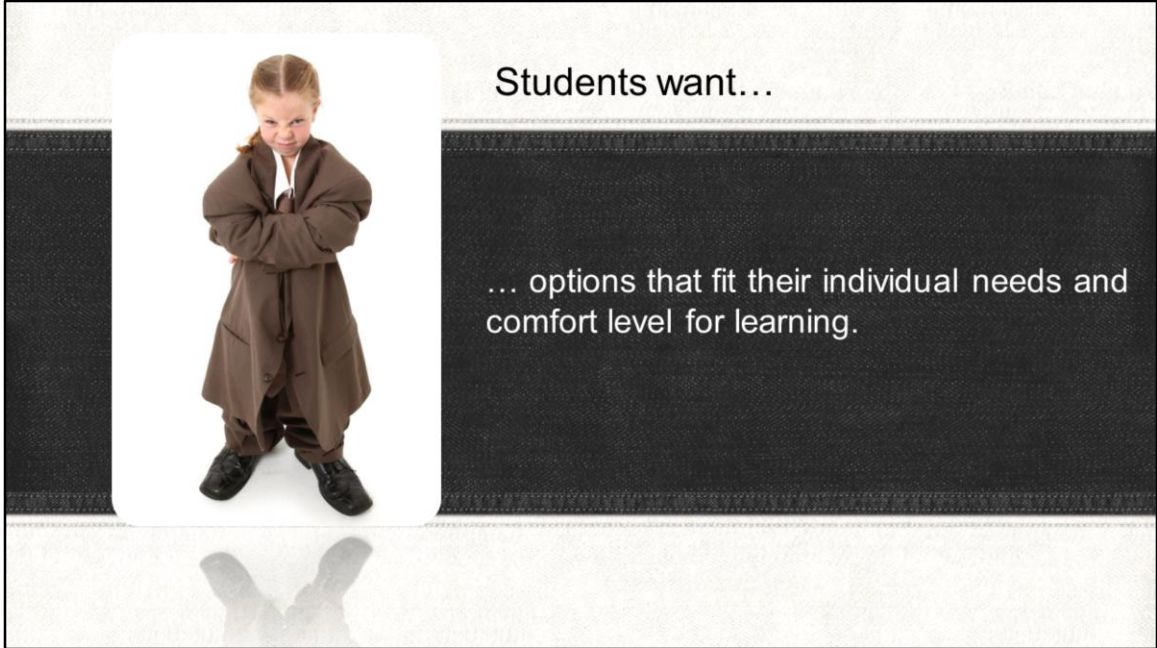April 29, 2016

UNIVERSITY LIBRARIES

Tahirah introduces both of us.

Tahirah
Our presentation is a reflection of our past and current teaching practices. You all have experience in teaching, right? Your probably have a closet full of "One-size-fits-all" teaching materials such as power point slides, handouts, exercises, assessment tools, etc. You recycle them every year, right? But your closet should NOT be limited to just "One-size-fits-all" educational content. Why? Because they would fit "some" students but what everyone else? Like students with various learning styles. One prefers textual information, while another is more of a visual person and prefers to learn through videos.

Images: https://www.pinterest.com/pin/566538828097096632/ and https://myreconsultants.files.wordpress.com/2010/08/man-boy.jpg

Nedelina
Students want options that fit their individual needs and comfort level for learning.

Image: https://cdn.psychologytoday.com/sites/default/files/styles/image-article_inline_full/public/blogs/5125/2012/05/95504-92033.jpg?itok=fj8nR2yP

Nedelina

In today's Internet-empowered world, it's time to acknowledge that the traditional "one-size-fits-all" educational practices that met the needs of the majority of students and was convenient for us, the educators, several years ago just does NOT fit the student's needs or capabilities of today.

Image: Adapted from http://xdesktopwallpapers.com/white-t-shirt-hanging-n-blue-background-6326.php

Nedelina

In the last twenty years colleges and universities in the United States actively recruited diverse body students with different ethnicities, cultures, abilities and learning styles.

Image: Adapted from http://wisebread.killeracesmedia.netdna-cdn.com/files/fruganomics/imagecache/605x340/blog-images/iStock_000006282979Small.jpg

Nedelina
So, the time for change came!

Teaching faculty are facing the challenges to shift their educational practices to more inclusive teaching and learning models. One such model is the Universal Design for Learning (UDL) theory which is relatively new within the field of post-secondary education and librarianship. Applying this theory to online instructional design can expedite the needed shifts in faculty's teaching practices in order to accommodate various learning styles of students.

Image: http://b2bconnectedmonton.com/wp-content/uploads/2014/01/Positive-change-101.jpg

Context for designing library modules in ELMS

Nedelina
The vision of the Associate Dean for Educational Innovation at the School of Public Health was targeted toward offering more distance learning courses. This required teaching faculty to design online courses via ELMS and to replace the face-to-face library instruction with online content.

Images:
- Vision, http://www.yrkprojects.co.za/images/vision.jpg?494
- E-Learning: http://librarysciencelist.com/files/2013/03/free-online-courses-300x211.png

Nedelina
Taken by this vision, I was inspired to design library modules in Canvas. Then, two more colleagues joined me in this venture and we piloted a flipped classroom last year.

The course is publicly available on the URL shown on this slide. It is broken down into 6 different modules. Attempt was made to make the content concise as possible and to include both textual and visual information to accommodate various student learning styles.

For example, Module 2, Literature Review has a definition in a textual format, with a link "Read more" guiding students to additional textual information, while for those who prefer to learn through videos, those are included as well.

Various assessment tools were designed to track students' progress and to assess students' performance (go to Home page):
1. Pre-class assignment was developed to have an initial understanding about the level of information literacy skills students had prior completing the modules.

2. Then, after each module, students had to complete quizzes prior class (For example, Module 3, Searching Techniques – MeSH.
3. Finally, students practiced the concepts learned in class (show the link **In-class assignment** from the home page).

The quiz results showed a high level of mastering the information literacy concepts. However, students' research papers still included free Internet resources from untrusted websites rather than sources from the scholarly community. Sharing this concern with Tahirah, my wonderful colleague and librarian from the College of Education, she later took on the challenge to improve students' learning and to apply the principles from the Universal Design for Learning (UDL) theory to improve the already existing library modules.

Tahirah

Worked at Johns Hopkins's School of Education and introduced to UDL.

Collaborated with faculty to transfer a course from in-person to online. In this course, we taught teachers about UDL.

At UMD, I support two schools, the College of Education and the School of Information Science Populations range from returning students, born digital to those with research anxiety.

Librarians come into contact with many students and faculty with different request, needs/ wants.

We teach and plan our lessons and take notice when our students are struggling to learn ideas and concepts.

Based on my interactions with students, I see UDL has one of the best approaches to teaching students. Scott, Temple and Marshall (2011) write,

"UDL is an important set of guidelines that allows all students to access learning based on their needs and interests (CAST, 2008). Its main goal is to help educators address the variability in students' capacities to learn, including those with learning disabilities as well as those with academic proficiencies (Mangiatordi & Serenelli, 2013). UDL is defined as a scientifically valid framework for guiding educational practice that 1) provides flexibility in the ways information is presented, in the ways students respond or demonstrate knowledge and skills, and in the ways students are engaged; and 2) reduces barriers in instruction, provides appropriate accommodations, supports, and challenges, and maintains high achievement expectations for all students (NCUDL, 2013). "

UDL was designed to reflect the needs of a variety of learners. This theory embraced the need for technology as a viable teaching tool.
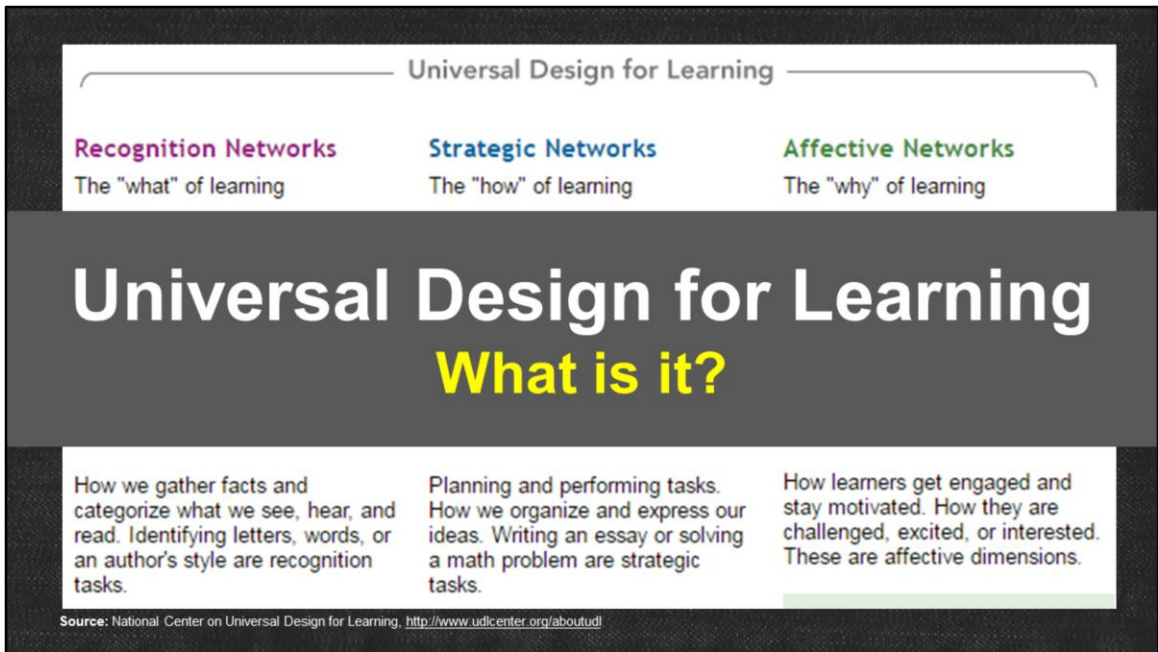
Image: http://www.ecoblender.org/wp-content/uploads/2012/09/images.jpeg

References:
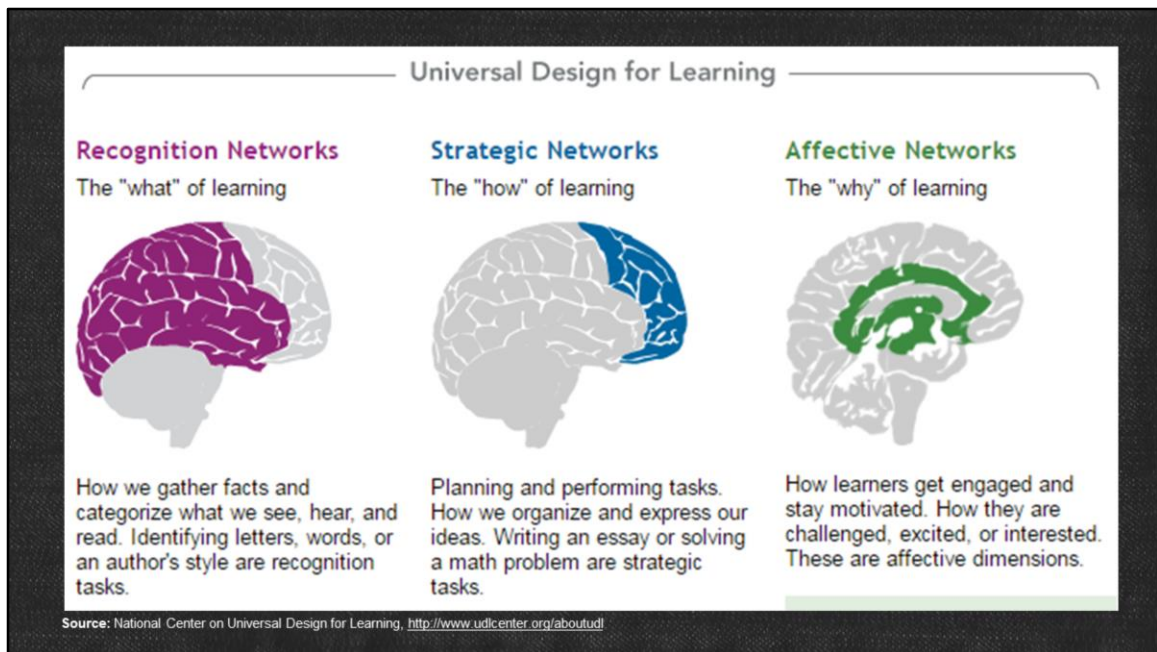CAST, (2008). Universal Design for Learning guidelines version 1.0. Wakefield, MA: Author

Mangiatordi, A., & Serenelli, F. (2013). Universal Design for Learning: a meta-analytic review of 80 abstracts from peer reviewed journals. REM, 5(1), 109-118.

NCUDL (2013). How has UDL been defined? National Center On Universal Design for Learning website. Retrieved from http://www.udlcenter.org/aboutudl/udldefined

Scott, L., Temple, P., & Marshall, D. (2015). UDL in Online College Coursework: Insights of Infusion and Educator Preparedness. *Online Learning Journal*, *19*(5). Available at http://olj.onlinelearningconsortium.org/index.php/olj/article/viewFile/623/185

Tahirah

Source: National Center on Universal Design for Learning, http://www.udlcenter.org/aboutudl

Tahirah
The sign across the slide has an animation to disappear with a click.

UDL is based on research in neuroscience, specifically on the three main neural networks that are involved in the variability of an individual's learning process:

1. **Recognition networks** (fact gathering and categorizing what we see, hear, and read);
2. **Strategic networks** (organizing and expressing our ideas); and
3. **Affective networks** (connecting the learning experience to an emotional background, determining engagement and motivation)

(Meyer, Rose, & Gordon, 2014; Rose & Meyer, 2002; Edyburn, 2009).

References:

Edyburn, D. (2009). RTI and UDL interventions. Journal of Special Education Technology, 24(2), 46-47.

Meyer, A, Rose, D. H. R., & Gordon, D. (2014). Universal design for learning: theory and practice. Wakefield, MA: CAST Professional Publishing.

Rose, D. H., & Meyer, A. (2002). Teaching every student in the digital age: Universal Design for Learning. Association for Supervision and Curriculum Development. Alexandria, VA: Association for Supervision & Curriculum Development.

Principles Guiding UDL

Provide multiple means of:

Representation
- Perception
- Language, expressions, and symbols
- Comprehension

Action and Expression
- Physical action
- Expression and communication
- Executive function

Engagement
- Recruiting interest
- Sustaining effort and persistence
- Self-regulation

Source: National Center on Universal Design for Learning, http://www.udlcenter.org/aboutudl/udlguidelines

Tahirah

In order to speak to the various student learning styles, three guiding principles of UDL were created:

> "Provide multiple means of **representation**, provide multiple means of **action and expression**, and provide multiple means of **engagement**" (Meyer, Rose, & Gordon, 2014; Rose & Meyer, 2002; Edyburn, 2009).

Online environments provide opportunities for instructors to fully utilize the principles of UDL.

References:

Edyburn, D. (2009). RTI and UDL interventions. Journal of Special Education Technology, 24(2), 46-47.

Meyer, A, Rose, D. H. R., & Gordon, D. (2014). Universal design for learning: theory and practice. Wakefield, MA: CAST Professional Publishing.

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Beginning Stages…

Reconceptualizing the platform around diverse student learning

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Tahirah

Beginning Stages:

1. **Storyboarding** the project, deciding what technologies to use to teach what concepts.
2. **Timeline**: creating a timeline this summer for completing project
3. **Assessment**: building in quizzes, adding other means to assess student learner and gathering feedback—surveys, questionnaires, reviewing final projects

Image: http://hcco.org/sites/default/files/happypeople.jpg
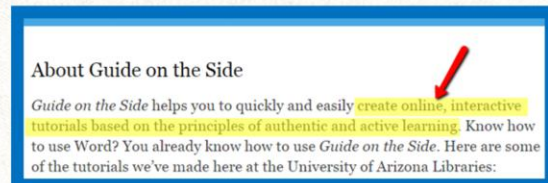
Tahirah

Using Canvas and building out Nedelina's tutorials, I plan to integrate these technologies as teaching tools.
1. **Guides on the Side**: Is an interactive platform, students are guided through activities and get one the spot feedback
2. **Podcast**: Provide a way for students to listen to other perspectives regarding research
3. **Jotforms**: Interactive forms—can be used for students to assess their progress or instructor can use to teach a concept
4. **Voicethread**: Interactive way for students to engage with instructors, colleagues and get feedback
5. **Scivener**: Students can create and track ideas for writing

ONE SIZE DOESN'T FIT ALL WHEN IT COMES TO STUDENTS WE TEACH...

Tahirah

So, when you design your teaching content, think of the students from diverse background. Put yourself in students' shoes and think when you design your teaching materials using only a single format. Can you read this slide? No, seriously?

Image: Adapted from http://changeyourgamebealeader.com/wp-content/uploads/2014/07/onesizedoesntfit.png

One size doesn't fit all when it comes to students we teach…

Tahirah
Is that better! Alright, hope you enjoyed the presentation!

Image: Adapted from http://changeyourgamebealeader.com/wp-content/uploads/2014/07/onesizedoesntfit.png

Tahirah

Image: http://wonderopolis.org/wp-content/uploads/2011/02/needle-thread-thimble_shutterstock_63941572-640x385.jpg

Image: http://www.ibgm.com.br/wp-content/uploads/podio_img/399544892/214836843.jpeg