FROM LIMP LETTUCE TO KALEIDOSCOPE SALAD: MAKING YOUR INSTRUCTION SESSIONS POP FOR ALL PATRONS WITH UNIVERSAL DESIGN FOR LEARNING PRINCIPLES

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Universal Design for Learning (UDL) is a concept that has its roots in architecture. Every day you benefit from Universal Design without even realizing it. For instance: when you use the curb cut to wheel your luggage onto the sidewalk, or you utilize the automatic door to your building when your hands are full. Each of these improvements was included in the design to ensure that everyone had independent access to buildings and the community. For many communities, the passage of the Americans with Disabilities Act in 1990 was the impetus to incorporate accessible design into their planning; however it quickly became obvious that everyone benefits from spaces that are consciously designed to give the greatest amount of access to all people. Universal Design for Learning takes this concept and applies it to curriculum design.

In 1995, the researchers at the Center for Applied Special Technology (CAST) began to formulate how the principles of universal design could be applied to an educational setting, and in 2002, (CAST, n.d.) they published *Teaching Every Student in the Digital Age: Universal Design for Learning* (Rose & Meyer, 2002). This gave educators access to the theory behind UDL as well as ideas and examples of how it could be practically applied in their classrooms. UDL recognizes that learners utilize three different networks in their brains when learning new material: recognition, strategic and affective. Recognition networks help learners to identify and interpret sensory cues such as things we see or hear. Strategic networks help learners plan, execute and monitor their skills such as problem solving, essay writing or search construction.

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Affective networks influence learners based on how they feel both physically and emotionally. When learners are comfortable and engaged they are more successful. Because learners may have different strengths and weaknesses within these networks, UDL identifies three guiding principles (CAST, 2011):

- Provide multiple, flexible methods of presentation

- Provide multiple, flexible methods of expression

- Provide multiple, flexible options for engagement

The National Center on Universal Design for Learning has developed guidelines to implementing the UDL framework (CAST, 2011) which explains practical applications of the guiding principles.

UNIVERSAL DESIGN FOR LEARNING FRAMEWORK

The first principle, provide multiple, flexible methods of presentation, addresses the recognition networks in our brains. Learners that have hearing disabilities or visual impairments may come to your instructional sessions. They may have learning disabilities that influence how they access and understand information, or they may be strongly auditory or visual learners. As you can see there are a myriad of characteristics that will influence learner recognition. There are three main things that you can do to make the presentation of your information more accessible:

- **Provide options for perception**: Say that you are giving an instruction session on Boolean logic: to meet this criterion you would want to describe how each operator works as well as offer graphic representations of how they work. In a best case scenario you could develop an online companion to

your session that would allow learners to manipulate how the information is displayed as well return to it at a later date for clarification.

- **Provide options for language, mathematical expressions, and symbols**: regardless of the age of your learners or the topic of your instruction, there is a lot of jargon associated with libraries and the art of finding information. Be sure to clearly define unknown words, and make structures and relationships explicit, even if they seem obvious to you. In library instruction, this can be especially important when you are teaching search structure for specific databases. Be supportive of alternative ways of receiving information such as text-to-speech options or alternative languages. Point out to learners the alternative format options that are available to them for the topics on which you are giving instruction. For example, if you are teaching about MedlinePlus, show them how to access the Spanish version of the site as well as the articles in multiple languages. If you are teaching an EBSCO database, point out the text-to-speech options. This is helpful even if you are unsure that you have any English as a second language or auditory learners.

- **Provide options for comprehension:** Learning is all about taking information and transforming it into personal knowledge. Library instruction can be an ideal time to help cement and transform knowledge. Be sure that your instructional sessions are tied into a bigger picture. If you are in an academic setting, tie your lesson to an assignment from their class. Activate prior knowledge through search construction. Ask them to draw a concept map about their topic to help them devise a search strategy. Help them to understand how skills can transfer to other situations or databases. Guide them through processing information by breaking information into small units or giving them a variety of access points to key concepts.

The second guiding principle is related to the strategic networks in our brains. By providing multiple, flexible methods of action and expression instructors are better able to gauge what a learner truly knows independent of the prescribed method of expression or limitation that learners encounter because of physical barriers. Each learner may have a different way of reaching the instructional goals for the session and there are three key factors to ensuring that each learner can express what they have learned.

- **Provide options for physical action:** Be aware of the adaptive technology that is available to you. For example, current Windows and Mac operating systems have some level of speech recognition software built in that can be activated by users. If possible provide or invite learners to use touch based tablets. Also be aware of free online resources that

can help. Plan for learners to finish activities at variable times by providing content related activities for learners who finish early. Provide an electronic version of worksheets and activities for learners who have difficulty writing. Highlight alternative key commands for users who have problems using their mouse or pointing devices.

- **Provide options for expression and communication**: Assessing learners' achievement is a key element for the instructor as well as the learner. However, when the ways in which learners can express their knowledge is limited, instructors do not get a full picture of all learners understanding, only those who thrive in the prescribed method. For example, if you wanted to gauge if your learners understood Boolean operators you could give them the option to describe each operator, diagram the concepts or tell a story which illustrated each operator in action.

- **Provide options for executive functions:** Much of the learning process, even independent learning relies on good organization, planning and assessment. Helping learners identify what motivates them and what type of feedback they respond best to is essential to giving them the tools they need to set appropriate goals and manage their learning process. The core of library instruction is helping learners understand the practical steps that lead to knowledge acquisition. They can only do this with appropriate goal setting, planning and strategy development, organized management of information and resources and by monitoring and assessing their progress. When explaining the goals of your instruction session, explicitly state how the session relates to the overall learning objectives. Reinforce the steps they need to take to meet their designated outcomes. Introduce them to the tools available to help them organize their thoughts and resources. Throughout the instruction session, periodically prompt learners to assess their progress and the quality of their work.

The final guiding principle encourages instructors to provide multiple means of engagement. As we have hinted throughout the previous principles, each learner brings their unique approach to learning. When instructors give learners the freedom to explore and express their knowledge in ways that fit them best, it can lead to greater understanding for the individual as well as the whole group. The three essential elements to encourage engagement are:

- **Provide options for recruiting interest:** It is imperative that you develop and state clear learning goals for each instructional session, but how learners get to that goal can be as varied as the number of learners participating in your session. For instance, if there are several interfaces available to search a database such as the basic, advanced or visual

search, point them out and allow learners to pick which suits them best. The important thing is that learners feel that the skills and knowledge they are acquiring are personally relevant. Library instruction often happens before the point of need and thus appears to be decontextualized from the learners' goals. To have engaged learners who are able to transform the information given into true knowledge, instructors must find ways to make the content relevant and provide ways for learners to reconnect with the information when they need it most. The environment that instruction occurs in also can enhance or detract from learners reaching their goals. Many work best when they know what's coming, but variety can also help maintain interest. Try to find a good balance between reducing risk and encouraging variety.

- **Provide options for sustaining effort and persistence**: Once learners are initially engaged in a topic, the challenge is to sustain their engagement throughout. One way is to help them become invested in the goals by asking them to restate the goal in their own words, and by providing periodic reminders and prompts to connect the goals to their own situation. Another way to sustain interest is to encourage collaboration in groups with clear goals, common interests and roles. Be sure that group work has explicit expectations. It is also important to provide feedback. So often library instruction can turn into a show and tell session where learners aren't given any feedback. Finding ways to incorporate tasks and provide feedback are key components to skills acquisition.

- **Provide options for self-regulation:** While instructors set the stage, it's learners themselves that must maintain their levels of motivation. By encouraging self-regulation during the instructional session and proposing coping skills to be engaged when the learner hits roadblocks at the point of need is essential for productive knowledge acquisition and expression. Learners often think that finding and organizing resources is the "easy" part of learning. Instructors know this is often the most challenging phase, but creating reasonable expectations for the processes as well as tips on how to handle frustration and how to recognize when to ask for additional help, instructors can prepare learners to effectively cope with the stressors that may interfere with their learning outcomes.

Resources

The UDL framework is designed to help instructors develop a curriculum that is accessible to all students in a classroom environment. Unfortunately in many situations librarians do not get the opportunity to create and sustain the ongoing relationships with their students that are necessary

to effectively create responsive instructional sessions. In an ideal situation, librarians acting as embedded librarians for a class will be situated to provide meaningful, contextualized instruction with students they have the time and opportunity to learn more about. When this is not possible, the most valuable resource you can develop is a strong relationship with the instructors for the classes to which you give library instruction. This relationship can be solidified though good pre-planning meetings which allow librarians to ask the right questions about the students who will be attending the session such as:

- Do you know the learning style preferences of your students?

- Do you know if any of your students have learning abilities which will respond better to specific types of instruction?

- Do you know of any particular interests for your students that will help motivate and engage them?

- Do you know of barriers that may prevent any students from being fully engaged?

CAST provides an excellent tutorial for developing a class profile which can be useful to the instructor as well as the librarian (see resource links at the end of this article). During this meeting, librarians can also get a better understanding of the content being covered in class or upcoming assignments so that sessions can be contextualized to a specific task or assignment.

If it is not possible to meet with the class instructor beforehand, pre-session surveys and structured ice-breakers during the session to help provide insight into learning preferences or any learning barriers that may be present are a good way to gain more information about the learners present. When utilizing these tools, pre-plan how to modify instruction to be responsive to the outcomes. It might also be helpful to provide workshops that are interrelated in a series to encourage attendance in multiple sessions. Instructors would then have an opportunity to build rapport with patrons who seek out library instruction.

There are a number of great resources available to learn more about Universal Design for Learning and how to implement it during instructional sessions. The following resources are clearinghouses of information about UDL.

The Center for Applied Special Technology (CAST):
http://www.cast.org/

As mentioned before, the researchers at CAST were the developers of the UDL framework. On their website you will find the latest research and development from their organization as well as a number of free tools for students, instructors and parents to help implement UDL.

The National Center on Universal Design for Learning:
http://www.udlcenter.org/

Here instructors will find the UDL guidelines as well

as concrete examples and resources to help design instruction as well as a community of instructors to connect with and collaborate with.

UDL Tech Tools Wiki: http://udltechtoolkit.wikispaces.com/

A guide to tools that instructors can utilize to help learners access materials and content.

For access to these resources and more, visit www.delicious.com/ccwrayiub/loex

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