

UDL Goes to School in BC by Constance McAvoy and Bill Standeven

David H. Rose, well-known author and educational researcher, has recently written that barriers to learning are not, in fact, inherent in the capacities of learners, but instead arise in learners' interactions with inflexible educational materials and methods. This is a message of importance to today's educators. Traditional classroom methods, materials and media, like books and speech, come in "one size" for all, but do not fit for everyone and actually create barriers to learning. The work of Universal Design shifts the focus to the ways materials and methods encountered by students can be designed to meet the needs of all students. As Rose and his colleagues Anne Meyer, Nicole Strangman and Gabrielle Rappolt write in their recent book:

Universal Design for Learning revamps traditional perspectives on education. Within the UDL framework, divisions between ability and disability give way to an understanding that categorical approaches to education obscure the complex and subtle patterns of strength and weakness that affect all learners. We are coming to understand that a learner's true ability lies at the junction of his or her personal capabilities and the capacities afforded by available learning media. (Rose, Meyer, Strangman, and Rappolt, p. 173)

Universal Design for Learning

What is this Universal Design for Learning that has occupied the thought, research, and developmental activities of educational leaders and technology advocates for the last 15 years?

Universal design for Learning (UDL) is a framework for designing curricula that enables all individuals to gain knowledge, skills, and enthusiasm of learning. The process of building in, rather than adding on, accessibility and support for diverse learning needs is known as "Universal Design for Learning."

Universal Design has its roots in architecture and product design. Think closed captioning, speaker phones and curb cuts. UDL embraces the concept of improved access for everyone and applies it to curriculum materials and teaching methods. A UDL approach is simply more practical, elegant and effective, since it is always better to build in flexibility from the beginning, rather than add it on later. And conveniently, accommodations created for some students usually result in increased benefits for everyone.

UDL frames a systematic approach to setting goals, choosing or creating flexible materials and media, and assessing students accurately. This approach assumes that students with varying needs will be involved in learning, and that the goals, instructional practice, instructional materials and assessments need to address the diversity.

A universally designed curriculum incorporates three principles of flexibility into the design:

- multiple means of representation to give learners various ways to acquire information and knowledge,
- multiple means of expression to provide learners with alternatives for demonstrating what they know, and
- multiple means of engagement to tap into learners' interests, challenge them appropriately and motivate them to learn.

This built-in flexibility provides a wide range of options for students to choose from — meaning the curriculum adapts to the student, rather than the other way around.

UDL at School

Recognizing UDL as a potentially powerful strategy to help all British Columbia students achieve in school, Special Education Technology – British Columbia (SET-BC), funded by the Ministry of Education, entered into a partnership with schools in seven school districts to implement principles of UDL in classrooms, develop UDL lessons and resources to be shared provincially, and to evaluate the effectiveness of UDL principles in education. During the 2007/08 school year, seven teams of teachers from schools across BC were invited to participate and to focus their efforts on Language Arts within Grades 4 to 10.

Examples of flexible materials include:

- ✓ *digitized text that can immediately be turned into text-to-speech or refreshable Braille*
- ✓ *visual mapping software that supports graphic organization,*
- ✓ *Interactive whiteboards that create an interactive digital environment*
- ✓ *voice recognition software that allows students to express themselves orally*
- ✓ *captioning and described video*

Teacher teams were formed in SD No. 41 (Burnaby), involving teachers from Morley Elementary School; in SD No. 43 (Coquitlam), involving teachers from Birchland Elementary School; in SD No. 52 (Prince Rupert), involving teachers from Pineridge Elementary School, Westview Elementary School, Kanata Elementary School, and Lax Kxeen Elementary School; in SD No. 28 (Quesnel), involving teachers from Quesnel Secondary; in SD No. 36, involving teachers from Tamanawis Secondary; in SD No. 22 (Vernon), involving teachers from Coldstream Elementary; and in SD No. 61, involving teachers from Colquitz Middle School and Spectrum Community School.

The BCUDL Project provided training, technology, resources and mentoring to the seven teams during 2007-2008. Prior to the start of the school year, participants attended training sessions that included the study of the concepts of universal design, introduction to the UDL toolkits (laptops, projection system and a selection of software applications), study of UDL instructional strategies, and introduction to online communication tools. The BCUDL SchoolHouse provided a virtual online meeting room for weekly, web-based meetings. The lead teachers participated in the weekly online discussions that focused on the challenges and highlights of their shared journey as they put UDL theory into practice in their classrooms. Teams at school sites designed and/or adapted lessons and curricula over the year using the universal design principles. SET-BC developed a resource databank to archive UDL-principled project lessons. This repository is now available as a resource for teachers across the province at www.setbc.org/bcudl. Additional resources to support UDL such as reading lists, learning resources, and websites of interest are also available on the BCUDL section of the SET-BC website at www.setbc.org/go/bcudl.

SET-BC has also posted a set of video presentations by teachers in the BC Universal Design for Learning Project to further celebrate the successes of the project in its first year. In each video clip, the teacher who created the lesson provides an overview and shares insights on how UDL-based instruction impacts the teaching and learning experience in the classroom for both teachers and students.

Here's what teachers have learned in the first year of the BC UDL project:

Benefits for teachers

UDL is good for teachers because it increases the focus on teaching and on student participation. Teaching with technology allowed teachers to access a wide variety of online multimedia teaching resources and increase student access to their lesson materials via the laptops, projectors, SMARTBoards, and digitized text. The tools helped teachers instantly

make their lessons more explicit and engaging. In the words of one of the teacher participants: “UDL principles helped focus my teaching. Struggling students were willing to work harder when they could participate in the same lessons as their peers.”

UDL is good for teachers because it helps meet the diverse needs of students in the classroom. As teachers became more aware of how the use of technology made their instruction more accessible to students with diverse learning needs, it increased their

D. is a non-reader in Grade 4. This year he presented his speech on Hummers by creating and voicing over a PowerPoint presentation. He proudly showed it to his class and to his mom at a student-led conference. His mom had to hold back tears she was so proud of his accomplishment.

confidence in their ability to teach to all of their learners more effectively. “The use of technology in the classroom has built our confidence level in encouraging students to use tech in their learning. Not all of us were confident in providing our students access to technology. We have become more creative in using it to enhance learning. With it we are able to address students’ learning needs. We discovered that when students are using technology like Kurzweil, they are feeling a sense of empowerment and confidence, we did not see with many

students before. It has been an “eye-opening” experience for us. We realize now how easy and accessible it is and how it keeps students of all needs and behaviours engaged. I could not teach anymore without the tools. I could never go back.”

UDL is good for teachers because planning ahead saves time in the long-run. During the year, the participants admitted experiencing a steep learning curve as they learned the technologies involved, and they believed the extra time they spent was justified for two reasons: they felt more confident that they were meeting more of their students’ needs, and they came to realize that the lessons they were building during the project could be saved and shared in the future.

UDL is good for teachers because it promotes collaboration. As a result of participation in the project, teachers are working together to design lessons and to find new ways to support student learning and enhance classroom and resource teacher collaboration. “We have been working toward collaboration for a number of years – we are now finding more success because our Student Services team is involved in collaboration with classroom teachers. It has added a new dimension to our lessons and to the type of support we are able to provide to students.”

Benefits for Students

UDL is good for students because it increases student engagement. More students are engaged in learning when content is represented in multiple ways and students are encouraged to express their knowledge in a variety of ways. Students are able to show what they know in ways that demonstrate their strengths and talents. Research is also clear that many students are more engaged in their work when it involves technology. When students are engaged and learning, their self-esteem and sense of self-efficacy are enhanced, thus they learn more. Students are becoming self advocates – asking their teachers for a laptop with Kurzweil or Microsoft Word to complete their work. Students are also beginning to understand that there are many ways to demonstrate understanding and learning.

UDL is good for students because it reduces frustration previously experienced with using inflexible print materials. When teachers provided flexible materials, they found students with behaviour problems required fewer interventions and teacher assistant support in the classroom. They found fewer

M. is learning basic math skills using the SMARTBoard. Accessing sites such as Virtual Manipulatives, he has gradually become able to understand addition, subtraction, multiplication, and division. When

students needed separate, time-consuming accommodations, and that students who had not worked independently before were able to learn to work independently with Kurzweil (text to speech) to support them rather than a one-on-one adult.

teachers come for a tour, D does a presentation on how he learned multiplication, division and visual word problems using the SMARTBoard.

Beginning September, 2008 seven more schools will be joining the project. The second year schools will focus their efforts on Language Arts and Science within Grades 4 to 10.

“The BCUDL project has changed my entire approach to teaching.” The power of Universal Design for Learning based instruction has been felt and lived by teachers and students in seven communities in BC during the 2007/08 school year. Project participants want to take this opportunity to say,

“Thank- you to the Ministry of Education, BC School Districts, and SET-BC for this wonderful opportunity for teachers and students in BC.”

UDL Resources for further information:

CAST Website at <http://www.cast.org/index.html> The single Center for Applied Technology (CAST) site at Harvard University is where UDL originated. Highlights of this site include an interactive online version of the book “Teaching Every Student in the Digital Age: Universal Design for Learning” by David Rose and Anne Meyer (2002) which provides an excellent introduction to practice and theory. The CAST site has a UDL lesson builder, a book builder, and a new module called UDL self-check to help you critique lessons you are designing. There are also downloadable workshops to help train teams in UDL principles.

SET-BC Website at <http://www.setbc.org/> The SET-BC website contains a lesson builder and sample lessons created by teachers in the BC UDL project. To view and download their lessons, go to <http://www.setbc.org/bcudl/> You can also clone an existing lesson, change it, and then add more resources.

Patins website at http://www.patinsproject.com/universal_design_for_learning_project.htm Model UDL units have been posted on the Patins Indiana UDL project site. Lessons already developed and taught by teachers are available for viewing. Many of these include downloads and/or links to the resources they used in their lessons, and you can contact the teachers directly by email.

Differentiated Instruction and UDL at

http://www.k8accesscenter.org/training_resources/udl/diffinstruction.asp

This Access Center is a national technical assistance center funded by the US Department of Education. At this site, you can download a research paper on the similarities between differentiated instruction and UDL. The left hand sidebar contains links to other resources. The bottom link takes you to 4 more links, specifically on UDL. These include two videos about UDL principles and practices.

Kurzweil and UDL at <http://www.kurzweiledu.com/files/udl.pdf> This document shows how specific features of Kurzweil can be used to support the UDL principles of multiple means of representation, expression, and engagement.

Other References of Interest:

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