



Universal Design for Learning: Ensuring Curriculum Accessibility for All

SUMMARY

Universal Design for Learning is about designing curricula that are accessible to all students. Here, the author shares how some different technological tools have made this dream a reality for students in one Long Island school district.

Universal Design

for Learning (UDL) is both exciting and challenging. Many of our Three Village Central School District teachers have begun to embrace the philosophy and practices of UDL. As noted in the UDL guidelines offered by CAST, the Center for Applied Special Technology (see p. 26), UDL is about moving from one-size-fits-all curricula to materials and methods that all students, regardless of their learning needs, can access. UDL principles focus on students being provided:

- multiple ways of accessing content,
- multiple ways of expressing what they know or create, and
- multiple ways of engaging with content.

Working Together to Make UDL a Reality

Keeping in mind that utilizing new technologies is a dynamic process with

inherent challenges, we have embraced the philosophy that these challenges are opportunities for growth. UDL depends heavily on successful teamwork across roles. Key players are classroom teachers, special educators/related service providers (e.g., speech-language therapists) and technology specialists. Our special education teachers work closely with the Information Technology Department to provide students with special needs the assistive technology (AT) necessary to achieve success.

Our special education case managers and service providers incorporate technological tools into the mainstream curriculum where all students are treated as individuals. This fosters an inclusive philosophy of special education. Our instructional technology teacher leader works with faculty to provide access to mainstream course materials and assignments via Moodle (<http://www.moodle.org>), a free course

Nancy Maurer Murolo is an assistive technology specialist in Three Village Central School District in Stony Brook and an adjunct associate professor of human development and learning at Dowling College. In her 33 years in education she has worked as a paraprofessional, substitute teacher, mainstream teacher, special educator, professor, and administrator in numerous settings and at levels from elementary through graduate school.

Nancy Maurer Murolo, Three Village Teachers Association Association of Dowling Adjuncts

management system. This allows the teaching teams to have the information they need ahead of time in order to ensure curriculum accessibility.

Assistive Technology

Assistive technology, an important component of UDL, is any tool that helps a student with a disability perform tasks that he or she may not otherwise be able to do. It also includes the process used in selecting, obtaining, and using these tools. Within the classroom setting, assistive technology allows students to access the curriculum and communicate with others.

While our district's use of advances in AT has been impressive, implementation can be a challenge. Our district has made significant progress over the last few years by looking at our *process* of determining students' needs in this area. The first step in the process is evaluation. In the past, assistive technology evaluations were often "contracted out," resulting in extensive lists of assistive technology devices and software, networking nightmares, licensing issues, expensive training

sessions, and limited staff engagement or support for the product. These factors can lead to the abandonment or underutilization of a particular device.

Now, Three Village special educators evaluate their students' assistive technology needs by first considering existing instructional technology resources. Our Individualized Education Program (IEP) teams (which include parents/caregivers) determine which tools are necessary for the student to attain IEP goals and objectives. Rather than identifying specific manufacturers or brands, we list:

- word processing tools
- calculator
- graphic organizer
- magnifier

The teaching teams (e.g., classroom teacher, special educator) are then at liberty to try out a variety of tools and determine the most appropriate technology device to address the needs of the student. This allows teachers to be more responsive to a student's needs.

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Professional development regarding the particular tool, coupled with a turnkey approach to staff training, has been invaluable. The “Train the Trainers” model serves to provide professional development to staff members who participate in and guide IEP/504 teams. In addition, most of the new assistive technology devices have Web-based video tutorials and webinars to provide flexible and individualized training for staff and students.

Our special education staff play a vital role in integrating new assistive technology in classrooms. Some have acquired grants to pilot tools, including alternative augmentative communication devices such as the iPad.

Putting UDL Principles to Work

We begin to put UDL principles to work by looking at our existing district-wide instructional technology tools. Many are very worthy of serving as assistive technology supports for students with disabilities. For example:

Microsoft

Integrated into their operating systems, Microsoft includes free accessibility utilities such as magnifier, narrator, on-screen keyboard, and voice-to-text. Microsoft Word includes assistive technology features (e.g., autosummarize, thesaurus, text-to-speech, graphic organizers).

Graphic Organizer Programs

Inspiration (<http://www.inspiration.com>) and Kidspiration (<http://www.inspiration.com/kidspiration>) are graphic organizer programs that provide visual resources to enhance writing in particular. These tools can also aid in the development of other literacy skills — as well as thinking and mathematical skills (e.g., reasoning, problem-solving).

Discovery Education

Discovery Education (<http://www.discoveryeducation.com>) contains a wealth of digital media and lesson plans to enhance the learning experience of all students. It requires a paid subscription but includes both classroom and home resources such as video clips, audio files, interactivities, and lesson plans.

Technology will empower our students.

Type-to-Learn

Type-to-Learn (<http://www.sunburst.com>) is a keyboarding program proven effective for instructing in drill format. It provides personalized instruction as well as games and age-appropriate, real-life applications.

AIM Navigator

When necessary after existing technology resources have been considered, we explore more specialized technologies. AIM Navigator (<http://aim.cast.org/navigator>) is a free, Web-based interactive tool that facilitates the process of decision-making around making instructional materials accessible for individual students.

Bookshare

Bookshare is a service for students who have a disability that makes it difficult or impossible to read a printed book (e.g., visual impairment, reading disability). Bookshare is supported by the U.S. Department of Education, Office of Special Education Programs. This service provides a searchable online library with approximately 90,000 digital books, periodicals, and assistive technology tools. Our teaching teams register students who qualify for this service. Students are then able

to download digital text from their home computers and use Read OutLoud, a text-to-speech program donated to Bookshare members.

MyStudyBar

MyStudyBar (<http://www.rsc-nescotland.ac.uk/eduapps/mystudybar.php>) is a floating toolbar containing open-source and freeware applications for literacy needs such as graphic organizing, screen masking, screen magnification, word prediction, talking dictionary, text-to-speech, and speech-to-text. It can be operated from a portable flash drive and run from any Windows computer.

Free NaturalReader

Free NaturalReader (<http://www.naturalreaders.com>) is a text-to-speech program that uses natural sounding voices. It is also capable of converting digital text to audio files that students can play on a CD player or iPod.

Technology is a key factor in allowing teachers and parents quick access to the information they need, and in ensuring that students have the necessary tools to achieve. Three Village Central School District views the transition to a UDL philosophy as a vital

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WHAT IS UNIVERSAL DESIGN FOR LEARNING (UDL)?

CAST (Center for Applied Special Technology), a nonprofit research and development organization, provides information and resources related to UDL. This is how they describe this approach to instructional planning:

“The goal of education is not simply the mastery of knowledge; it is the mastery of learning. Education should help turn novice learners into expert learners—individuals who know how to learn, who want to learn, and who, in their own highly individual ways, are well prepared for a lifetime of learning.

Universal Design for Learning (UDL) is an approach to learning that addresses and redresses the primary barrier to making expert learners of all students: **inflexible, one-size-fits-all curricula** that raise unintentional barriers to learning. Learners with disabilities are the most vulnerable to such barriers, but many students without disabilities also find that curricula are poorly designed to meet their learning needs.

Diversity is the norm, not the exception, wherever individuals are gathered, including in schools. When curricula are designed to meet the needs of the broad middle to the exclusion of those with different abilities, learning styles, backgrounds, and even preferences, they fail to provide all individuals with fair and equal opportunities to learn.

Universal Design for Learning helps meet the challenges of diversity by recommending the use of flexible instructional materials, techniques, and strategies that empower educators with the tools they need to meet students’ diverse needs. A universally designed curriculum is shaped from the outset to meet the needs of the greatest number of users, making costly, time-consuming, and after-the-fact changes to the curriculum unnecessary.

UDL has three primary principles that provide the structure for these Guidelines:

- **Principle I: Provide Multiple Means of Representation** (the “what” of learning). Students differ in the ways they perceive and comprehend the information presented to them. For example, those with sensory disabilities (e.g., blindness or deafness), learning disabilities (e.g., dyslexia), language or cultural differences, and so forth may all require a different means to approach content. Some may simply grasp information better through visual or auditory means than through printed text. In reality, no one type of representation will be optimal for all students, so providing options in representation is essential.
- **Principle II: Provide Multiple Means of Expression** (the “how” of learning). Students differ in the ways they are able to navigate a learning environment and express what they know. For example, individuals with significant motor disabilities (e.g., cerebral palsy), those who struggle with strategic and organizational abilities (e.g., executive function disorders, ADHD), those who have language barriers, and so forth approach learning tasks very differently and also demonstrate their mastery of tasks differently. Some may be able to express themselves well in writing but not orally, and vice versa. In reality, there is no one means of expression that will be optimal for all students; it is therefore essential to provide various options.
- **Principle III: Provide Multiple Means of Engagement** (the “why” of learning). Students differ markedly in the ways they can be engaged or motivated to learn. Some students are highly engaged by spontaneity and novelty, while others will be disengaged or even frightened by those approaches and prefer a strict routine. In reality, no one means of representation will be optimal for all students, thus, providing multiple options for engagement is essential.”

CAST. *UDL Guidelines: Version 1.0: Introduction*. Reprinted with permission from <http://CAST.org>

process. Technology will empower our students. School personnel, working in partnership with a supportive administrative team, can create an innovative educational community — where each student can successfully access and meaningfully participate in all aspects of the school’s curriculum.

The author would like to thank Cheryl Pedisich, assistant superintendent for educational and pupil personnel services, and Laurie DeVore, executive director of pupil personnel services. They are at the helm of this move toward individualized learning, and it is no coincidence that both of these leaders have a wealth of special education experience, where individualized, differentiated instruction is the norm.

ADDITIONAL RESOURCES

CAST. *UDL guidelines: Version 1.0:*

Introduction. Retrieved from <http://www.udlcenter.org/aboutudl/udlguidelines/introduction>

National Early Childhood Technical

Assistance Center. *Universal design for learning and assistive technology.* Retrieved from <http://www.nectac.org/topics/atech/udl.asp>

The Access Center: Improving Outcomes for

All Students K-8. *Differentiated instruction and implications for UDL implementation.* Retrieved from http://www.k8accesscenter.org/training_resources/udl/diffinstruction.asp

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