Chapter 1 : Universal Design for Learning: Theory and Practice - CAST Professional Publishing

Universal design for learning (UDL) is a framework to improve and optimize teaching and learning for all people based on scientific insights into how humans learn. See how the UDL framework guides the design of instructional goals, assessments, methods, and materials that can be customized and.

D Pre-college and college students come from a variety of ethnic and racial backgrounds. For some, English is not their first language. Also represented in most classes are students with a diversity of ages and learning styles, including visual and auditory. In addition, increasing numbers of students with disabilities are included in regular pre-college and post-secondary courses. Their disabilities include blindness, low vision, hearing impairments, mobility impairments, learning disabilities, and health impairments. Students are in school to learn and instructors share this goal. How can educators design instruction to maximize the learning of all students? The field of universal design UD can provide a starting point for developing a framework for instruction. You can apply this body of knowledge to create courses that ensure lectures, discussions, visual aids, videos, printed materials, labs, and fieldwork are accessible to all students. Universal Design Designing any product or environment involves the consideration of many factors, including aesthetics, engineering options, environmental issues, industry standards, safety concerns, and cost. Often, products and environments are designed for the average user. In contrast, UD is "the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design" www. For example, a standard door is not accessible to everyone. If a large switch is installed, the door becomes accessible to more people, including some wheelchair users. Applying UD principles could lead to the installation of sensors that signal the door to open when anyone approaches, making the building accessible to everyoneâ€"a small child, a man carrying a large box, an elderly woman, a person using a walker or wheelchair. When designers apply UD principles, their products and environments meet the needs of potential users with a variety of characteristics. Disability is just one of many characteristics that an individual might possess. For example, one person could be five feet four inches tall, female, forty years old, a poor reader, and deaf. All of these characteristics, including her deafness, should be considered when developing a product or environment she and others might use. Making a product or environment accessible to people with disabilities often benefits others. For example, sidewalk curb cuts, designed to make sidewalks and streets accessible to those using wheelchairs, are today often used by kids on skateboards, parents with baby strollers, and delivery staff with rolling carts. When television displays in noisy areas of airports and restaurants are captioned, they are more accessible to people who are deaf and everyone else. UD Principles At the Center for Universal Design CUD at North Carolina State University, a group of architects, product designers, engineers, and environmental design researchers established seven principles of UD to provide guidance in the design of products and environments Connell, et al. They are followed by an example of application in instruction. The design is useful and marketable to people with diverse abilities. The design accommodates a wide range of individual preferences and abilities. A museum, visited as a field trip for a course, allows each student to choose to read or listen to a description of the contents of display cases. Simple and intuitive use. Control buttons on science equipment are labeled with text and symbols that are simple and intuitive to understand. A video presentation projected in a course includes captions. The design minimizes hazards and the adverse consequences of accidental or unintended actions. Educational software provides guidance and background information when the student makes an inappropriate response. The design can be used efficiently, comfortably, and with a minimum of fatigue. Doors to a lecture hall open automatically for people with a wide variety of physical characteristics. Size and space for approach and use. A flexible science lab work area has adequate workspace for students who are left- or right-handed and for those who need to work from a standing or seated position. Using the CUD format, UDI can be defined as the design of instruction of products and environments to be usable by all students, to the greatest extent possible, without the need for adaptation or specialized design. Universal design principles can be applied to the overall design of instruction as well as to specific instructional materials, facilities, and strategies such as lectures, classroom discussions, group work,

web-based instruction, labs, field work, and demonstrations. Listed below are examples of instruction that employ principles of UD. They are organized under eight performance indicator categories, with general guideline for each Burgstahler, Adopt practices that reflect high values with respect to both diversity and inclusiveness. Put a statement on your syllabus inviting students to meet with you to discuss disability-related accommodations and other special learning needs. Encourage regular and effective interactions between students and the instructor and ensure that communication methods are accessible to all participants. Assign group work for which learners must support each other and that places a high value on different skills and roles. Physical environments and products. Ensure that facilities, activities, materials, and equipment are physically accessible to and usable by all students, and that all potential student characteristics are addressed in safety considerations. Develop safety procedures for all students, including those who are blind, deaf, or wheelchair users. Use multiple, accessible instructional methods that are accessible to all learners. Use multiple modes to deliver content; when possible allow students to choose from multiple options for learning; and motivate and engage students-consider lectures, collaborative learning options, hands-on activities, Internet-based communications, educational software, field work, and so forth. Information resources and technology. Ensure that course materials, notes, and other information resources are engaging, flexible, and accessible for all students. Choose printed materials and prepare a syllabus early to allow students the option of beginning to read materials and work on assignments before the course begins. Allow adequate time to arrange for alternate formats, such as books in audio format. Provide specific feedback on a regular basis. Allow students to turn in parts of large projects for feedback before the final project is due. Regularly assess student progress using multiple accessible methods and tools, and adjust instruction accordingly. Assess group and cooperative performance, as well as individual achievement. Plan for accommodations for students whose needs are not met by the instructional design. Know campus protocols for getting materials in alternate formats, rescheduling classroom locations, and arranging for other accommodations for students with disabilities. UDL provides rich supports for learning and reduces barriers to the curriculum while maintaining high achievement standards for all. Employing UD principles does not eliminate the need for specific accommodations for students with disabilities. For example, you may need to provide a sign language interpreter for a student who is deaf. However, applying universal design concepts in course planning ensures full access to the content for most students and minimizes the need for special accommodations. For example, designing web resources in accessible formats as they are developed means that no redevelopment is necessary if a blind student enrolls in the class. UD benefits students with disabilities but also benefits others. For example, captioning course videos, which provides access to deaf students, is also a benefit to students for whom English is a second language, to some students with learning disabilities, and to those watching the tape in a noisy environment. Delivering content in redundant ways can improve instruction for students with a variety of learning styles and cultural backgrounds. Letting all students have access to your class notes and assignments on a website benefits students with disabilities and everyone else. Planning ahead saves time in the long run. Employing UD principles in everything we do makes a more accessible world for all of us. It minimizes the need to alter it for anyone. Applications of Universal Design.

Chapter 2 : The Teaching Commons | Universal Design For Learning

Universal Design for Learning (UDL) is a way of thinking about teaching and learning that helps give all students an equal opportunity to succeed. This approach offers flexibility in the ways students access material, engage with it and show what they know.

The design is useful and marketable to people with diverse abilities. Provide the same means of use for all users: Avoid segregating or stigmatizing any users. Provisions for privacy, security, and safety should be equally available to all users. Make the design appealing to all users. Flexibility in Use The design accommodates a wide range of individual preferences and abilities. Provide choice in methods of use. Accommodate right- or left-handed access and use. Be consistent with user expectations and intuition. Accommodate a wide range of literacy and language skills. Arrange information consistent with its importance. Provide effective prompting and feedback during and after task completion. Use different modes pictorial, verbal, tactile for redundant presentation of essential information. Provide adequate contrast between essential information and its surroundings. Maximize "legibility" of essential information. Differentiate elements in ways that can be described i. Provide compatibility with a variety of techniques or devices used by people with sensory limitations. Tolerance for Error The design minimizes hazards and the adverse consequences of accidental or unintended actions. Arrange elements to minimize hazards and errors: Provide warnings of hazards and errors. Provide fail safe features. Discourage unconscious action in tasks that require vigilance. Low Physical Effort The design can be used efficiently and comfortably and with a minimum of fatigue. Allow user to maintain a neutral body position. Use reasonable operating forces. Minimize sustained physical effort. Provide a clear line of sight to important elements for any seated or standing user. Make reach to all components comfortable for any seated or standing user. Accommodate variations in hand and grip size. Provide adequate space for the use of assistive devices or personal assistance.

Chapter 3 : What Is Universal Design for Learning?

Universal Design for Learning (UDL) provides the opportunity for all students to access, participate in, and progress in the general-education curriculum by reducing barriers to instruction.

To develop expert learners who are purposeful and motivated, resourceful and knowledgeable, and strategic and goal-directed. Click here to watch a short introductory video entitled Universal Design for Learning Natalie Shearer, To explore UDL in action, click on the following links In this example CAST demonstrates a variety of ways to make text accessible using an online report: Excerpt of the National Educational Technology Panel Report In this example an online magazine for students provides a variety of options for representation and engagement: The designs and products were intended to be of benefit to people with disabilities but also found to be universally beneficial to a wide variety of people, leading to the development of Seven Principles of Universal Design with the goal to build environments and products to be used by the widest range of people without the need to alter or adapt. Universal designers began their work with the "user" in mind. Beginning in , CAST worked with students "in the margins". They envisioned the new digital technologies of the time as tools to help disabled learners overcome the limitations of print. Universal Design for Learning". This book outlined and in the digital edition modelled many UDL principles such as methods of recording notes, built in dictionaries and the ability of the reader to choose their reading view Summary, Concept Map, Full Content, UDL Version. Multiple Means of Representation, Multiple Means of Action and Expression and Multiple Means of Engagement, using educational neuroscience to connect these guidelines to three networks within the brain: Recognition, Strategic and Affective. Since its original inception, the UDL Guidelines have been revised twice. The first revision in kept the original three Principles but refined the number and order of the Guidelines. In , the Principles once again remained the same but were reordered to emphasis Engagement. The Guidelines also remained the same but were reordered last to first to emphasize goal-directed, independent and self-regulatory learners and deemphasizing the "low lying fruit", focusing exclusively on technology. Unlike the first book where a digital copy was created after the release of the print version, and consider a "supplement", the newest book was designed to be published online and incorporates a wide range of accessible features and choices including navigation, multimedia, support for low visions and screen reading options using textHELP. New brain research and improvements in technology were leveraged. They highlight the need to plan for expected variability and recognize that all learning is a combination of cognition and emotion. Diagram created using Inspiration software v. Within every lesson the What, How and Why of learning needs to be addressed for optimal access, expression and engagement Affective Networks This network is the "why" of learning. This area of the brain stimulate interest and motivation for learning. Not everyone reacts to challenging or time demanding tasks in the same way. To support the affective network it is necessary to provide a balance of challenge and support, build engaging tasks and teach strategies to build intrinsic motivation. Recognition Networks This network is the "what" of learning. This area of the brain helps us gather facts and categorize what we see, hear and read. Not everyone processes text and information in the same way or at the same speed. To support the recognition network it is necessary to provide information and content using a variety of media. Strategic Networks This network is the "how" of learning. This area of the brain helps us plan and perform tasks. Not everyone approaches tasks or expresses their ideas in the same way To support the strategic network it is necessary to provide tools and strategies for planning and options and choice for expression. These processes include "recognition of the information to be learned; application of strategies to process that information; and engagement with the learning task" Vygotsky, Provide Multiple Means of Engagement the "why" of learning Overview In this third iteration, UDL asks teachers to consider the interrelatedness of cognition and emotion. Meyer, Rose, Gordon, With the focus now on Engagement as the first Principle, the challenge for educators is to explore how cognition and emotion are represented throughout the 9 Guidelines , and design learning for and interactions with students with this understanding in mind. Engagement is crucial to learning. Each person reacts differently to every situation. What might be exciting for one can be scary for another. Some learners enjoy change, others do not. Sometimes the same

learner reacts differently based on outside circumstances lack of sleep, fight with a friend. Not everyone comes to learning fully engaged and motivated to learn. Whether this is a result of previous experience, learning differences, prior knowledge, language barriers or a myriad of other reasons, as educators we can design learning that anticipates this variety. By providing options and choice, and building in explicit instruction and opportunities for reflective practice, we can help all students become purposeful, motivated learners. Provide options for self-regulation The most important skills for students to learn, one that impacts all the other areas of learning, is self-regulation. Our classrooms have typically relied on extrinsic motivation to get students to attend, learn and even graduate. But if we want students to understand how they learn, recognize and deal with their emotions in a way that helps them cope and flourish and build intrinsic motivation , then as educators we need to strategically support students and help them develop these skills. While some students learn self-regulation on their own, many more need support and guidance. UDL asks teachers to explicitly teach self-regulation skills. By promoting positive expectations, demonstrating coping strategies and building in self-assessment and reflection, we help students begin to take on the responsibility for recognizing and managing their own emotions, building up a series of strategies to help them become successful, metacognitive learners. Provide options for sustaining effort and persistence Given our fast paced, multi-tasking world many people struggle to focus their attention for long periods of time. For students used to video game choice and speed, learning in the classroom can be difficult. While many students can "get down to task", others struggle to begin or remain on task. Within any instruction, considering the varying skills levels of students, educators can build in support by highlighting goals and varying demands. Providing students with options and checkpoints can go a long way to helping them chunk their learning and complete the task. By creating a collaborative learning community in the classroom, students develop 21st century skills in a supportive environment as they sustain attention and complete tasks. Over time the goal is for students to independently recognize what motivates them and helps them focus, but until then teachers can design learning that highlights these skills and provides the supports needed for all students to successfully manage their attention. Provide options for recruiting interest As we move into more personalized learning pathways for students powered by personal devices, providing options for recruiting interest will become more responsive to the learner and the situation. However, technology is not enough. Learners need choice, challenge and support but they also need to be engaged in authentic learning and deep inquiry focused on essential questions. Technology can only go so far. By designing relevant, meaningful learning, where students can choose methods, means and delivery, learners will be engaged and motivated to learn. Even today, many of our classrooms still rely on text-bound information. While we recognize that those with low vision or hearing impairments require a different access to the information, there is often resistance to providing these options for students with learning differences. Whether a student requires or prefers, to hear, see or read information, recognizing that there is no "right" way to access information is an important first step in Universal Design for Learning. Providing options and choice and removing the stigma from those options and choices is key. By removing the barriers to access we can help remove the barriers to learning and build resourceful, knowledgeable learners. Options for Comprehension If the goal of UDL is to help students become expert learners then they must move beyond the "Cut and Paste" stage of internet searches: In UDL comprehension means understanding. They must learn to organize and understand what they encounter, determine its validity and then use it to answer a question or solve a problem. Technology provides access to the raw material, but it does not provide access to comprehension. This requires intentional instructional design. Just as we teach students reading comprehension skills, we need to teach, in context, learning comprehension skills. For some this will require support activating background knowledge or finding the key ideas. For others it will be to challenge them find innovative solutions and stretch their thinking. Making explicit the skills students need as to process, organize, visualize and comprehend information, will emphasize that learning is more than "Googled" facts. Many student prefer or require images, diagrams and designs to help make concept accessible and understandable. However, for other students text and even images or symbols can mean different things to those with disabilities or learning the language. Providing a variety of examples and ways to clarify vocabulary, support text-based information and build english language support is

essential within every lesson. Recently, access to a variety of digital images, videos, apps and devices makes providing these options simple and effective. Options for perception To lower barriers to learning, access to information that is available to all learners must be addressed. In any learning situation, it is imperative that educators consider all the ways they can present the information to ensure options for access are readily available in a variety of formats including audio, video and text. Given that most text is available in a digital form, efforts to provide students with the ability to customize the interface; making the font or image larger, increasing the reading speed, using closed captioning or amplifying the sound, needs to be considered whenever students are expected to read, watch, listen or interact materials and resources. Other means of demonstrating learning were in addition to the written response but rarely replaced it. Many struggle to physically show what they know. Others because of language or executive functions struggle with the organization of their learning in order to show what they know. Today, with personal devices the options are plentiful. Students no longer have one options, however, students will need strategies to use the various tools to effectively organize and plan their ideas and then creatively and creatively share their learning. The means to provide options is readily available. The goal now is to focus on helping students become strategic, goal-directed learners. Options for executive functions Executive functions are the conductor in our brain. These "pillars" Cox, include initiation, flexibility, attention, organization, planning, working memory, self-awareness and regulating emotions. When students struggle with some or all of their executive functions they struggle period. It is important for teachers to explicitly teach students about their executive functions and build in scaffolds and supports within lessons and the classroom to build awareness of and practice in using these skills. To support students as they develop more complex skills in expression and communication, it is important to scaffold their learning with frameworks, exemplars and rubrics, concrete methods to support executive function. When possible, model the expression and communication process for student to make the thinking visible. For example, explicitly sharing how you organize your thinking and regulate your emotions when you are frustrated will bring executive functions out into the open, helping students better understand them and develop them over time. Options for expression and communication The options to show what you know are more plentiful now than in the history of humankind. Providing students with options to choose how they communicate and express their ideas is important for both success and engagement. Including "mini-teaches" into instructional practice helps meet the needs of students, providing them with personalized support and practice as needed. It is unrealistic to expect every lesson to end in a multimedia product. When students need to write a report, story, speech etc.

Chapter 4 : Universal Design for Learning - ETEC

Universal Design for Learning (UDL) is an educational framework based on research in the learning sciences, including cognitive neuroscience, that guides the development of flexible learning environments that can accommodate individual learning differences.

A Checklist for Inclusive Teaching The universal design of instruction UDI framework is gaining increased attention and application by educational researchers and practitioners at K and postsecondary levels. UDI means that, rather than designing for the average student, you design instruction for potential students who have broad ranges with respect to ability, disability, age, reading level, learning style, native language, race, and ethnicity. Regarding students with disabilities, UDI challenges the instructor to go beyond legal compliance to proactively design an accessible course and integrate practice so that other students benefit as well. UDI can be applied to all aspects of instruction, including class climate, interaction, physical environments and products, delivery methods, information resources and technology, feedback, and assessment. UDI can be discussed as a goal, a process, or a set of principles, guidelines, and practices. UDI Process To apply UDI, instructors should consider the potential variation in individual skills, learning styles and preferences, age, gender, sexual orientation, culture, abilities, and disabilities as they select appropriate content and strategies for the delivery of instruction and then apply universal design to all course activities and resources. Specifically, an instructor needs to Identify the course. Describe the course, its learning objectives, and its overall content. Describe the overall population of students eligible to enroll in the course and then consider their potential diverse characteristics e. Consider perspectives of students with diverse characteristics, as identified in Step 2, in the development of the course. If they are not available directly from students, gain student perspectives through diversity programs and the campus disability services office. Adopt overall learning and teaching philosophies and methods e. Integrate them with UD to ensure the full inclusion of all students. Apply UD strategies in concert with good instructional practices identified in Step 4 to the overall choice of course teaching methods, curricula, and assessments. Then apply UD to all lectures, classroom discussions, group work, handouts, web-based content, labs, fieldwork, assessment instruments, and other academic activities and materials to maximize the learning of students with the wide variety of characteristics identified in Step 2. Learn campus procedures for addressing accommodation requests e. Include the information in the syllabus. Monitor the effectiveness of instruction through observation and feedback from students with the diverse set of characteristics identified in Step 2, assess learning, and modify the course as appropriate. UDI Practices The Principles of UD , developed by the Center for Universal Design, encourage the development of products and environments that promote 1 equitable use, 2 flexibility in use, 3 simple and intuitive use, 4 perceptible information, 5 tolerance for error, 6 low physical effort, and 7 size and space for approach and use. UDL provides rich supports for learning and reduces barriers to the curriculum while maintaining high achievement standards for all. The following checklist provides examples of UDI practices. Numbers in brackets at the end of items in the checklist refer to UD and UDL principles to which the practice is most relevant. Class Climate Adopt practices that reflect high values with respect to both diversity, equity, and inclusiveness. Create a welcoming environment for all students. Encourage the sharing of multiple perspectives. Demonstrate and demand mutual respect. Include a civility statement with behavorial expectations in the syllabus. Offer instruction and support based on student performance and requests, not simply on assumptions that members of certain groups e. Maintain regular office hours, encourage students to meet with you, and offer alternatives when student schedules conflict with those hours; consider making a student-instructor meeting a course requirement. Be available for online communication as well. Use teaching methods and materials that are motivating and relevant to students with diverse characteristics, such as age, gender, and culture. Both on the syllabus and in class, invite students to meet with you to discuss disability-related accommodations and other learning needs. Also list on the syllabus contact information for tutoring and writing centers, disability services, and other campus services that may be helpful. Avoid segregating or stigmatizing any student. Do not draw undue attention to a difference e. Employ interactive

teaching techniques. Face the class, speak clearly, consider using a microphone, and make eye contact with students. Offer both in-person contact and online communication. Use straightforward language, avoid unnecessary jargon and complexity, and use student names in electronic and in-person communications. Use multiple ways to interact. Make expectations verbal and in printed format for discussions, presentations, and small groups. Require that small groups communicate in ways that are accessible to and inclusive of all group members. Assign group work for which learners must engage using a variety of skills and roles. Encourage different ways for students to interact with each other e. Insist that all students participate; facilitate their participation as needed. Use classrooms, labs, workspaces, and fieldwork sites that are accessible to individuals with a wide range of physical abilities. Arrange seating to encourage participation, giving each student a clear line of sight to the instructor and visual aids. Allow room for wheelchairs, personal assistants, sign language interpreters, captionists, and assistive technology. Encourage administrators to apply UD principles in facility design and renovation. Minimize nonessential physical effort and provide options for operation of equipment, handles, locks, cabinets, and drawers from different heights, with different physical abilities, or by using a single right or left hand. Use large print to clearly label controls on lab equipment and other educational aids, using symbols as well as words. Provide straightforward, simple oral and printed directions for operation and use. Consider the impact of specific disabilities in emergency situations. Develop procedures for all potential students, including those who are blind, deaf, or wheelchair users. Label safety equipment in simple terms, in large print, and in a location viewable from a variety of angles. Provide written and oral safety instructions. Put learning in context. Incorporate multiple examples and perspectives to make specific concepts relevant to individuals with diverse characteristics such as age, ability, gender, ethnicity, race, socioeconomic status, and interests. Choose textbooks and other curriculum materials that address the needs of students with diverse abilities, interests, learning styles, and preferences. Use curriculum materials that are well organized, emphasize important points, provide references for gaining background knowledge, include indices and glossaries, and have chapter outlines, study questions, and practice exercises. Consider technology-based materials that provide feedback, background information, vocabulary, and other supports based on student responses. Summarize major points, give background and contextual information, write key terms and concepts on the board and in handouts, and deliver effective prompting. Provide scaffolding tools e. Provide options for gaining background information, vocabulary, and practice. At the beginning of class, consider projecting one to two questions that students should be able to answer by the end of the session. Use multiple modes to deliver content and, when possible, allow students to choose from multiple options for learning content. Options to consider include lectures, collaborative learning, small group discussions, hands-on activities, Internet-based resources, educational software, and fieldwork. Provide instructions both orally and in printed form. Have students summarize instructions to ensure understanding. Consider a wide range of abilities, interests, learning styles, and experiences when implementing each instructional method to ensure engagement of all students. Speak content presented visually. Use manipulatives to demonstrate content. Make visual aids e. Choose materials and prepare a syllabus early to allow students the option of beginning to read materials and work on assignments before the course begins. Allow time to arrange for electronic and alternative formats to be obtained. Select or create materials that are universally designed. Use textbooks that are available in an accessible electronic format with flexible features. Provide the syllabus and other teacher-created materials in a text-based electronic format. Use captioned videos and provide transcriptions for audio presentations. Apply accessibility standards to websites. Present content in a logical, straightforward manner and in an order that reflects its importance. Avoid unnecessary jargon and complexity and define new terms when they are presented. Create materials in simple, intuitive formats. If computer or science labs are used, ensure that assistive technology for students with disabilities is available or can be readily acquired. Universal Design of Distance Learning. Ensure that a test measures what students have learned and not their ability to adapt to a new format or style of presentation. Allow extended time on tests and projects, unless speed is an essential outcome of instruction. Allow students to turn in parts of large projects for feedback before the final project is due. Give students resubmission options to correct errors in assignments and exams. Arrange for peer feedback when appropriate. Keep academic standards consistent for

all students, including those who require accommodations. Provide a syllabus with clear statements of course expectations, assignment descriptions, and deadlines, as well as assessment methods and dates. Include a straightforward grading rubric. Assess group and cooperative performance, as well as individual achievement. Consider using traditional tests with a variety of formats e. Provide students choices in assessment methods when appropriate. Allow students to use information technology to complete exams. Know campus protocols for getting materials in alternate formats, rescheduling classroom locations, and arranging for other accommodations for students with disabilities. Ensure the course experience is equivalent for students with accommodations.

Chapter 5 : UAB - eLearning - Universal Design for Learning

Universal design for learning (UDL) is a set of prin- ciples for designing curriculum that provides all indi- viduals with equal opportunities to learn. e- UDL is d.

The what of learning Key word: The how of learning Key word: The why of learning Description: How we gather facts and categorize what we see, hear, and read. Planning and performing tasks. How we organize and express our ideas. Writing an essay or solving a math problem are strategic tasks. How learners get engaged and stay motivated. How they are challenged, excited, or interested. These are affective dimensions. The principle put another way: Present information and content in different ways. Differentiate the ways that students can express what they know. Stimulate interest and motivation for learning. Do you include a disability or accessibility statement your approach to disability and accommodations in the classroom? Do you point this out to students in your in-class syllabus review? Consider what tone you are setting with including such a statement. Since it is your classroom, perhaps create your own, tailored statement. Have you considered combinations of assessments that are balanced to provide opportunities for students to use their different strengths e. Within each assignment, are instructions clear? Are the layout and format of the assignment easy to navigate? Check out our Designing Assessment page for more ideas and suggestions. Course Materialsâ€"Consider the accessibility of your course content and information: Creation of accessible materials: The Access Project also referenced earlier has many guides that provide information on how to design materials that are in line with universal design principles for Microsoft products Word, PowerPoint and other applications e. Class Timeâ€"Consider how you vary your approaches within the classroom, from methods of content delivery to student participation: Present information in multiple formats, including text, graphics, audio, and video. Try having your lectures supported by handouts or a few PowerPoint slides. There are many ways to use and tailor discussion activities to increase student engagement: Providing time for individual reflection and writing prior to the group discussion may allow more students to be involved and gather their thoughts. Provide a bit of structure at the beginning of each class: Remember, key principles of UDL include providing multiple means of expression and of engagementâ€"offer students a variety of ways to express themselves and to interact with course material.

Chapter 6 : What is Universal Design | Centre for Excellence in Universal Design

Universal Design for Learning (UDL) is an approach to teaching aimed at meeting the needs of every student in a classroom. It can be helpful for all kids, including kids with learning and attention issues.

Origins[edit] The concept and language of Universal Design for Learning was inspired by the universal design movement in architecture and product development, originally formulated by Ronald L. Mace at North Carolina State University. This will enable grouping by interest. Those students that have challenges will be given special assistance. This will enable specific multimedia to meet the needs of all students. However, recognizing that the UD principles created to guide the design of things e. While these initiatives are similar to UDL and have, in some cases, compatible goals, they are not equivalent to UDL and the terms are not interchangeable; they refer to distinct frameworks. The goal was to raise awareness of UDL among national, state, and local policymakers. Research[edit] Despite the popularity of UDL among educators and disability support professionals, little research has been conducted to evaluate its effectiveness as a model of good pedagogy. UDL can be used in the support of students with disabilities and as well as learning differences. In actual case studies conducted by Elizabeth McAra-Craford Araford Education , Halifax, Nova Scotia , applying Universal Design principles expands the ability of students to access needed supports in post-secondary settings. Related publications[edit] A number of books and journal articles have been published on the subject of Universal Design for Learning. Universal Design for Learning in the Classroom: Practical Applications , edited by Tracey E. Hall, Anne Meyer, and David H. Teaching Every Student in the Digital Age: Universal Design for Learning by David H. Rose, Anne Meyer, and Chuck Hitchcock. Rose and Anne Meyer. Universal Design in Higher Education: From Principles to Practice. Journal of Postsecondary Education and Disability, 24 1 ,

Chapter 7 : The 7 Principles | Centre for Excellence in Universal Design

Universal Design for Learning (UDL) is a set of principles for curriculum design with the goal of providing all learners with equal opportunities to learn. UDL is the foundation for creating instructional goals, assessments, methods and materials that work for everyone, moving away from the concept of "one-size-fits all".

What Is Universal Design for Learning? In this chapter, you will learn about the theory of Universal Design for Learning and how it can help teachers meet standards yet still address the unique needs of every student. Key Ideas The key to helping all students achieve is identifying and removing barriers from our teaching methods and curriculum materials. Drawing from brain research and using new media, the UDL framework proposes that educators strive for three kinds of flexibility: To represent information in multiple formats and media. The three UDL principles, implemented with new media, can help us improve how we set goals, individualize instruction, and assess students progress. This is a challenging time to be a teacher. New policies and changing demographics are making schools more diverse than ever. An increasing number of students with disabilities and learning differences are being educated in regular classrooms, and new policies are holding schools accountable for the progress of all learners. State and federal standards, together with a shift in how literacy is defined, are compelling teachers not only to cover large amounts of material but also to instill a deep understanding of this material. These days, we are demanding more of students than the acquisition of facts: We want them to ask questions, find information, and use that information effectively. We want them tolearn how to learn. In this chapter, we share our vision for a new approach to pedagogy that responds to the challenges of education today. CAST has drawn on the neuroscience of learning and the study of media to develop the concept of Universal Design for Learning. The central practical premise of UDL is that a curriculum should include alternatives to make it accessible and appropriate for individuals with different backgrounds, learning styles, abilities, and disabilities in widely varied learning contexts. Rather it reflects an awareness of the unique nature of each learner and the need to accommodate differences, creating learning experiences that suit the learner and maximize his or her ability to progress. UDL provides a framework that helps teachers differentiate their instruction through carefully articulated goals and individualized materials, methods, and assessments. We begin this chapter by tracing the origins and development of UDL and addressing the important difference between access to information andaccess to learning. Next, we introduce the three basic principles of UDL and illustrate howâ€"by applying insights into the brain and the strengths of new mediaâ€"teachers can use these principles to inject flexibility into their classrooms. Originally formulated by Ron Mace at North Carolina State University, the idea behind universal design in architecture is to create structures that are conceived, designed, and constructed to accommodate the widest spectrum of users, including those with disabilities, without the need for subsequent adaptation or specialized design. Access for All Before the universal design movement, architects rarely addressed the mobility and communication needs of people with disabilities. The results were buildings that were inaccessible to many. Legislation mandating universal access led to extensive retrofitting with ramps, elevators, talking signs, and other access devices. But retrofitting is expensive, often aesthetically disastrous as illustrated in Figure 4. Access in a Retrofitted Building Universal design provided a new and better approach. Universal design challenges architects to innovate, often improving aesthetics and functionality. For example, the universally designed pyramid-shaped entrance to The Louvre, shown in Figure 4. Image reproduced with the permission of the Louvre Museum, Paris. Addressing the divergent needs of special populations increases usability for everyone. The classic example is the curb cut. Originally designed to enable those in wheelchairs to negotiate curbs, curb cuts also ease travel for people pushing strollers or riding skateboards, pedestrians with canes, and even the average walker. Television captioning provides another example. When captioning first became available, it was intended just for hearing-impaired people, who had to retrofit their televisions by purchasing expensive decoder boxes to access the captions. Later, decoder chips were built into every television, making captioning standard and available to all viewers. This universal design feature now benefits not only the deaf, but also exercisers in health clubs, diners in noisy restaurants, individuals working on their language skills, and couples

who go to sleep at different times. Further, as a built-in feature, access to television captioning costs a few cents rather than several hundred dollars. First, it applies the idea of built-in flexibility to the educational curriculum. Second, it pushes universal design one step further by supporting not only improved access to information within classrooms, but also improved access to learning. The Center for Universal Design advocates principles that result in environments and products for all people. For more information about these ideas see http: In the early s, the staff at CAST was working with collaborating schools to adapt print-based curricula so these materials would be accessible to students with disabilities. The barriers inherent in printed textbooks had long excluded students with physical disabilities, students with visual impairments, and students with learning disabilities, among many others. It seemed ironic to us that legislators and architects were working very hard to ensure that educational buildings were universally accessible, but no such movement pursued universal accessibility for the methods and materials used inside the buildingsâ€"the curriculum. From our work with individual teachers and learners, we realized that the concept of universal design could be applied to curriculum materials and approaches. We experimented with multimedia tools and created some learning materials with built-in options that made them more flexible than printed books. Out of that work came the prototype for a new and flexible kind of electronic book that we later co-developed with Scholastic Inc. They were developed from the start with features that allow them to be used by all kinds of students, including those with disabilities. Students with physical disabilities can turn pages and access controls with the touch of a key or a switch attached to the computer. This feature is also helpful to students who have difficulty decoding printed text. Varied presentations of content and differing sets of supports are available for each student who signs in to the program. WiggleWorks is not a special education product, but a literacy program for all learners. The built-in flexibility improves access and usability for all, making the program the first example of universally designed curriculum. Access to information vs. Non-educators often make the mistake of equating access to information with access to learning. In reality, these are two separate goals. In fact, increasing access to information can actuallyundermine learning because it sometimes requires reducing or eliminating the challenge or resistance that is essential to learning. To find out how young children benefit from this learning tool, go to http: The professional mover is interested in getting the sofa from point A to point B as quickly as possible and with the least wear and tear on his muscles. Therefore, he uses tools such as a dolly, a hydraulic lift, and a truck to help him do the job. These tools reduce the challenge of the workâ€"a goal that suits the mover very well. The body builder has a different goal: He seeks opportunities to lift weights, undertaking long workouts and increasing the weight as his strength improves. He uses tools that selectively support the muscles not being trained and increase resistance for those that are. The goals of learners more closely resemble those of the athlete-in-training than those of the mover. UDL is predicated on that difference. As educators, our aim is not simply to make information accessible to students, but to make learning accessible. This requires resistance and challenge. Much as the body builder needs to know which muscle group requires strengthening before he can structure his training, the teacher needs to know the instructional goal in order to appropriately structure teaching. However, if the goal were to help Kamla master the content within the text and build her enthusiasm for that content, then computer-supported reading would be an appropriate support. To help Charlie focus on learning research skills, Ms. Chen might restrict his access to a particular set of articles and Web sites relevant to the task. Chen increases his chances of success. Thus, although access to content and activities is often essential for learning, access to information is neither sufficient for nor synonymous with learning. Knowing the instructional goal is essential for determining when to provide support and when to provide resistance and challenge. With this balance aligned appropriately, students gain access to learning. The UDL framework provides guidance for using technology to support that balance. The Framework for UDL: However, thinking about these networks individually helps us remember that learning is multifaceted and that barriers in the curriculum can arise in a number of places. Broadly speaking, we teach our students to Recognize essential cues and patterns. Master skillful strategies for action. A successful learning environment supports and challenges students in each of these arenas while minimizing barriers. And because no two students show the same patterns of strength, weakness, and preference within these domains, minimizing barriers requires highly flexible teaching strategies and materials. Accordingly, the

UDL framework consists of three overarching operative principles, each formed to minimize barriers and maximize learning through flexibility. Each of the principles, listed in Figure 4. To support recognition learning, provide multiple, flexible methods of presentation. To support strategic learning, provide multiple, flexible methods of expression and apprenticeship. To support affective learning, provide multiple, flexible options for engagement. For addition material about Universal Design for Learning, see http: To accommodate a broad spectrum of learners, universally designed curricula require a range of options for accessing, using, and engaging with learning materials. Like universal design in architecture, with its stairs, ramps, and elevators, these alternatives reduce barriers for individuals with disabilities but also enhance opportunities for every student. Costa is teaching a civics unit on national elections and wants to convey the fundamental importance of voter participation. He chooses to use a chartâ€"an ideal means of representation for some kinds of information and for some students, but a medium that presents learning barriers for other students. Obviously, a student who is blind cannot learn from a visual chart, nor can students who have difficulty discerning colors, interpreting keys and symbols, or deciphering the significance of spatial relationships between elements. For these students, charts actually present a barrier. Costa do about that barrier? In this case, both his teaching goal and the barriers in the medium he has chosen images relate to recognition,the learning networks addressed by UDL Principle 1. Principle 1 recommends that the teacher provide multiple representations of the same information. A verbal description of the chart, a tactile graphic representation, or an e-text version read by the computer would all make the key concepts accessible to students who are blind or otherwise visually impaired.

Chapter 8 : CAST: UDL in the ESSA

Universal Design for Learning (UDL) is a scientifically valid framework that provides multiple means of access, assessment, and engagement and removes barriers in instruction to achieve academic and behavioral success for all.

Chapter 9 : Equal Access: Universal Design of Instruction | DO-IT

Universal design principles can be applied to the overall design of instruction as well as to specific instructional materials, facilities, and strategies (such as lectures, classroom discussions, group work, web-based instruction, labs, field work, and demonstrations).