Universal Design for Learning - Applied

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Children in a preschool classroom exhibit a range of abilities and ways of learning. If the classroom also includes children with disabilities and other diverse learners with their typically developing peers, it is important to address these individual learner differences in a way that optimizes learning for all of the children in the room. In addition, as the use of educational standards is incorporated into prekindergarten (Pre-K) curricula, educators are looking for methods to reduce barriers to accessing the general education curriculum. One method is to provide rich educational supports in the early planning of curricular activities. By giving consideration to the range of learning diversity at the initial planning stages, educators can provide an educational experience that touches a greater number of children with less curricular or programmatic accommodations or modifications later on. One way to do this is through the use of Universal Design for Learning (UDL).

The Center for Applied Special Technology, CAST has identified three primary principles with guidelines to facilitate the use of UDL:

- **Multiple means of representation**, to give learners various ways of acquiring information and knowledge. How do we help children gather facts, identify and sort what they see and hear? Recognition tasks – the “what of Learning.”
- **Multiple means of expression**, to provide learners alternatives for demonstrating what they know. How do they organize what they know and how do they show us what they have learned?
- **Multiple means of engagement**, to tap into learners' interests, offer appropriate challenges, and increase motivation. Helps learners become motivated, engaged, excited about learning.

**Best Practice**

**How does UDL work in a Pre-K classroom?**

The National Center to Improve Practice (NCIP) in Special Education through Technology, Media, and Materials' web site contains an Early Childhood Guided Tour (Promoting Language and Literacy among Young Students with Developmental Disabilities in Early Childhood Classrooms) of two exemplary early childhood classrooms. This virtual tour with accompanying video clips and resources provides a wealth of information and examples of Universal Design for Learning within the context
of promoting language and literacy for Pre-K children. A range of high and low tech tools are used to facilitate instruction. The web site also highlights four classroom activities used throughout the day (free choice, circle time, small group activities, and story time). Specific scenarios of children participating in these activities are provided to illustrate the use of UDL to enhance learning and participation for all children. The tour can be accessed at:  http://www2.edc.org/NCIP/tour/toc.htm

Four key elements of effective practice are addressed in each of the classrooms:

1. Engineering the classroom environment to optimize access to learning
“A well engineered classroom environment reflects a delicate balance between constancy and flexibility. Organization is the key. If the environment is not highly organized, much valuable time can be lost just looking for stuff.” (NCIP Early Childhood Guided Tour: Global View: Key Elements of Effective Practice, np.) Pre-K classrooms organized around activity centers can optimize developmentally appropriate activities and play. The key is to have the centers established so that all children have access to all materials and resources and can also communicate with their peers and staff when they are at the center. To accomplish this all centers should contain the following materials and resources geared to the theme of the particular center:
  - Visual cue cards and picture symbols
  - Communication boards
  - Word/picture cards
  - Electronic devices with switches that can be activated by all children
  - Books displayed on accessible shelves

Another important component of engineering the classroom environment is to establish predictable routines for children by using a consistent schedule and developing a set of simple classroom “rules”.

2. Integrating the curriculum through theme-based learning
Using themes that are woven into different activities throughout the day or week can reinforce concepts in many different contexts. For example, a theme on the sea can be used for literacy activities through stories (Swimmy; The Rainbow Fish; One Fish, Two Fish, Red Fish, Blue Fish); art (draw a picture); pre-math (count the shells); small motor (gluing shells, bits of seaweed and sand to make a sea collage); large motor (going on a whale hunt using and obstacle course – under the table, around the desk, behind the self, etc.); and snacks (Goldfish or sandwiches cut into fish shapes). Themes should be familiar to students as well as motivating and engaging.
3. Modifying instructional strategies, materials, and tools to meet individual needs
The Center for Literacy and Disabilities Studies has identified six demands of learning tasks that can be modified to assure all children are successful.

- Physical demands
  - Modifications:
    Foam block page separators for books
    Computer switches for book, center or play choices, or to turn pages
    Adapted pencils, crayons, paint brushes

- Sensory demands
  - Modifications:
    Large print books
    Braille translations or books incorporating tactile cues (ex. material swatches to match the texture of the fur or skin of various animals)
    Auditory feedback software with music and speech output
    Videos with captions or American Sign Language translations

- Communication demands
  - Modifications:
    Visual schedules and action cards
    Communication boards
    Communication devices with speech output

- Experience demands
  - Modifications:
    Discussions with visual cues or concrete objects prior to introducing a new concept or word
    Group discussions
    Story books with pictures (or options for children with visual problems) about the new concept

- Emotional demands
  - Modifications:
    Scaffolding tasks - break them down into several steps to foster confidence, independence and self-motivation
    Providing children with tasks as ‘helpers’ to promote self-confidence
    Provide opportunities for children to make choices

4. Embedding assessment in all classroom activities
On-going monitoring of a child’s progress as part of instruction is important because it:

1. tells us where a child is functioning developmentally
2. assists with planning instruction
3. evaluates the success of the instructional intervention

The assessments should be instructionally relevant and embedded in instruction. They tell us what to teach and how best to teach it. The information gathered in these assessments should occur in multiple settings, in the classroom, on the playground, at snack and lunch times. Continually monitoring how a child is doing helps teachers make decisions about how they are addressing individual learning objectives.

Embedding assessment in instruction occurs when children are allowed to demonstrate their knowledge and skills in the context of daily activities and routines. For instance, if a teacher is interested in a child’s knowledge of colors, a group story reading can become the vehicle for assessing that. As the teacher turns the pages in a book about colors, he/she can ask the whole group what the color is (or have the children display matching color disks and say or use a communication device to say the color) as assess which children indicate the correct color and which do not.

The effective use of high and low tech tools
While UDL is more than the use of technology there is a wide range of tools available for children to help them take full advantage of educational opportunities. Low tech visual schedules to high tech print-to–speech computer software can help children with disabilities fully participate in classroom activities and learning.

Constructing meaning and language and literacy
A major purpose of teaching is to help children make sense of the world in which they live and to interact appropriately with it. By the use of technology and aids, children are able to connect symbols with meaning. Interacting with books and with writing materials in a writing center, help build a strong foundation for early literacy. Using oral and written language in purposeful contexts such as making a grocery list in the housekeeping corner, listening to a story during circle time, singing songs, etc. help young children learn the value of the written and spoken word. Teachers can also serve as important role models for young children when they are observed in activities of reading and writing.

Reflection
1. How would you use Universal Design for Learning to increase participation in classroom activities such as art, circle time, or pre-literacy activities?
Learning is not so much an additive process, with new learning simply piling up on top of existing knowledge, as it is an active, dynamic process in which the connections are constantly changing and the structure reformatted.

- K. Patricia Cross

References and Resources


Center for Applied Special Technology (CAST)
Center for research, professional and policy development that develops educational resources and strategies based on the principles of Universal Design for Learning (UDL). http://www.cast.org/index.html

The Center for Literacy and Disabilities Studies
The Center’s mission is to promote literacy and communication for individuals of all ages with disabilities by developing research-based strategies, tools, curricula, and model programs, and to improve the understanding and use of literacy learning strategies to enhance communication competencies of all persons with disabilities.
http://www.med.unc.edu/ahs/clds/

The Center for Universal Design
A national research, information, and technical assistance center that evaluates, develops, and promotes universal design in housing, public and commercial facilities, and related products. http://www.design.ncsu.edu/cud/


Let's Play! Projects
A web site from the University of Buffalo Center for Assistive Technology which contains information on establishing physical (assessable toys and supporting materials) and human (strategies for communication and interaction developed jointly between caregivers and project staff) environments that promote play and playfulness in children with disabilities. Resources include UDL guidelines and toy designs. Retrieved July 3, 2008 from http://letsplay.buffalo.edu/PROJINFO/info.html

The National Center to Improve Practice (NCIP) in Special Education through Technology, Media, and Materials
The purpose of the Center is to promote the effective use of technology to enhance educational outcomes for students with sensory, cognitive, physical and social/emotional disabilities.  http://www2.edc.org/NCIP/Default.htm


Technical Assistance and Training System (TATS)
Statewide project providing technical assistance and training to programs in Florida serving prekindergarten children with disabilities. Website provides information and resources on curriculum and instruction, evaluation and assessment, family involvement, inclusion, program effectiveness/quality, and transition, as well as, linking early childhood partners.

www.tats.ucf.edu


TATS eUpdates are a service of the Technical Assistance & Training System Communities of Practice. The TATS eUpdates are intended to provide current information related to best practices or trends in the education of young children with special needs in the areas of Transition, Program Effectiveness, Inclusion, Curriculum & Instruction, Evaluation & Assessment, and Family Involvement. For more information about the TATS Communities of Practice and the TATS eUpdates, please log on to [www.tats.ucf.edu](http://www.tats.ucf.edu).