It was early October, and Mr. and Mrs. Chambers were worried about their daughter, Kathryn*, who had just started first grade. Kathryn, who has Down Syndrome, attended an inclusive first grade classroom taught by a general education teacher and a special education teacher. She was doing well in reading, which was presented in small groups using a systematic, structured reading program. In fact, Kathryn had mastered skills that continued to challenge her peers. But in math, she was beginning to fall behind and her parents and teachers were concerned. Math lessons included both whole class instruction and independent seat work. A paraprofessional had been assigned to assist Kathryn, but she found it awkward to provide assistance to Kathryn while the teacher was presenting information to the whole class. During seatwork, Kathryn was still working on holding her pencil correctly to form numerals so she had little time to devote to solving the math problems. Not wanting to resort to “pull out” services for Kathryn, the team decided that for two days, Mrs. Hart, the special education teacher, would sit in the back of the room to observe math to pinpoint problem areas. Then, the team would meet to talk about more effective teaching strategies for Kathryn.

During the observation, Mrs. Hart was surprised to see that Kathryn was not the only child who was having difficulty.
She had been so focused on Kathryn that she had missed the fact that a number of other children were also struggling. During the whole class instruction, one student wiggled restlessly in her seat, one stared out the window, another rummaged around in his desk, and two girls were whispering to each other and giggling. Seated at a table in front of the teacher with the paraprofessional next to her, Kathryn was forced to attend first to the teacher, then to the paraprofessional, and then back to the teacher. Whenever the paraprofessional whispered directions or explanations to her, Kathryn missed some of what the teacher was saying, so Kathryn seemed to fall farther and farther behind as the lesson progressed. During seat work, Mrs. Hart noticed several children who were completing their worksheets incorrectly but not raising their hands for help. Others, like Kathryn, were still learning how to form numerals with a pencil and were not getting enough practice at applying the math concepts taught. At the team meeting to discuss her observations, Mrs. Hart said to her colleagues, “I think we need to talk about some changes that will benefit everyone, not just Kathryn.”

Two weeks later, math class looked very different. The teaching team incorporated a variety of supports designed to help all of the children learn. Changes included:

- **Small group instruction:** Instead of whole class instruction and independent seat work, the class was divided into small groups of six or seven students each led by the classroom teacher, paraprofessional, or special education teacher. This provided the opportunity for the teaching staff to monitor each student's progress and give individualized support if needed.

- **Peer tutoring:** Students worked in pairs, with one child already accomplishing the skill coaching the other child who was still learning the skill. For the tutor, this was a way to reinforce learned skills; for the child still learning, peer tutoring was a way to get help from a friend rather than an adult.

- **Hands-on activities:** For example, counting the dots on dominoes in a lesson of odd and even numbers, using real coins to teach counting money, using pattern blocks to teach shapes and colors, using magnetic numbers to solve operations. This turned out to be one of the most successful strategies since it helped kids who “learn by doing” and made the lessons more interesting to everyone.

- **Teaching to individual learning styles:** Incorporating activities that tapped into a variety of modalities so that all children could access the information. For example, singing a song about multiplication or demonstrating math operations by having the class “act out” the word problem.

- **Integrating related services:** Arranging for the occupational therapist to come during math to assist the children who were having difficult writing numerals is an example. This ensured that children were practicing the skill in the environment in which they would use it and also served as a model to the teacher who would reinforce the skill throughout the day.

It was clear that the supports originally created to help Kathryn were benefiting all of the students in this first grade class. Soon, the teaching team was incorporating similar supports and services throughout the day. By the end of November, all students were progressing satisfactorily in the math curriculum.

**What are accommodations and modifications?**

The Individuals with Disabilities Education Act (IDEA) of 1997 does not define curriculum modifications and accommodations but refers to “supplementary aids and services.” These are described as “aids, services, and other supports that are provided in regular education classes or other education related settings to enable children with disabilities to be educated with non-disabled children to the maximum extent appropriate.” (IDEA, 1997). Since the law does not list what these aids, services, and other supports are, it is left to the individual Planning and Placement Teams (PPTs) to determine what a child needs to access the general education curriculum.
Supplementary aids and services might include changes in:

- Environment (e.g., preferential seating, quiet study areas, providing space for movement, providing help to organize materials)
- Instructional strategies (e.g., teaching to a child’s learning style, providing individualized instruction, providing hands-on activities, peer tutoring, cooperative learning)
- Social or behavioral support (e.g., providing rest breaks, teaching a child how to make friends, conducting a functional behavioral analysis, teaching self-advocacy skills)
- Staff support (e.g., enhanced staffing, small group instruction, providing staff training, providing collaboration time)
- Assessment (e.g., allowing answers to be dictated, reading test to student, accepting short answers, teaching test-taking skills)

What is the difference between an accommodation and a modification?

The Families and Advocates Partnership for Education (FAPE- www.fape.org) provides the following definitions to distinguish accommodations from modifications:

Accommodation—the student completes the same assignment or test with changes in timing, formatting, setting, scheduling, response and/or presentation. Examples of accommodations include:

- Enlarging fonts/text
- Verbal instruction translated through a sign interpreter
- Listening to books on tape
- Presenting curriculum in Braille
- Removing extraneous/distracting information from worksheets
- Writing with a word processor
- Touch screen access versus a traditional computer mouse

Modification—an adjustment to an assignment or test that changes the standard or what the test or assignment is supposed to measure. Examples of modifications include:

- Having a student master a lesser amount of material (i.e., identifying three animals that live in the rain forest while classmates identify five).
- Eliminating or consolidating steps of a lesson or project (i.e., providing student with a list of animals that live in the rainforest while classmates determine that information independently prior to working with the material.
- Substituting alternatives for written assignments (posters, PowerPoint presentations, photographic essays, acting out a play).

To summarize, in most cases modifications are made to the academic level of the curriculum content. Modifications can also be made to instructional approaches. Accommodations change the way the general education curriculum is accessed, but typically do not involve changing the academic level or content of the curriculum.

What is Universal Design for Learning (UDL)?

Universal Design for Learning is the design of instructional materials and activities that allows students with a variety of needs to achieve their learning goals. It accommodates wide differences in abilities to see, hear, speak, move, read, write, understand English, attend, organize, engage, and remember. This is accomplished through the use of flexible curriculum materials and activities that provide alternatives for students with differences in abilities and backgrounds. UDL is different from accommodations and modifications in one important way: the alternatives are built into the structural design and operating systems of educational materials, not added on later.

Some commonly seen universal design concepts are:

- Accessibility features on computer operating systems
- Earphone jacks on audio electronics
- Lift and reclining chairs
- Curb cuts and ramps
- Height adjustable tables/counters
- Grab bars in bathrooms
- Closed captioning on TV
- Scooter shopping carts in grocery stores
- School textbooks provided in a variety of formats (written, Braille, audio tape or CD, interactive online texts, controlled language texts)

Universally designed curricula vary in a number of ways depending on the topic, grade level and educational environment which they will be used.

Continued on page 10
Q  Janie, you have been teaching for over 30 years, how long ago did you start making modifications in your classroom?

A  I started about 10 years ago. Inclusion was implemented by the school system, not self-initiated. Before this, I thought my curriculum design hit the mark but it is shocking how much you are missing and how many students you are overlooking.

Q  How much preparation time does this add to your workload?

A  Not much at all and it gets easier as you go along. Also, it is easier because of the school system’s implementation of teaming and common planning time. Years ago, it was hit or miss. Today, working in teams and having a set amount of common time to prepare and learn from each other ensures success.

Q  What are some of the broad modifications you have made within your classroom to assist those with disabilities?

A  Some of the broad modifications I have made include the following:

- Extra time on tests and projects
- Use of short films pertaining to lessons in book chapters
- Assigning a student in the classroom to take notes every day
- Preferred seating for students with ADHD and other disabilities
- Short broken-up lessons
- Use of assignment books so students can record their assignments
- Modified tests to include such things as short answer, multiple choice, reduced wording on questions, and word banks
- Use of graphic organizers (e.g., compare and contrast, story sequence, What I Know, What I Want to Learn, etc.)
- Study/homework groups that meet twice a week provided by teacher before start of school
- Differentiated lessons
- No spelling penalty
- Audio-visual and hands-on-learning built in for many lessons
- Highlight varied talents and diverse learning styles
- Establish good relationship with each student

I just want to add that in thinking about some of these modifications over the years, I feel these adjustments have benefited all my students, not just those with disabilities.

Q  Can you describe a child who has been successfully included in your class and what modifications made it possible for that child to access the general education curriculum?

Continued on page 9
The following highlights a three-step process developed to help teachers determine how accessible their general education curriculum is for students with disabilities. After completing the three-step process, educators can determine how all students can gain access to the general education curriculum.

Examples of Step 1 and Step 2 are provided in Figure 1 and Figure 2 respectively.

## Determining Access Opportunities

| STEP 1. Analyze the general education curriculum | Analyze the curriculum “as is” and determine the features that make it accessible for learners with disabilities. Although states and school systems may use a variety of curriculum analysis criteria, the three described here, if used as a “package,” will provide a comprehensive analysis of the curriculum. Ask the following three questions:
| 1. How well does the curriculum describe what learners should be able to know and do by the end of the course?
| 2. What resources are included in the curriculum that provide teachers with materials and research-based methods for diversifying instruction?
| 3. How many universal design elements are included in the curriculum? |

See Figure 1 for examples of desirable characteristics for curriculum

| STEP 2. Enhance areas of the general education curriculum that are poorly designed | Because today’s curriculum is not always designed for learners with disabilities, educators need to determine how to enhance curriculum features that are not already in place. For example, when a curriculum does not contain explicit strategies, teachers will need to build them in. When curriculum standards are vague, teachers will need to describe them more thoroughly. Although this may seem overwhelming for teachers to do, it is essential that such enhancements be carried out. Each curriculum enhancement furthers the probability that more students with disabilities can be successful within the general education curriculum, and for some students that may translate into placement within a general education setting. |
| See Figure 2 and 3 for curriculum evaluation guide |

| STEP 3. Consider creative ways students with disabilities can access the curriculum, including minor to major modifications of outcomes | Some students will need additional changes in content and expectations beyond the enhancement Step 2 described above. For such students, four types of curriculum changes may be considered:
| 1. accommodations—change input and/or output method used by the teacher and/or the student related to the intended instructional outcome (e.g., listening to text on audiotape rather than reading)
| 2. adaptations—change conceptual level for the standard (e.g., complete fewer math problems but of the same difficulty)
| 3. parallel curriculum outcome—change outcome within content (e.g., instead of writing a lengthy report that explain analysis of a novel, a brief report is written that describes actions of a character in the novel)
| 4. overlapping curricula—enables students to be involved in general education curriculum activities while accomplishing a very different content or curriculum goals (i.e., goals can be accomplished within activities in general education settings). |

## Figure 1
### Examples and nonexamples of desirable characteristics for curriculum content standards

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Example</th>
<th>Nonexample</th>
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<th>1</th>
<th>2</th>
<th>3</th>
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<tbody>
<tr>
<td>1. Uses clearly written and jargon-free language</td>
<td>Describes causes and effects of economic increases and decreases</td>
<td>Appreciates the multiple outcomes associated with fiscal surges and abatements</td>
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<td>2. Is specific about knowledge and skills</td>
<td>Teachers should look for verbs that are observable (e.g., “verbally identify”) and challenging (e.g., higher-order skills such as “synthesize in writing”)</td>
<td>Teachers should look for verbs that are vague and nonobservable (e.g., “understands” or “appreciates”)</td>
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<tr>
<td>3. Presents balanced point of view</td>
<td>Compares and contrasts benefits and disadvantages of free speech</td>
<td>Describes how evolutionary theory underlies creationism</td>
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<tr>
<td>4. Uses strong verbs</td>
<td>Locates and describes places and events</td>
<td>Knows places and understands events</td>
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<tr>
<td>5. Incorporates benchmarks</td>
<td>Teachers should look for a sequential, logical and/or hierarchical arrangement of Characteristics 1,2, and 4 for guidance</td>
<td>Teachers find that Characteristics 1, 2, and 4 are vague, haphazardly listed or arranged, and/or provide little guidance for targeting benchmarks</td>
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<tr>
<td>6. Offers instructional guidance to teachers</td>
<td>Multiple suggestions for varied presentation and assessment formats, enrichment and practice activities, technological resources, and diversification recommendations</td>
<td>Few instructional techniques or suggestions are included; targeted student audience is the average learner, with minimal suggestions for enrichment or remediation activities</td>
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**Key for scoring criteria:**

- 0 = virtually never included
- 1 = sometimes included
- 2 = often included
- 3 = nearly always included

**Total # of Items per Score**

---

**Figure 2**

**Curriculum Evaluation Guide**

**Directions:** Carefully read through all curriculum materials. Decide how easily the curriculum can be readily used by teachers to effectively instruct students with a range of learning strengths and needs. Then rate the curriculum on each of the 22 items using the following scale:

- **3** Curriculum is well-designed as is
- **2** Curriculum needs minor modifications and enhancements
- **1** Curriculum needs substantial revisions and resources

### General Adequacy

| 1. Substantive rationale and purpose, including research that supports curriculum content |
| 2. Clearly defined goals and objectives (used synonymously with standards, outcomes, competency-based criteria) |
| 3. Curriculum content appropriate to objectives |
| 4. Significant content appropriate to the discipline/subject-matter area |
| 5. Emphasis on critical thinking and problem solving |
| 6. Coherent structure and order to content |
| 7. Global, multicultural perspective |
| 8. Instructional strategies appropriate to objectives |
| 9. Appropriateness for developmental levels and styles of intended learners |
| 10. Responsiveness to affective and social needs of intended learners |
| 11. Varied strategies for both individuals and groups |
| 12. Authentic, curriculum-based evaluation procedures |
| 13. Technical adequacy of media and technology |
| 14. Additional, supportive resources for teachers and learners |

### Considerations for Students with Disabilities

| 15. Relevance of the curriculum to present and future environments |
| 16. Emphasis on data-based instructional decision making |
| 17. Attention to development of independence and social competence |
| 18. Structured lessons geared to stages of learning |
| 19. Appropriate teacher modeling, cueing, and reinforcement |
| 20. Varied formats and pacing for guided and independent practice |
| 21. Provision for appropriate assistive technology |
| 22. Attention to maintenance and generalization |

**Total # of items with each score**

---

Note: From V.L. McLaughlin (1993). *Curriculum adaptation and development.* In B.S. Billingsley (Ed.), *Program Leadership for serving students with disabilities* (pp.167-168). Richmond: Virginia Department of Education. Adapted with permission.
**Figure 3**
Curriculum Design Elements

**Directions:** Carefully read through all curriculum materials. Decide the extent to which each curriculum design element is already included within the curriculum. Then rate each element using the following scale:

- 3 Curriculum includes this element throughout
- 2 Curriculum frequently includes this element; teachers need to plan for more of the element
- 1 Curriculum seldom includes this element; teachers need to plan for most of the element

<table>
<thead>
<tr>
<th>Curriculum Design Element</th>
<th>Example</th>
<th>Nonexample</th>
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<tr>
<td>1. Big ideas</td>
<td>Categories, rules, hierarchical structures, principles, and so forth are identified as foundational and critical and are taught so students will learn which “boxes” to place the content</td>
<td>A multitude of terms, events, situations, and so on are mentioned but not tied together (i.e., many mammals are discussed, but characteristics of all mammals are not taught)</td>
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<td>2. Conspicuous strategies</td>
<td>Tips, step-by-step instructions, plans, and “how to” are built into the instruction, such as teaching students key words that let them know that a cause-effect scenario is being presented</td>
<td>Focus is on content presentation with little to no attention given toward study tips, efficient ways to remember new vocabulary, etc.</td>
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<td>3. Mediated scaffolding</td>
<td>Dialogue between teachers and students include instructional feedback and prompts that guide the students to higher levels of understanding of the content</td>
<td>Feedback is typically yes/no, right/wrong; little to no queries or dialogues with students about their thinking</td>
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<td>4. Strategic integration</td>
<td>Builds on content learners already know and takes it to a higher/deeper level</td>
<td>Presenting new content without explicit connections to previous content, and without deeper understanding (e.g., compare and contrast analyze)</td>
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Note: From “A focus on curriculum design: When children fail” by D.C. Simmons and E.J. Kameenui, 1996, *Focus on Exceptional Children, 28*(7), pp. 1-16. Copyright 2001 by PRO-ED, Inc. Adapted with permission
A  I remember a boy who had a significant physical disability but was extremely bright. Jonathan could not walk and used a wheelchair. He had a full-time aide who took all his notes and he required a special desk. I encouraged as much independence as possible. I included him in all activities, especially group activities. I made an extra effort to call upon him for feedback and to make sure he was following along. In time, he became so comfortable with our class and vice versa that he began to show his incredible sense of humor and his classmates became his advocates. His presence became central to the class. His electric wheelchair fascinated us so he educated us on what it could do for him. Because he would zip along we even set up stop signs! In the end, the whole class benefited from learning alongside Jonathan.

Q  What makes the inclusion experience challenging?

A  Meeting the needs of those students who have less apparent needs (i.e., trouble reading, expressive language, etc.). Developing effective Individualized Education Programs (IEP) for these students is very challenging.

Q  What has not worked for you in the past?

A  What makes inclusion NOT WORK and very difficult is when the special education teacher does not spend time in the classroom. This makes it impossible to know what information should be stressed so proper modification of lessons is possible. The teacher should have a schedule which allows him/her to be in the classroom with the students who need supports.

Q  With whom do you consult within your school?

A  I consult the special education teacher first, then the guidance counselor, school psychologist and principal. In my case, the principal is a master of special education issues.

Q  What role do the parents play?

A  I always establish a relationship with parents to let them know I am their partner in the education of their child. We all have the same goal in mind—to promote the growth and progress of that child. Open communication is the best strategy. They need to be listened to and to know that you do listen to them. Some parents have felt so shut out of the process that they are desperate to be included.

Q  If you were addressing a room full of teachers about what they could do to make inclusion successful in the classroom, what would you tell them?

A  If I had the opportunity to speak about making successful inclusion possible, I would make the following recommendations:

First: Adequate planning time must be provided for the team of teachers working with an inclusive teacher. I have had the experience where the special education teacher is part of the team and we were able to communicate daily about the students. With adequate time, it is also possible to plan and modify lessons together.

Second: Communicate, communicate, communicate—all teachers should know what is going on in each other's classrooms. Always work as a team.

Third: Be sure everyone is working on the same goals with the students. Revisit the IEP (Individualized Education Program) goals regularly to help stay on track. All kids grow and make progress.

Fourth: Use the special education teacher as a resource for all of the students on the team. It is real life practice to include, not exclude! The special education teacher should have a schedule that allows him/her to be in the classroom with students.
While variations are to be expected, all curricula that are developed from a universal design perspective will share three essential qualities as identified by the Center for Applied Special Technology (CAST):

1. Multiple ways of presenting content—information is presented in a variety of flexible formats increasing the likelihood of comprehension.

2. Multiple ways of expressing knowledge—allowing students to respond through a variety of expressions (e.g., not just speaking or writing).

3. Multiple ways of engaging students—offering choices gives the student the opportunity to match their interest in learning with their preferred modes of presentation/expression.

In the case of Kathryn and her classmates, changes were made in each of these areas. Information was presented in a variety of ways so that each student could access the information. Hands-on activities were incorporated and small group learning replaced whole class instruction and independent seat work. Students expressed in a number of ways what they had learned. For example, rather than writing it, children circled, pointed or used pattern blocks to represent colors and shapes. Finally, students were engaged in the learning process by being able to choose their preferred mode of learning. Teachers provided a balance of visual, auditory and tactile experiences. Students could also choose to work with a peer, work independently, or work with a teacher.

A Universally Designed Curriculum: Getting it right the first time.

Since the main feature of a universally designed curriculum is that the flexibility is derived from features that are built in rather than added on, true universal design takes place during the development phase of the curriculum. There are many commercially designed curricula now available that incorporate features of universal design. Often materials are designed at the state or district level. It is important that curriculum development teams be familiar with the concepts and essential features of universal design for learning. This will ensure the development of a curriculum that can accommodate a diverse learning population. Producing a curriculum that serves the majority of students appropriately is both time- and cost-effective.

Putting It All Together

Teachers today are faced with a very challenging job, that of meeting the diverse needs of all students. There are a variety of resources available to meet those diverse needs. Understanding the concepts of curriculum modification, accommodations and Universal Design for Learning presents a number of appropriate alternatives to meeting students' needs. These approaches to teaching should not be considered mutually exclusive models, but should be regarded as versatile tools presenting a variety of options to meeting the needs of ALL learners.

*Note: pseudonyms are used throughout.
More on Universal Design for Learning


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