A unit based approach to adaptations in inclusive classrooms.

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Ms. Lawson is an inclusive special education teacher at Ortega Middle School. She has noticed that to make inclusion “work” for her students, she needs to make the curriculum accessible for her students through collaboration and adaptations. This year, Ms. Lawson will be collaborating with Mr. Jackson, an 8th grade English teacher, to facilitate the inclusion of Amanda, who enjoys movies and talking with her girl friends. Amanda also has an intellectual disability and is learning content that is at a different level than her peers. John is also in 8th grade and will be enrolled in Mr. Jackson’s class. John enjoys video games and movies. John has autism and is also working at a different grade level than his peers. Amanda and John have been included in general education classes since preschool, but with each passing year the need for differentiated instruction and curriculum has increased. Ms. Lawson has been working to design curriculum that meets the needs of each student individually, including Amanda and John, but is wondering if this piece-meal, one-student-at-a-time approach is effective or efficient for her, her students, or her general education colleagues.

Introduction

As more and more students with low-incidence disabilities are being educated in general education settings, Ms. Lawson’s dilemma is becoming more common. The Individuals with Disabilities Education Improvement Act (2004) defines low incidence disabilities as “visual or hearing impairments; a significant cognitive impairment; or any impairment for which a small number of personnel with highly specialized skills and knowledge are needed in order for children with that impairment to receive early intervention services or a free appropriate public education” (20 U.S.C. 1462 § 662 (c)(3)). Students with low-incidence disabilities are legally required to access and participate in the general education curriculum as well as a specially designed education program that addresses their unique needs ("Individuals with Disabilities
Education Improvement Act," 2004). To do so, students with low-incidence disabilities often have adaptations made to the general education curriculum.

Adaptations can take many forms, including individualizing student learning goals, instructional strategies, and student supports (Lee et al., 2006). “Adaptations” is an umbrella term that includes accommodations and modifications. Instructional accommodations can be delineated into three levels (Stough, 2002). Access accommodations provide access to the curriculum and do not affect the mastery level expected of students. Low-impact accommodations alter how students are taught, but do not require significant adjustments in the structure or content of the curriculum. Lastly, high-impact accommodations (also called modifications) alter the content of the curriculum as well as the ways students are taught. These require adjustments in the structure and content of the educational program, as well as the level of curricular mastery expected of students.

Adaptations can thought of as general or specific (Janney & Snell, 2006). General adaptations can be used by many students and address routine classroom activities. For example, providing students access to graphic organizers, text enlargement, calculators, and peer tutors, are general adaptations that many students may access in a variety of routines and activities. Specific adaptations, on the other hand, apply to particular students and lessons or activities. For example, the worksheet and activities for a science lab may be adapted for an individual student based on his unique physical, sensory, or cognitive needs.

Box: What does the research say about adaptations?

Use of Adaptations

Research reports that the use of adaptations varies widely, often based on the severity of a student’s disability and their level of inclusion. For example, teachers report using adaptations
for students with low incidence disabilities between 61-80% of the time (Kurth, Gross, Lovinger, & Catalano, 2012). Others have noted that adaptations are more widely available for students with low-incidence disabilities than students with high-incidence disabilities (Dymond & Russell, 2004). Lastly, the use of adaptations is greater for students who spend more time in inclusive settings (Soukup, Wehmeyer, Bashinski, & Bovaird, 2007).

**Effectiveness of Adaptations**

The use of adaptations is associated with a range of positive characteristics, including: higher student engagement, fewer student competing behaviors, and less teacher time dedicated to classroom management (Lee, Wehmeyer, Soukup, & Palmer, 2010). Furthermore, teachers report that their students learn more and are better able to participate in class activities through the use of adaptations (Kurth & Keegan, in press). Curricular adaptations have also been found to improve student on-task behavior and work-production (Kern, Delaney, Clarke, Dunlap, & Childs, 2001). Additionally, many educators support the idea of adaptations (Idol, 2006). Finally, for inclusion to be successful, the use of adaptations is necessary to meet individual student needs (Cross, Traub, Hutter-Pishgahi, & Shelton, 2004) and adaptations do facilitate access to the general education curriculum (Fisher & Frey, 2001).

With general adaptations in place (see examples in Figure 1), many students, including those with identified special education needs, will have their unique learning needs better addressed in a classroom. This leaves more time for the creation of specific adaptations for individual students as needed.

<<Figure 1 Here>>

**Adaptations and the UDL Framework**
Universal design for learning (UDL) is an instructional approach in which teachers design instruction with the needs of diverse learners in mind, rather than making adjustments for individual students with specific special education needs (Pisha & Coyne, 2001). A hallmark of UDL is providing students with many different ways to represent knowledge (how content are directions are presented to students), express knowledge (how students demonstrate their knowledge), and engage in the classroom (how students stay motivated and involved in learning). In other words, UDL requires teachers to anticipate ahead of time how their instruction supports many ways of learning, expressing, and engaging. Thus, within a UDL approach to instruction, general adaptations are available to all students (e.g., all students have the choice to type or hand-write a written response) and are considered during lesson planning. Any specific modifications that may be needed for specific tasks by specific students are also considered proactively for the small percentage of students who need these additional supports (e.g., the provision of a scribe for written work).

Creating Specific Adaptations

General and specific adaptations should be created collaboratively (e.g., general and special education teachers, paraeducators, and families). The following steps outline a procedure for creating specific adaptations for students with low-incidence disabilities in general education settings.

**Step 1: Determine student learning support needs**

The first step in creating a specific adaptation is to determine the student’s unique learning support needs. In doing so, student needs are identified without over-adapting materials, which could lead to stigmatization or isolation of the student. Instead, tailored adaptations are created that are to be used only when necessary. A useful strategy for identifying needs is by
completing an ecological assessment (Downing, 2010), in which the activities the student participates in are identified, along with the required skills to be successful in these activities. Any discrepancies between skills and needs can then be identified and adaptations provided for the student. As shown in Figure 2, an ecological assessment was completed for Amanda that analyzes the skill requirements and support needs Amanda encounters during the grammar portion of her English 8 class. When completing an ecological assessment, a series of questions are posed and answered through observation and collaboration, including:

- What are peers without special education needs doing in this activity or setting? Completing a step-by-step task analysis of how a peer successfully completes the activity or lesson is often useful.
- What are the naturally occurring cues for performance? That is, how do peers know what to do, and when?
- What does the student with low-incidence disabilities do at each step? In other words, how does this student complete (or fail to complete) each step?
- Is there a discrepancy between what a peer does and what the student with low-incidence disabilities does?
- If there is a discrepancy, the last step is to consider adaptations that should be put in place, or cues to teach the student to respond to, so that he or she may complete each step correctly with the least intrusive level of support.

<<Figure 2 here>>

**Step 2: Determine the routines of the classroom**

Understanding the routines and activities that are typical of the classroom help in knowing what skills are necessary for learning and participation, and therefore what adaptations
may be required. This can be done through classroom observation, ecological assessment, and collaboration. Educators should note general routines such as the typical daily schedule and which general adaptations may be needed for each part of the routine. For example, Amanda and John’s 8th grade English class is beginning a six-week lesson unit centered on Lois Lowry’s novel *The Giver*. The general routine for each class period in this unit consists of warm-ups, editing, lecture, group work, and a wrap-up as outlined in Figure 3. General adaptations within these routine activities are also noted.

<<Figure 3 here>>

Next, the lessons that will occur in the general routine should be determined, along with specific adaptations needed by the student. Collaborating with general education teachers is essential; “teacher talk sheets” as illustrated in Figure 4, can assist in this collaboration, particularly in identifying in-advance specific adaptations that should be prepared for the upcoming week. The talk sheets are used as a joint planning session, in which the general education teacher shares his plans for the upcoming week, lesson, or unit, including worksheets or chapters that may need to be adapted as well as any tests or long-term assignments students may need assistance preparing for.

<<Figure 4 here>>

**Step 3: Define student-learning outcomes**

During the teacher talk collaboration discussion, learning outcomes for students receiving special education services should be determined. Sometimes, all students will have the same learning outcomes (e.g., reading a novel, learning vocabulary words, writing a 5-paragraph essay). Other times, students with identified special education needs will have modified learning outcomes. Mr. Jackson has decided that most students will be responsible for reading the novel,
learning key vocabulary in the novel, making inferences to demonstrate reading comprehension, and passing weekly tests related to the novel. A long-term assignment includes writing a memoir of important events in the students’ own life, including a description of why these memories are important and should be shared with others.

From this list of activities, the learning outcomes for students in need of specific adaptations will be generated. Learning outcomes will be based on IEP goals, curricular activities (to facilitate meaningful participation), and general education teacher content expertise. Through collaboration, Amanda’s teachers have decided that she will be responsible for reading the novel modified to her level, which contains pictures with one-sentence statements, answering appropriate questions about the novel to demonstrate comprehension, and learning key vocabulary by matching words and pictures. The teachers have also decided that Amanda will complete the memoir assignment. Parent input through photographs and stories will be solicited, and Amanda will write about these photographs from her life in her own words, using word banks, scribes, and other assistive technology as necessary. Similarly, John will be responsible for reading a version of the novel that is written at a 4th grade readability level, with abstract concepts highlighted and defined (e.g., “they acted like animals” means the people were messy and rude, not that they growled or walked on four legs). John will write his memoir using photographs, word banks, and word-processing software. Examples of these modified novels can be seen in Figure 5.

<<Figure 5 here>>

**Step 4: Gather materials and create specific adaptations**
Ms. Lawson will then preview the upcoming materials, assignments, and quizzes. Supplementary materials will be gathered, based on the learning outcomes determined for individual students. To begin, Ms. Lawson will read *The Giver* and create modified versions of the novel. While this may be rather time consuming initially, major changes to core curriculum (e.g., novels read in a class) are relatively uncommon. Once modifications are created and stored in an on-line storage bank (e.g., as MS Word or Powerpoint documents), they can be easily modified for other students in the class or for use in future years. In this manner, modified assignments, novels, and tests are created and “banked.”

Additional specific adaptations can also be generated. For example, Amanda is a kinesthetic and visual learner. A book box is created for Amanda that contains key elements from the novel, including a representation of “release” (a food jar with a small plastic animal inside), an airplane, a bicycle, a photo album containing photographs from Amanda’s life to represent “memories,” and a wooden massager to represent soothing stress. The items from the book box are shown in Figure 6. While reading the novel, or listening to the novel being read in class, Amanda can refer to her book box to aid her comprehension.

<<Figure 6 here>>

**Step 5: Implement adaptations**

Finally, the specific and general adaptations will be implemented. This is done by reviewing the general routines of the classroom (through ecological assessment and collaboration), and then identifying when IEP goals can be naturally addressed during these routines (Downing, 2005). For example, Amanda has language arts IEP goals to read 10 high frequency sight words, answer literal comprehension questions, to write her name, and to dictate and type a complete sentence on a curricular topic. Similarly, John has IEP goals to read at a
fourth grade level, answer literal and inferential comprehension questions, write two-sentence passages containing nouns, verbs, and adjectives, and to combine his sentences to create a four-sentence paragraph. Natural opportunities to address each goal are identified within the typical English 8 routine, as seen in Figure 4.

Furthermore, general adaptations will be incorporated into the typical class routines that assist all students. For example, all students may choose to draw pictures to supplement their reading comprehension, or to have access to various forms of the novel, including audiobooks and adapted books. When adaptations are created with the idea that anyone may use them, it is often easier to keep age- and cultural-appropriateness in mind.

**Step 6: Evaluate adaptations**

Finally, the effectiveness of general and specific adaptations should be evaluated during and following instruction. Guiding questions when evaluating adaptations may include:

- *Was the student actively engaged in the lesson, or passively engaged, or distracted?* For example, Ms. Lawson and Mr. Jackson ensure that Amanda and John have accessible materials and supports in place so that they can answer questions, engage in discussions with classmates, take notes, write responses, and read the novel in class to facilitate their on-task engagement.

- *Was the student meaningfully involved in the lesson, or was he/she doing work that was substantially different from peers?* Ms. Lawson and/or Mr. Jackson complete ecological assessments to make sure that any discrepancies between skills required and student support needs are addressed. Ms. Lawson also uses information gathered from the Teacher Talk sheets to prepare any necessary adaptations (such as modified novels) in advance.
• Did the lesson address IEP goals, and did the student make progress on those IEP goals (based on data collected)?  Ms. Lawson takes progress-monitoring data to determine if Amanda and John are making progress on IEP goals.  This type of frequent, on-going data collection is essential to making sure that instructional time is maximized and that students are making adequate progress.  Both summative and formative data assessment should be completed to determine the effectiveness of adaptations.

• Was the student a true member of the lesson, with similar activities and work products as peers?  For example, the use of a modified novel could isolate John and Amanda if they were sequestered in a corner reading their modified books with a paraeducator.  Instead, their teachers plan their supports and adaptations in advance, as possible, to ensure that both Amanda and John can meaningfully participate in class.

• Did the lesson facilitate student relationship development, or was the student primarily working alone or with an adult?  Often, adult supports act as an inadvertent barrier to social participation and interaction; by assigning the adult paraeducator to walk around and assist all students, and assigning peer buddies who happen to be sitting near John or Amanda to assist as needed, the lessons in the general education classroom become much more facilitating of social relationship development.

• Did the lesson facilitate student independence, self-advocacy, and problem-solving skills?  Ms. Lawson facilitates independence by assigning paraeducator support on a roving basis, and teaches Amanda and John the classroom rule “ask 3 then me,” so that they learn to problem solve by first asking three peers for assistance, then to raise a hand for adult assistance if still needed.  When the adaptations Amanda and John use are comprehensible to their peers, this rule applies easily!
• *Is the adaptation acceptable to the student, peers, families, and teachers?* Ms. Lawson collaborates with peers and families to make sure that the adaptation is age- and culture-appropriate. Childish pictures and activities are avoided, and general adaptations are widely available in the classroom.

**Final Thoughts**

A wide range of strategies can be employed to facilitate the meaningful participation of all students in general education classrooms. Adaptations are often essential to meaningful participation, but these tools should be used with caution. First, educators must be careful to create adaptations that do not isolate students. As Biklen stated (1975), avoiding “islands in the mainstream” with adaptations is important. Likewise, adaptations should be based on UDL principles, so that the curriculum is age- and culture-appropriate to all students and available to all students. Lastly, educators must be careful not to over-adapt and instead develop a rich array of general adaptations in all classrooms so that all students have the supports in place to promote their participation and learning.
References


Figures

- Magnification or text enlargement
- Graphic organizers
- Slot notes / cloze notes
- Peer tutors or paired learning
- Audiobooks
- Colored overlays or rulers for keeping place while reading
- Visuals or pictures supplementing key ideas
- Examples embedded in assignments
- Color coding, highlighting or bolding key words
- Manipulatives or counters
- Resource guide or tool kit
- Word banks
- Assignment check list
- Planner or organizational tool
- Alternate responses (e.g., oral, type written, pictorial)
- Assistive technology (e.g., calculator, word processor, dictation recorder, communication device)
- Alternate writing utensils (e.g., weighted pencils, pencil grips, “fat” markers, stamps)
- Alternate paper (e.g., paper with raised lines, paper with varied margins, paper with varied line width or length)

Figure 1. General Adaptations Examples.
### John: English 8 (Writing Warm-Up)

<table>
<thead>
<tr>
<th>Peer’s Activities</th>
<th>Student’s Performance</th>
<th>Errors Made or Skills Needed</th>
<th>Adaptations Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peers take out pencil and paper from backpacks</td>
<td>John takes out pencil and paper from his backpack</td>
<td>• None</td>
<td>• None</td>
</tr>
<tr>
<td>Peers listen to music</td>
<td>John places his fingers in his ears</td>
<td>• John may be sensitive to the loudness or intensity of the music</td>
<td>• Peer tutor will prompt John to use his ear plugs to dim loudness while listening</td>
</tr>
<tr>
<td>Peers “free write” about their feelings or thoughts while listening to the music selection</td>
<td>John writes incomplete sentences, without any adjectives.</td>
<td>• Identifying adjectives to add</td>
<td>• Provide John a bank of emotion words to select from while writing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Composing complete sentences</td>
<td>• Provide John a cloze (fill-in-the-blank) template for writing sentences (e.g. this music makes me feel ____).</td>
</tr>
<tr>
<td>Peer’s Activities</td>
<td>Student’s Performance</td>
<td>Errors Made or Skills Needed</td>
<td>Adaptations Needed</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>---------------------------------------------------</td>
<td>------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Peers take out pencil and paper from backpacks</td>
<td>Amanda gets out her Alphasmart. She does not turn on Alphasmart</td>
<td>• Task initiation</td>
<td>• Provision of Alphasmart</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Identifying sentence to type</td>
<td>• Peer tutor—point to “start” button and remind Amanda to turn on Alphasmart</td>
</tr>
<tr>
<td>Peers identify and correct grammatical and spelling errors</td>
<td>Amanda sits quietly and does not type the sentence.</td>
<td>• Identifying errors</td>
<td>• Peer tutor to help Amanda navigate to blank page in English 8 file on Alphasmart</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Type responses</td>
<td>• Provide Amanda a sentence strip with most errors already corrected, and appropriate errors highlighted with choices provided (e.g., “i” or “I”)</td>
</tr>
</tbody>
</table>

*Figure 2. Ecological Analysis, (Downing 2010 and MacFarlane 1998)*
<table>
<thead>
<tr>
<th>Typical Classroom Routine</th>
<th>General Adaptations</th>
<th>Specific Adaptations</th>
<th>IEP Goals Addressed</th>
<th>Specific Adaptations</th>
<th>IEP Goals Addressed (John)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Writing warm up</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Students take turns bringing in a musical selection on CD.</td>
<td>• Word bank of impression words (e.g., happy, scared, sad, angry)</td>
<td>• Word bank of impression</td>
<td>• Cloze sentences</td>
<td>• Dictate and write a sentence</td>
<td>• Sentence starters</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Assistive technology</td>
<td></td>
<td></td>
<td>• Word bank with adjectives</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Alphasmart)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Adapted writing utensils</td>
<td></td>
<td></td>
<td></td>
<td>• Combine sentences into a paragraph</td>
</tr>
<tr>
<td></td>
<td>• Adapted paper</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Voice recorder</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Magazine pictures</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Word processor</td>
<td></td>
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</tr>
</tbody>
</table>
by the music
selection ("free
write").

| 2. Grammar. | • Adapted writing utensils | • Provide correct sentence | • Write name; Type a sentence
| All students have three minutes to complete a grammar exercise by editing a passage that is projected in the front of the classroom. | • Adapated paper | • Amanda will type the sentence on her Alphasmart (and share, as needed) | • Tell John # of errors to locate a complete sentence
| • Voice recorder | • Highlighters | • Peer tutors / paired learning | • Tell John what errors exist (e.g., spelling, capitalization, punctuation)
| • Magazine pictures | • Word processor | • Peer tutors / paired learning | • Identify and add adjectives

3. In class | • Copies of notes | • Slot notes | • Answer literal | • Slot notes | • Answer
<table>
<thead>
<tr>
<th>lecture and note taking.</th>
<th>provided to students</th>
<th>(Amanda is given notes that have key words missing for her to fill in)</th>
<th>comprehension questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>The teacher describes assignments, lectures the class about the novel, or teaches new concepts to the class.</td>
<td>Adapated paper and writing utensils</td>
<td>Word processor</td>
<td>White board (Teacher writes key words, events on the board)</td>
</tr>
<tr>
<td>Students take notes.</td>
<td>Copy what teacher writes on the board</td>
<td>Select a picture (e.g., characters, places) from an array to demonstrate listening</td>
<td>Story squares (draw picture sequences) as listen</td>
</tr>
<tr>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
4. **In class reading.**

The teacher reads aloud to the class, or calls on students to read aloud sections of the novel.

- Colored overlays or rulers
- White board (Teacher writes key words, events on the board)
- Enlarged text
- Paper to draw key events read.

**Comprehension**

- Copy what teacher writes on the board
- Priming—prepare ahead of time a passage
- Amplification—Amanda will read by playing a digital recording
- Find and highlight sight words in the novel (using
- Read high frequency words
- Story squares (draw picture sequences) as listen
- Select emotion—how do you, character feel after reading this
- Answer comprehension questions
- Read at 4th grade level

- Copy what teacher writes on the board
- Select emotion—how do you, character feel after reading this
- Answer comprehension questions
- Read at 4th grade level
transparency paper)

• Create a dictionary of sight words (based on listening to novel)

• Use of book box

5. In class writing.

The teacher provides a writing prompt for students to:

- Adapted paper and writing utensils
- Word processor
- Magazine pictures
- Peer tutor
- Cloze writing

- Use of word bank
- Use of assistive technology
- Peer tutor
- Cloze writing

- Dictate and type sentence
- Read sight words

- Use story envelopes to sort characters, problems, solutions, and settings
- Write complete sentences
respond to, or

time to practice

new literary

techniques or

editing.

• Word bank procedures

• Dictate and copy

• Use of modified book

• Label makers with pre-printed words to fill in worksheets

• Make chapter summaries (with pictures)

• Use modified novel

• Provide topic and/or length supports (e.g., visual representation of how much to write)

• Use of graphic organizers (pre-made that he will fill in)
6. **Wrap-Up.**

The teacher describes homework, long-term projects, and upcoming exams.

- A planner or calendar to note assignments.
- Label makers to fill in homework in large-print planner.
- IEP goal to write name.
- IEP goal to read sight words.
- Copy homework from board.
- Teacher signs off homework is copied correctly.

*(Social and communication goals)*

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**Figure 3. Class Routines with General and Specific Adaptations and IEP goals.**
Teacher: ___________________________ Week of: ___________________________

Class: ___________________________ Student(s): ___________________________

Subject / Skills you will be covering next week (include chapters, topic, and any worksheets you will be using)

Tests you will be having next week:

Date:

Chapter or skills:

Study Guide / Worksheets:

Long-Term Reports / Projects

Due Date:

Schedule Changes next week (Field trips, assemblies, etc)

Concerns? / Comments?

Figure 4. Teacher Talk Sheets.
<table>
<thead>
<tr>
<th>Picture Based Version</th>
<th>Lower Readability Version</th>
</tr>
</thead>
</table>

**Jonas rode his bike very fast.**

<table>
<thead>
<tr>
<th>&quot;They acted like animals.&quot; This means they were rude and messy.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father asked, “Where were the visitors from?”</td>
</tr>
<tr>
<td>Lily said, “I can’t remember. They were from another community. They had to leave early, and they had lunch on the bus.”</td>
</tr>
<tr>
<td>Mother nodded in agreement. “Do you think they had different rules at their community? And so they didn’t know what your rules were?”</td>
</tr>
</tbody>
</table>

*Figure 5. Modifications to “The Giver.”*

*Figure 6. Book box for “The Giver.”*