

## P-4: Differentiate your plans to fit your students

### Readiness and Achievement Data

“Readiness” refers to a child’s current performance level (lack of basic arithmetic skills, for example). Differentiation expert Carol Tomlinson explains simply, “Students learn better if tasks are a close match for their skills and understanding.” If a learning task is way beyond students’ reach, they will not have much motivation to try. (Ideally, you should teach at the nexus of challenge and ability in order to develop students’ belief in the power of hard work.) To determine the appropriate reach for each student:

#### Understand your students’ cognitive and developmental levels

Primary Grades (K-3)

Upper Elementary (Grades 3-6)

Junior High School/Middle School (Grades 7-9)

High School Students (Grades 10-12)

Use diagnostic assessments to determine knowledge-specific academic readiness

Use your progress tracking system to help identify needs

Make data-informed adjustments to plans

Strategies to respond to varying readiness levels

### How to Determine Readiness

<p><b>Understand your students’ cognitive and developmental levels</b></p>	<p>Gauging student readiness requires you to have at least a basic knowledge of your students’ cognitive development. Cognitive development theory helps explain how students’ understanding, learning, and memory develop and change as students grow older. For more on Cognitive Development Theory, see below this table.</p> <p>Note: Not all students will necessarily be at the same cognitive and developmental levels. Diagnostic assessments will help provide a clearer sense of individual students’ levels.</p>
<p><b>Use diagnostic assessments to determine knowledge-specific academic readiness</b></p>	<p>Give a test before you teach content to assess students’ beginning knowledge and skill levels.</p> <p>To learn more about creating or obtaining quality diagnostic assessments, visit the P-1 page.</p>
<p><b>Use your progress tracking system to help identify needs</b></p>	<p>Your progress tracking system allows you to know which students have mastered which objectives. It is a crucial tool for supporting students at different performance levels since it allows you to pinpoint some of the areas of improvement in which each of your students need increased practice or a different instructional approach.</p> <p>To learn how to create or obtain a tracking system, visit the P-1 page. To learn how to track effectively, visit the E-6 page.</p>
<p><b>Make data-informed adjustments to plans</b></p>	<p>For students who have already mastered some of the upcoming content: devise for them a more advanced* or more enriching course of study. For students who have not mastered all prerequisite content: teach them the prerequisites they need, and as necessary, create alternate coursework that simplifies—without “dumbing-down”—the material. Retain the key concepts and ideas, but find effective ways of facilitating comprehension without</p>

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overwhelming or overreaching.

Keep in mind there are judgments to make. If, for example, you're teaching science, you wouldn't want students' low reading levels to get in the way of grasping the scientific concepts (but you can't postpone teaching science content to work with students until their reading levels improve two grade levels). But if, for example, you're teaching math, and students' lack a prerequisite skill (e.g., you're about to teach proportions but some students struggle with simplifying fractions), you would in many cases teach that prerequisite skill before starting your planned content.

Analyze incoming data and be willing to act on that information by changing plans to most efficiently meet individualized student goals. Strong planners constantly evaluate the implications of new data for their plans.

To determine the appropriate reach for each student, analyze student data (by assessing performance on diagnostics and subsequent assessments), and use this data to inform your differentiation decisions. This performance data can be used to differentiate:

- Content (what you teach)
- Process (how you teach)
- Product (how you ask students to apply or show mastery of content)

Example: A teacher in the Mississippi Delta remembers how diagnostic data and periodic assessments of his students drove his planning process to maximize instruction for each of them:

After I completed my beginning-of-the-year reading diagnostic, it was obvious that I would need to differentiate my instruction. I broke my students into four different guided reading groups based on their initial diagnostic results. I knew that one group would need to focus more on phonemic recognition, another on comprehension strategies, and still another on the structure of a non-fiction story, and so on. Each week, I would complete a running record with my students to determine if they needed to move to a more challenging group or address one of their deficiencies one-on-one with me. This meant more planning than if I had used basal readers, but I was guaranteed that my kids were working purposefully toward our goal of raising their reading level by 1.5 grade levels.

*\*Important Note: The degree of difficulty will be relative. An advanced student completing more complex work is not working "harder" than a struggling student completing more straightforward work. But remember that low level skills must be mastered before students can advance to the next level.*

### Cognitive Development Theory

Another way to differentiate your instruction is by paying close attention to your student's cognitive and developmental levels. Cognitive development theory is a set of models by which we segment and categorize the characteristics of students at different stages in their development. Some familiarity with cognitive development is important to you as a teacher making instructional and management decisions, and it will introduce you to the typical track your students' readiness and development might follow.

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A student's developmental level plays a significant role in how the student perceives information, relates to others, and manages the working of his or her body. Depending on their developmental stage, students may respond better to certain ways of approaching material. They may or may not have the physical, cognitive, or emotional capacity to complete certain tasks effectively at any particular time, thus requiring you to adjust your approach. For example, children ages 6-8 lack strong near-vision, making it important to provide them with large print, and making copying from the board difficult. Nine to 11-year-olds tend to be pre-occupied with the fear of being seen as different from their peers, making it important for the teacher to be sensitive to singling students out. By understanding your students' physical, cognitive, social, and emotional stages of development, you will be able to more accurately gauge the appropriate level and type of instructional activities.

We provide only the briefest overview of children's cognitive, physical and social development. The core notion of cognitive development is that children develop skills and abilities in more or less predictable sequences. While not all children develop at the same rate, they do all pass through common phases of cognitive, physical and social development.

Some important background (adapted from Jeanne Ormrod's (2002) Educational Psychology: Developing Learners):

- At different ages, children think in different ways. Generally speaking, children become increasingly capable of handling more complex and abstract ideas. For example, younger children may have difficulty interpreting figurative language. And, over the course of adolescence, students can generally handle more and more sophisticated problem solving.
- Challenging student thought promotes cognitive development. Pushing the rigor of students' cognitive experiences affects students' general cognitive development. This idea encourages teachers to know their students' cognitive comfort zone and to teach just beyond that comfort zone. (Be vigilant that your efforts to "challenge" aren't overwhelming or frustrating your students.)
- Healthy social interactions also promote cognitive development. Students must have many opportunities to share their ideas, perspectives, and beliefs with peers and adults. All children—from elementary through secondary school—need social interactions to grow and develop.

We will now highlight the cognitive development of students in different grade levels. These lists offer mere generalizations. It is impossible to say with any certainty that all 10-year olds have any particular characteristic, other than being ten years old. It is difficult if not impossible to define an eight-year old as "average" or "normal." And yet, knowing what is "typical" is helpful to a teacher designing a classroom for academic achievement. A whole range of factors, including developmental differences, environmental differences, and children's personalities have a significant effect on whether a student matches the generic list of characteristics for his or her age. A teacher should, therefore, expect exceptions.

### **Cognitive Development Theory: Primary Grades (K-3)**

Children in these grades typically experience rapid conceptual and language development as they learn to read and write. In terms of their cognitive development, they tend to be literalists, still developing the ability to think abstractly. As a result, concrete ideas and objects are most appreciated and understood.

In terms of physical development, there is wide variation, even within the same grade. They are rapidly refining gross motor skills and more slowly refining their fine motor skills. In younger grades, girls are often ahead of boys in fine motor skills and language. Children between the ages of five and nine may have high amounts of energy relative to the rest of us, which may translate into a short attention span.

Socially, these children are developing independence and gender identity. Play, in its many forms, is highly significant for these younger children. Generally speaking, much of children's social energy is focused on pleasing adults.

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There are important changes going on in the minds of children from kindergarten to third grade. At some point, students develop the ability to see situations from others' perspectives, a task that is often difficult before second grade. Logical thinking becomes more and more attainable during these primary school years.

The table below offers some concrete suggestions for this age group.

Suggestions for Primary Grade Teachers		
<b>Cognitive Development</b> <i>The teacher should:</i>	<b>Physical Development</b> <i>The teacher should:</i>	<b>Socio-emotional Development</b> <i>The teacher should:</i>
<ul style="list-style-type: none"> <li>▪ Use concrete examples</li> <li>▪ Make directions explicit and precise</li> <li>▪ Provide ample practice and language</li> <li>▪ Use lots of modeling</li> <li>▪ Attach language symbols to concrete experience</li> <li>▪ Plan lessons that are sensitive to activity levels and attention spans</li> <li>▪ Always have concrete references for abstract concepts, including rule (abstract rules may have little meaning when Michael discovers that Sheena has his toy)</li> <li>▪ Incorporate lots of language in all activities</li> <li>▪ Provide opportunity for student interactions</li> <li>▪ Encourage student initiatives</li> <li>▪ Make use of songs,</li> <li>▪ Puppets, and art work</li> </ul>	<ul style="list-style-type: none"> <li>▪ Limit activities in which students compete on the basis of size and physical strength</li> <li>▪ Provide play areas and equipment for running, climbing, and jumping</li> <li>▪ Involve students in activities like coloring and cutting</li> <li>▪ Provide "cool down" time after playground activities</li> <li>▪ Be aware of helping students grip pencil correctly; focus on handwriting instruction</li> </ul>	<ul style="list-style-type: none"> <li>▪ Encourage and reinforce independence and initiative</li> <li>▪ Avoid sex role stereotyping</li> <li>▪ Provide opportunities for cooperative activities</li> <li>▪ Arrange lessons to ensure high degree of student success</li> </ul>

### Cognitive Development Theory: Upper Elementary (Grades 3-6)

The transition to upper elementary school, which some might say occurs at third grade, is marked by the enhanced ability to perform logical operations with concrete materials, such as math manipulatives. In the later elementary grades, children begin using abstract concepts more adeptly, but still do so rarely, through rudimentary algebra, for example. Meanwhile, children's communication skills, both verbal and written, are rapidly improving. Teachers report that during the third, fourth, and fifth grade, differences in cognitive styles, including learning disabilities, become more pronounced and recognizable.

Upper elementary students experience slow and steady physical growth and become increasingly concerned with physical looks, coinciding with their social inclinations to start looking to peers as the key locus of influence instead of adults. Sometime toward the end of intermediate grades, some students, more often girls at this age, experience "growth spurts" with the onset of puberty. Physical fitness is important at this age.

Issues of social and academic status increasingly dominate the social lives of upper elementary students. These students are developing a sense of academic self-worth that usually endures.

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The table below offers some concrete suggestions for this age group.

Suggestions for Upper Elementary Teachers		
<b>Cognitive Development</b> <i>The teacher should:</i>	<b>Physical Development</b> <i>The teacher should:</i>	<b>Socio-emotional Development</b> <i>The teacher should:</i>
<ul style="list-style-type: none"> <li>▪ Provide a wide variety of concrete experiences for learning (using objects to learn adjectives, etc.)</li> <li>▪ Encourage conversations about abstract concepts and operations</li> <li>▪ Continue to use concrete manipulatives</li> </ul>	<ul style="list-style-type: none"> <li>▪ Promote appropriate eating habits</li> </ul>	<ul style="list-style-type: none"> <li>▪ Create learning experiences that lead to success through work and effort</li> </ul>

### Cognitive Development Theory: Junior High School/Middle School (Grades 7-9)

Students' cognitive skills are experiencing qualitative changes as they become fully able to think abstractly, systematically, hypothetically, and deductively. They are experiencing significant growth spurts and showing dramatic differences in physical maturation during puberty.

Seventh, eighth, and ninth graders are also experiencing deepening social relationships as they form, and experiment with, personal identity and preferences in dress and appearance. Adolescents continue to look to peers as the key influence in their lives, and mutuality and loyalty of friendships increase. Students group themselves in same-sex friend groups, and some more intimate one-on-one relationships begin to form. Above all, students are concerned with "fitting in."

The table below offers some concrete suggestions for this age group.

Suggestions for Junior High Teachers		
<b>Cognitive Development</b> <i>The teacher should:</i>	<b>Physical Development</b> <i>The teacher should:</i>	<b>Socio-emotional Development</b> <i>The teacher should:</i>
<ul style="list-style-type: none"> <li>▪ Provide extensive opportunities for abstract thinking, including consideration of moral dilemmas</li> <li>▪ Recognize that not all junior high students have fully developed abstract reasoning skills</li> <li>▪ Recognize students may be inclined to challenge authority with newfound skepticism</li> <li>▪ Capitalize on students' fascination with the "gray areas" (e.g., American history is littered with morally questionable</li> </ul>	<ul style="list-style-type: none"> <li>▪ Minimize activities that draw attention to different maturity levels</li> <li>▪ Promote appropriate eating habits and model and encourage fitness</li> </ul>	<ul style="list-style-type: none"> <li>▪ Listen and help students clarify their thinking as they experience the turmoil of identity formation</li> <li>▪ Create classroom systems to provide security of structure while providing freedom for personal expression</li> <li>▪ Create classroom activities that don't require students to "stick out"</li> <li>▪ Be particularly careful not to humiliate students or draw unwanted attention to them</li> </ul>

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episodes)

### Cognitive Development Theory: High School Students (Grades 10-12)

During the last few years of high school, students are generally demonstrating full, adult, abstract reasoning. Most students have reached full physical maturity as well. Students continue to focus on the importance of peer relationships, with male and female cliques interacting, and students show an increasing interest in individual, intimate relationships. Adolescent peer groups during these years tend to be highly correlated with socio-economic status and plans for the future. Sadly, adolescence can be an emotional and psychological roller coaster for some, and psychiatric disorders, while rare, become more prominent (i.e. eating disorders, schizophrenia, and depression).

The table below offers some concrete suggestions for this age group.

### Suggestions for High School Teachers

<b>Cognitive Development</b> <i>The teacher should:</i>	<b>Physical Development</b> <i>The teacher should:</i>	<b>Socio-emotional Development</b> <i>The teacher should:</i>
<ul style="list-style-type: none"> <li>▪ Continue using concrete instructional tools such as charts, illustrations, graphs, and diagrams</li> <li>▪ Start moving students towards higher-order thinking whenever possible by encouraging them to explain how they solve problems</li> </ul>	<ul style="list-style-type: none"> <li>▪ Send messages about healthy body images</li> <li>▪ Learn to recognize and seek help for common adolescent health concerns</li> </ul>	<ul style="list-style-type: none"> <li>▪ Be acutely aware of social pressures and anxieties among students</li> <li>▪ Attempt to ease anxiety about the future by offering assistance about career choices and options for higher education</li> </ul>

### Strategies to Respond to Varying Readiness Levels

Note: some of the examples in the table below are saved in pdf format. Some pdfs will open with documents turned 90 degrees. To straighten, look for the rotate button in the top toolbar, and choose "Rotate Counterclockwise" (the little black arrow on the right). Please note, many pdfs have multiple pages.

<b>Mini workshops to re-teach or extend skills</b>	A short, specific lesson with a student or group of students that focuses on one area of interest or reinforcement of a specific skill.
<b>Tiered assignment/product</b>	<p>The content and objective are the same, but the process and/or the products that students must create to demonstrate mastery are varied according to the students' readiness level.</p> <p>For examples of tiered assignments and products, see the Tools section.</p>
<b>Learning contracts or personal agendas</b>	A contract is a negotiated agreement between teacher and student that may have a mix of requirements and choice based on skills and understandings considered important by the teacher. A personal agenda could be similar, as it would list the tasks the teacher

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	<p>wants each student to accomplish in a given day/lesson/unit. Both learning contracts and personal agendas will likely vary between students within a classroom. Note: these can be used to differentiate content, process, and/or product.</p> <p>For examples of learning contracts and personal agendas, see the Tools section.</p>
<b>Multiple texts differentiating content</b>	The teacher obtains or creates a variety of texts at different reading levels to assign strategically to students.
<b>Jigsaw</b>	Students are grouped based on their reading proficiency and each group is given an appropriate text on a specific aspect of a topic (the economic, political and social impact of the Civil War, for example). Students later get into heterogeneous groups to share their findings with their peers, who have read about different areas of study from source texts on their own reading levels. The jigsaw technique allows you to tackle the same subject with all of your students while discreetly providing them the different tools they need to get there.
<b>Tape recorded materials at different levels differentiating content</b>	Books on tape are purchased or (created by the teacher) so that students can listen to the book being read aloud to them while they follow along in the text. This is often done at a listening station, where tapes of books/information on various reading levels are available.