

Unit 6 Engaging All Learners

*We have become
not a melting pot
but a beautiful
mosaic.*

Jimmy Carter



Chapter 28

How Do I Differentiate Instruction to Meet the Needs of All Learners?

Effectiveness Essentials

- You will find that diverse classrooms are the rule rather than the exception.
- Howard Gardner has identified eight facets of intelligence.
- Differentiated learning describes a set of principles that enable you to meet the broad range of readiness, interests, abilities, talents, and skills in your classroom.
- The three components of instruction that can be modified are the content, the process, and the products.

Teaching is such a complex, unique profession that I can offer only one assurance in this book—you will have a perfectly successful year if all of your students are cloned from one individual of your choosing. I can make this offer knowing that at some time in the sci-fi future, I may have to pay out, but I feel confident at the moment.

Individual Differences

On that first day of school, the individual differences in your class will jump out at you. Gender and physical differences are only the tip of the iceberg. Beneath the surface are students from different socioeconomic strata; students who come from various family configurations; students with special needs, differing interests, and abilities; students with different cultural backgrounds, different languages, different learning styles, and different attitudes toward school. This is not a new phenomenon. Consider that in one-room schoolhouses of the past, teachers had a similar challenge.

Although the statistics in your school may differ from those in the statistics feature at the right, increasingly, you will find that diverse classrooms are the rule rather than the exception. You can look at this new population either as a daunting challenge or as an opportunity to stretch your skills and abilities in new directions while celebrating the multitude of unique individuals relying on you to guide and assess their progress fairly.

statistics

An Elementary School Snapshot

- The total school population is 850.
- 10 percent are African American.
- 44 percent are Latino.
- 4 percent are Native Americans, Pacific Islanders, and Asians.
- 42 percent are Anglo.
- 560 children are free-lunch recipients.
- 290 students are recipients of Aid for Families with Dependent Children (AFDC).
- 36 are identified as gifted.
- 193 are English language learners.
- 120 have individual education plans (IEPs).
- A special day class of students with learning disabilities is mainstreamed into “regular” classes for part of the day.
- Some children are homeless.

Diversity Now



statistics

One-fifth of U.S. children under age 18 either are immigrants or are members of an immigrant family (Coles, 2000).

Myth Buster!

We should always teach to the middle.

In reality, good teachers demonstrate enthusiasm for all students' ability levels. Our passion for our role as teachers is evident and contagious. Students respond to energetic and motivating instructors. While it is easier to prepare lessons for one general group, all students, regardless of ability, deserve high standards and equal representation. In California a teacher must expect the make-up of a class to include RSP (resource) students,

English language learners, at-risk students, and non-readers. Identifying the needs of each individual not only ensures that students receive a quality education, but also upholds the integrity of the teacher. We are teachers of all students, not just a select few.

*Ingrid Munsterman, Principal
Ruth Grimes Elementary School
Colton Joint Unified School District
Bloomington, California*

The Theory of Multiple Intelligences

One way to understand how your students differ from each other and what each brings to the classroom is through Howard Gardner's theory of multiple intelligences. Gardner's work (1993, 2000) proposes that instead of a single, fixed intelligence, there are actually eight facets of intelligence. In other words, we are all smart, but in different ways. The exciting part of this theory is that teachers can organize learning to take into account the differing intelligences in the classroom.

Visual/Spatial

Students with visual/spatial intelligence excel at spatial relationships and learn visually. They enjoy drawing, creating, illustrating, and learning from photographs, videos, and other visual aids.

Verbal/Linguistic

Students who have strength in verbal/linguistic intelligence learn best through the language arts: reading, writing, speaking, and listening. These constitute the traditional methods of instruction.

Mathematical/Logical

Students who show evidence of mathematical/logical intelligence demonstrate skill with numbers and problem solving. They think abstractly and analytically. They do well when instruction is logically sequenced.

Bodily/Kinesthetic

Students who exhibit bodily/kinesthetic intelligence have good motor skills and are coordinated. They learn best through hands-on activity: games, movement, role-play, and building and manipulating things.

Musical/Rhythmic

Students who excel in musical/rhythmic intelligence learn through songs, patterns, rhythms, instruments, chants, listening to music, and other forms of musical expression.

Intrapersonal

Students who shine in intrapersonal intelligence are introspective and in touch with their feelings, values, and beliefs. They need time alone to reflect on their learning and how it relates to them.

Interpersonal

Students who demonstrate interpersonal intelligence are outgoing, sociable, and people-oriented, and they learn best working in groups or interacting with others.

Naturalist

Students whose forte is naturalist intelligence (added in 1996 to the original seven) demonstrate an ability to find patterns in the natural world and the plant and animal life therein. They learn best through classifying and visual discrimination activities, especially when environmental education is involved. Field trips and gardening are two activities they enjoy!



Multiple Intelligences

A first-grade teacher demonstrates and discusses how she uses multiple intelligences in a unit on simple machines.

After viewing the video clip, think of an upcoming unit for your grade level or subject matter. Create activities that tap into the multiple intelligences defined here. If you have difficulty, consult some of the works by Howard Gardner listed in the references at the end of this unit. Here are some online multiple intelligences inventories. It would be fun to take them yourself and then administer them to your students.

<http://www.ldrc.ca/projects/miinventory/mitest.html>

<http://surfaquarium.com/MI/inventory.htm>

An Example

Imagine your class is studying desert environments. Here are some ideas for activities that would afford opportunities for students to activate the eight intelligences. You can provide your students with a contract that requires that they complete a certain number of activities, each representing a different intelligence to expand their repertoire.

Visual/Spatial

- Paint or draw a desert scene.
- Create a desert collage.
- Watch a video about the desert.
- Construct a desert diorama.

Verbal/Linguistic

- Read a factual book about the desert and write a book report.
- Write a coyote trickster tale after reading some examples.
- Create a desert crossword puzzle using desert vocabulary.
- Write a research report about a desert animal.

Mathematical/Logical

- Design and conduct an experiment to see how much water a small cactus plant needs.
- Classify and categorize the plants found in the desert.
- Locate three deserts on a U.S. map and specify the longitude and latitude of each.

- Make a graph of annual rainfall in 3 deserts: Gobi, Kalahari, and Sahara.

Bodily/Kinesthetic

- Pantomime desert animals and have the class guess what you are.
- Feel and describe desert plant specimens.
- Fill a bottle with colored sand that you have dyed in desert colors.
- Create a game or sport that can be played in the desert and teach it to the class.

Musical/Rhythmic

- Write a song or jingle about the desert.
- Listen to the theme music from "Lawrence of Arabia."
- Make a list of sounds you might hear at night in the desert.
- Write a rap about the desert.

Intrapersonal

- Describe how you would feel if you were stranded on a desert island and saw a ship in the distance.

- Should the desert tortoise be a protected animal? Why or why not?
- Write a poem about how the desert makes you feel.
- Would you rather live in the desert in a big house or by the sea in a small one?

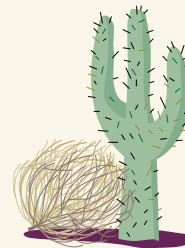
Interpersonal

- Interview someone who has lived in or visited a desert to get his or her reactions to the experience.
- Debate: The desert tortoise should or should not be protected.
- Write a group report comparing three deserts: Gobi, Sahara, Kalahari.

- In a group, choose a desert and make a desert mural including plants, mammals, insects, birds, and reptiles.

Naturalist

- Make a collection of desert fauna and flora using pictures from the Internet.
- Sort the pictures into categories, as a scientist would do.
- Learn the scientific names of at least ten desert plants.
- Research Death Valley on the Internet through the National Park Service.



DESERT CONTRACT: Name _____

Choose 3 activities

Pantomime a desert animal	Create a desert diorama	Write a coyote trickster tale	Create a desert mural with 3 others
Listen to Lawrence of Arabia music	Classify desert plants	Learn the scientific names of 10 desert plants	Should the desert tortoise be protected?

Figure 28.1

Multiple Intelligences Sample Contract



Strategies for Teaching Diverse Learners

A teacher tries to tie instruction to personal experiences of students in order to meet the needs of her diverse learners. After viewing the video clip, what strategies did you see demonstrated? Which strategies would you use to connect learning to your students' experience?

Apply It!

If you feel very brave, you can design multiple-intelligence-based activity centers and require your students to choose centers with the directive that they do at least one activity in each center. Make color-coded folders with center names on them, and have students choose a folder and activities that correspond to strengths and/or intelligences that they want to develop. You can name your centers after famous people who exhibit the intelligences:

Shakespeare Center—Verbal/Linguistic	Picasso Center—Visual/Spatial
Einstein Center—Logical/ Mathematical	Tiger Woods Center—Kinesthetic
Paul McCartney Center—Musical/Rhythmic	Thoreau Center—Intrapersonal
Jacques Cousteau Center—Naturalist	Oprah Winfrey Center—Interpersonal

Differentiated Instruction

Differentiated learning describes a set of principles that enable you to meet the broad range of readiness, interests, abilities, talents, and skills in your classroom. The principles of differentiated instruction as articulated by Tomlinson (1999) provide another perspective on meeting the diverse needs of your students.

Core Knowledge

Teachers need to focus on the core knowledge of each subject area. The core knowledge can be the concepts, skills, and principles that are required of each student, and are also known as the essential standards.

Formative Assessment

Teachers need to continuously assess where students are vis-à-vis what they need to learn. The assessment involves not only readiness but also interests and how that student learns best. This is known as formative assessment.

Modifying Instructional Components

The three components of instruction that can be modified based on a teacher’s ongoing assessment are the content, the process, and the products. You can modify content by choosing the way you “input” it. You can simplify for those who are

Figure 28.2

Differentiating Instruction Planning Form

Differentiating Instruction Planning Form

Curriculum/Subject Area _____

Standard(s) Addressed _____

Date _____

Period _____ Teacher _____

	Content Input	Process	Products
Student 1			
Student 2			
Student 3			
Student 4			
Student 5			



Strategies for Adapting Instruction

A language arts teacher adapts instruction for a student with a hearing impairment. After viewing the video clip, think about a particular lesson you have taught recently and adapt it for a low achiever, a high achiever, a student with a learning disability, a student with physical, emotional, or behavioral challenges, or any other student with special needs you are currently teaching. Use the template shown in Figure 28.2.



Teacher Talks . . .

In my third year of teaching general music, I was given a class of children with cerebral palsy to teach. They were all kindergarten age. They were all in wheelchairs, except one. I think there were about 6 children all together. It was quite a challenge to come up with things they would enjoy and could feel success in accomplishing. One activity we did first thing was to warm up their voices. We would act like we were chewing food and humming at the same time. While they were doing that, they would move their arms up and down to the high and low of their voices. This was something all of them could do, except one . . . Aubrey. Her disability was more severe than the others. She could only make a couple of sounds to denote yes and no. She would sit and sometimes the teachers who brought the children would make

(continued on facing page)

not yet ready and enrich the content for those who have mastered it. Some ways of varying the “input” include using:

- varied level text material
- supplementary materials
- varied audio-visuals
- interest centers
- varied time allotments
- technology of all sorts
- varied instructional strategies
- cooperative learning
- varied community resources, such as speakers and field trips

Some of the ways you can modify the process are by helping students

Providing for Every Student

You will have students in your class who need extra support in one or more areas. Following are ways to modify lessons for higher and lower achievers and for students with unique challenges.

Students with Learning Difficulties

You can support your students with learning difficulties by teaching to their strengths and making some simple accommodations in your planning, instruction, and assignments. The following modifications are straightforward and easy to

make the learning experience relate to their needs and interests and by focusing attention on multiple intelligences.

You can make the material more meaningful (the process) when you include some of the strategies that were covered in this unit. These strategies include graphic organizers of all sorts, group investigation, classifying and sorting, cooperative learning, reciprocal teaching, advance organizers, and analogies and metaphors.

You can modify the product by designing product options for your students based on Gardner’s theory of multiple intelligences or tiered assignments. Students can be given a list of options to show their mastery of the content and you can assess them based on predetermined criteria or rubrics.

implement, requiring very little extra effort on your part.

- Allow time for plenty of practice.
- Conduct student-teacher conferences.
- Break assignments into smaller, manageable parts.
- Use peer tutors.
- Underline important directions, key words.
- Give shorter assignments, and allow more time for completion.
- Tape-record stories and use other technologies.
- Give immediate feedback and lots of encouragement.
- Use large type on worksheets.
- Keep directions simple, write them out, or give them orally.
- Provide many opportunities for success.
- Provide low-reading-level, high-interest reading material geared to the student's interests.
- Use visuals and manipulative materials when available.
- Use cooperative learning strategies.
- Watch for fatigue and boredom.

Higher Achieving Students Who Need Enrichment

It is also probable that you will have students in your class who excel in one or more areas, especially if you subscribe to the theory of multiple intelligences. For these students, more of the same is not acceptable.

- Encourage the reading of library books and perhaps totally individualize the reading and/or math program.
- Encourage individual research, construction, or science projects geared to the students' abilities and interests, for extra credit.
- Provide opportunities to sit in on special unit activities in other classes.
- Introduce new and challenging materials, games, puzzles, and brainteasers.
- Have individual conferences with the student to guide his or her progress.
- Encourage creative responses to stories (e.g., writing to the author, creating a play script from the story, etc.).
- Consider modifying assignments based on multiple intelligences.

her arms move while we were doing this activity and sometimes not.

One day, six months into the school year, we started our warm up as usual and as I looked around the room, and there was Aubrey, on her own, moving her arms up and down with the others. I pointed it out to the teachers and we were all very excited. That moment had a deep impact on my life as a teacher and a musician. And 19 years later it still inspires me.

*Deborah Lichfield
Middle and High School Music
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(As seen on <http://www.LessonPlansPage.com>)

statistics

- Nationally, 13 percent of public school students had a Special Education individualized education program (IEP) in 2001–2002.
- Among those states reporting students with IEPs, the proportion ranged from 10 percent in Colorado to 20 percent in Rhode Island.
- Specific learning disabilities, speech or language impairments, mental retardation, and emotional disturbance continued to account for the majority of students served (Report to Congress, 2002).

<http://www.ed.gov/about/reports/annual/osep/2002/index.html>

Teacher Talks . . .

Teaching isn't just about what you teach your students, it's also about what they teach you. When you choose to become a teacher, it brings you into a world of young people who, if you give them a chance, will open up their hearts, share their fears and loves, and make every day special. I have cried with a young woman who had anorexia; visited four kids who were all in mental hospitals at the same time and just wanted a candy bar, a teen magazine, and a hug; witnessed young women with hearing impairments learn to communicate with a grocery store cashier so that eventually they could shop independently; and watched middle school students celebrate "moving on" to high school with the confidence and poise of young men and women. I admit it, I cry every year when I see who they've become. I can't imagine doing anything else with my life.

*Laurie Wasserman, Special Needs Teacher
Andrews Middle School
Medford, Massachusetts*

(Quoted on www.EducationWorld.com)

Students with Special Physical, Emotional, or Behavioral Needs

Some students in your class may need some differentiated and/or individualized attention because they have special needs related to specific physical, emotional, or behavioral challenges. Individual differences may point to a need for further testing. If you suspect that a student is either gifted or has learning disabilities, notify your principal, who will outline for you the legal requirements for arranging more intensive testing by the school psychologist, nurse, or special education resource teacher. If you have student in your class with behavioral or physical challenges, you will have a great deal of help from the special education team.

An Example

I had a student with a hearing impairment in my methods class last year, and a student assistant was assigned to sign for him during class. I was very nervous about how I should modify my instruc-

tion. I consulted the Office of Students with Disabilities and they offered some simple guidelines such as using the board more, looking at the student when I was talking because he read lips, and writing out all directions for him. That quarter I did some of the best teaching I have ever done! The principles that guided me turned out to benefit all the students. If you are fortunate enough to have students with special needs in your class, seek advice and you will be the better teacher for the experience.

Avoid It!

Although the number of students in your classroom who fall within the norm may already overwhelm you, direct your attention to those who need your extra effort. Do not hesitate to seek out your resource teacher for suggestions and strategies that can be tailored to the students you have in mind.