On Target:

Strategies That Differentiate Instruction

Grades 4 - 12

ESA Regions 6 & 7

Dear Educators,

Middle school and high school teachers are often caught up in the dilemma of weighing content area expectations against the need to motivate students to become confident, curious learners. Differentiated instruction is an approach that addresses student needs and preferences while also respecting the high demands of accountability in today's world of standards and standardized testing. Differentiation embraces many of the processes, strategies, and approaches supported by best practice and research. While not confined to a single content area or a specific grade level, the differentiated approach to classroom instruction is one that can be applied to any content area at any grade level.

Teachers who differentiate are teachers who consider student learning preferences, abilities, styles, and interests. At the high school level, teachers can implement a variety of processes to meet the learning attributes and characteristics of the diverse student population in their classrooms.

Kathie F. Nunley, author and creator of the Layered Curriculum® approach to differentiation, defines differentiated instruction in a simple and straightforward manner: "Differentiated instruction is simply providing instruction in a variety of ways to meet the needs of a variety of learners" (xvii). Each differentiated approach described in *On Target: Strategies That Differentiate Instruction, Grades 4-12* is an attempt to provide teachers with ideas and strategies to incorporate into their subject areas. The suggestions are not intended to add additional steps to their content; rather these suggestions are simply ways for content teachers to meet the diverse needs of the students they connect with each and every day in their classrooms.

On Target: Strategies That Differentiate Instruction, Grades 4-12 is the ninth and final booklet in the *On Target* series of booklets compiled by South Dakota's Education Service Agencies with support from the South Dakota Department of Education. Previous booklets in the *On Target* series are available through your ESA or at the following ESA 6 & 7 website: http://www.sdesa6.org/content/projects.htm.

On Target booklets include the following titles:

- *On Target: Reading Strategies to Guide Learning*
- *On Target: Strategies to Help Struggling Readers*
- *On Target: Strategies to Improve Student Test Scores*
- *On Target: Strategies to Help Readers Make Meaning through Inferences*
- *On Target: Strategies to Build Student Vocabularies*
- *On Target: More Strategies to Guide Learning*
- *On Target: Bringing Writing into Content Area Classrooms*
- *On Target: Strategies That Differentiate Instruction, Grades 4-12*

June Preszler
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Source:

Nunley, Kathie F. *Differentiating the High School Classroom: Solution Strategies for 18 Common Obstacles.* Thousand Oaks, CA: Corwin, 2006.

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Differentiation Basics

June Preszler
TIE Education Specialist

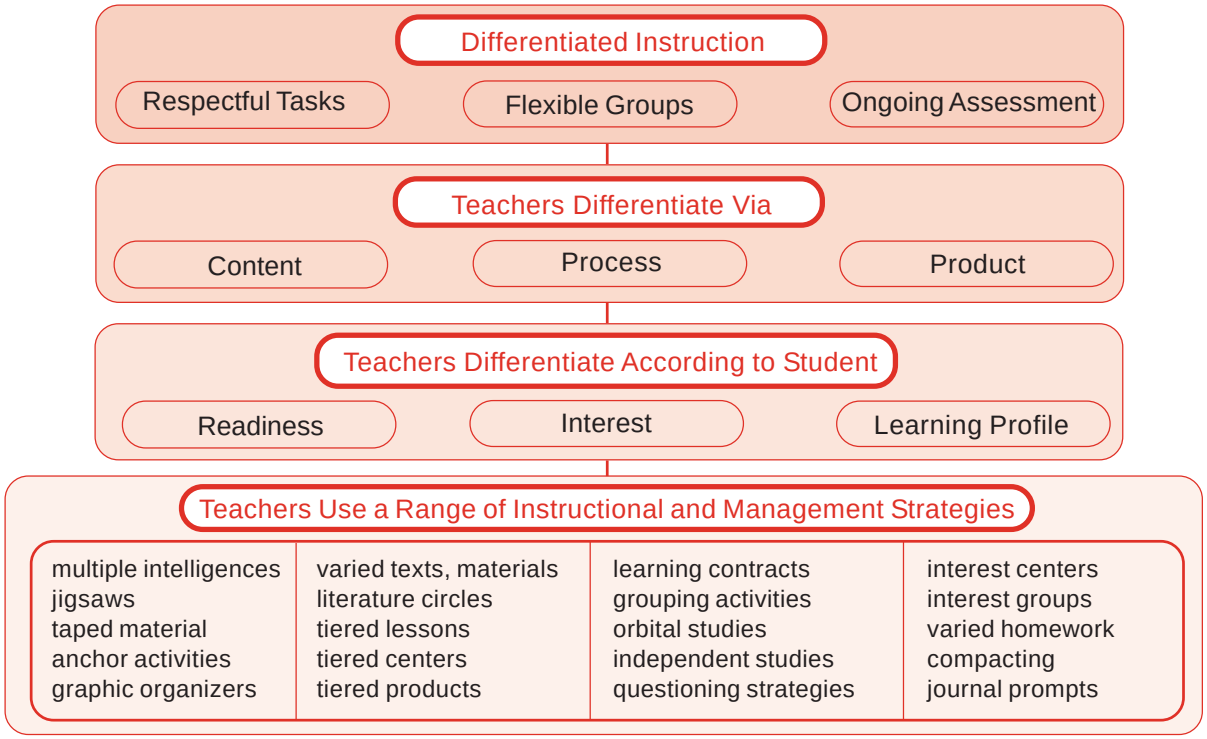
Before you begin, there are a few (well, maybe more than a few) basic elements to differentiation that will make the journey smoother for you and your students.

Remember, you are probably using various aspects of differentiation right now in your classrooms. But are you being explicit about the ways in which you differentiate? In others words:

- Are you conscious of the efforts you make to meet the needs of all your students?
- Do you keep track of the ways you address individual learning styles and preferences?
- Do you arrange classrooms and structure lessons to increase student motivation?
- Whenever possible, do you provide students with options and choices regarding how they are going to learn and how they are going to show their learning?
- Do you vary the ways in which you assess student learning?
- Do you use cooperative learning and grouping strategies to increase student participation?

Odds are that you already incorporate some or most of these aspects of differentiation in your classrooms. As you venture into the world of differentiated instruction, look at what you are already doing. Then consider the principles and strategies provided in this booklet. Select and use those that complement the efforts you already make to meet the diverse needs of your students. Keep in mind that differentiation shouldn't be something that complicates your day or life. Although additional work and effort are required up front, the payoff comes later in the lesson of study or even in the school year. The payoff comes when students achieve more in your classrooms, become more involved in classroom discussions, smile more during their school days, and, yes, even score higher on various assessments.

In *The Differentiated Classroom: Responding to the Needs of All Learners*, Carol Ann Tomlinson offers the following framework for helping teachers differentiate in the classroom (15).



Source:

Tomlinson, Carol Ann. *The Differentiated Classroom: Responding to the Needs of All Learners.* Alexandria, VA: ASCD, 1999.

Content, Process, and Product

Once you've decided to include differentiation in your classroom routines, you are confronted with the question: Okay, so what exactly can I differentiate? Differentiation usually includes one or more of the following areas:

- **Content (what students learn)**
  - Includes curriculum topics, concepts, or themes
  - Reflects state or national standards
  - Presents essential facts and skills
  - Differentiates by preassessing student skills and understandings, then matching learners with appropriate activities
  - Provides students with choices in order to add depth to learning
  - Provides students with additional resources that match their levels of understanding

- **Process (how students learn)**
  - Refers to how students make sense or understand the information, ideas, and skills being studied
  - Reflects student learning styles and preferences
  - Varies the learning process depending upon how students learn

- **Product (the end result of student learning)**
  - Tends to be tangible: reports, tests, brochures, speeches, skits
  - Reflects student understanding
  - Differentiates by providing challenge, variety, and choice

Author Carol Ann Tomlinson offers the learning environment as a fourth way to differentiate. She suggests that the learning environment is the "weather" of a classroom and includes the classroom's operation and tone. Class rules, furniture arrangement, lighting, procedures, and processes all affect the classroom's mood.

Sources:

Heacox, Diane. *Differentiating Instruction in the Regular Classroom: How to Reach and Teach All Learners, Grade 3-12.* Minneapolis: Free Spirit, 2002, pages 10-11.

Tomlinson, Carol Ann. *Fulfilling the Promise of the Differentiated Classroom: Strategies and Tools for Responsive Teaching.* Alexandria, VA: ASCD, pages 4-6.

Know, Understand, and Do (KUD)

A fundamental premise of differentiating instruction is that you, as the classroom leader, have to take steps that guarantee your students will learn what they need to meet curriculum guidelines and state standards.

That means before you begin a unit of study, you need to know exactly what you expect from students. Of course, this is nothing new, but too often it's a simple step we neglect as we instruct our students. One suggestion many practitioners of differentiation offer is the KUD method. As you prepare a unit, explicitly detail exactly what it is you want students to Know (K), Understand (U), and Do (D).

Carol Ann Tomlinson, author of numerous articles and books focusing on differentiation, suggests that only when educators have defined for themselves the outcomes they expect from students, can they begin to effectively develop units of study designed to meet student needs. She says the first step in designing an effective and differentiated unit is to focus. Using KUD helps teachers maintain focus.

Steps:

1. Before beginning any unit, decide what you want students to Know (K), Understand (U), and Do (D). Keep in mind the following elements that differentiate each of these processes.

   Know: (facts, vocabulary, definitions, places, information)
   Example: Multiplication tables

   Understand: (essential truths, principles and generalizations, big ideas of a discipline, I want students to understand that)
   Example: I want students to understand that multiplication is another way to add numbers

   Do: (basic skills, thinking skills, planning skills, uses verbs or phrases)
   Example: Students **solve** problems requiring multiplication.

2. Use the chart as a framework to guide instruction.
3. Prominently display the KUD chart so students know the expectations.

KUD Samples from High School Teachers

Patrick Johner, Todd County High School
Land and Water of North Africa and Southwest and Central Asia, 9th grade unit

K:	Students will know the land and water features of the region.
U:	Students will understand how the region's major rivers are important to the region and why much of the world is economically dependent upon the region.
D:	Students will build a layered-look book on the land and water of the region.

Know, Understand, and Do (KUD)

KUD Samples from High School Teachers

Wendy Larson, Lead-Deadwood Middle School
The Holocaust, 8th grade language arts and social studies unit

K: Students will know the effects of the Holocaust.
U: Students will understand how prejudice can lead to cruel and often unimaginable events.
D: Students will write about the effects of prejudice in a variety of creative/informational formats.

Larisa Bailey, Lead-Deadwood Middle School
Fractions, Decimals, and Percents, 6th grade math

K: Students will know that fractions, decimals, and percents name parts of a whole.
U: Students will understand that a given amount can be named as a fraction, a decimal, and a percent. They will understand that although the name changes, the value of the amount stays the same.
D: Students will convert given number values into a fraction form, a decimal form, and a percent form.

Laura Shuck, Kim Fundaun, & Brooke Kilian, Lead-Deadwood High School
Heredity and Genetics Unit, 9th grade general science

K: Students will know heredity, dominant/recessive traits, Mendel's theory, inheritance, Punnett squares, probability, meiosis, and asexual/sexual reproduction.
U: Students will understand that change is inevitable.
D: Students will do the following: • Predict what a person might look like using the Punnett square; • Draw and explain mitosis and meiosis; • Rate websites; • Classify dominant and recessive traits as they relate to Mendel's pea plants; • Show a model of a DNA strand with a key; • Interview a person whose career or hobby deals with genetics or heredity; • Survey people in the class for their eye and hair color and then chart the results using a pie, line, or bar graph.

Source:
Tomlinson, Carol Ann. "Educators at Work: Differentiating Curriculum and Instruction." *2005 ASCD Annual Conference*. Orlando, FL. 30 March 05-1 April 05.

Tiered Instruction

When teachers tier assignments, they make slight adjustments within the same lesson to meet the needs of students. All students learn the same fundamental skills and concepts but through varying modes and activities. The tiers appropriately challenge students at their ability levels. The teacher's challenge is to make sure all tasks, regardless of the tier level, are interesting, engaging, and challenging. Activities and assignments can be adjusted in any of the following ways:

- Level of complexity
- Amount of structure
- Materials provided
- Time allowed
- Level of independence required
- Pacing of the assignment
- Number of steps required for completion
- Form of expression (letter, essay, report, research paper, short story, speech)

Steps:

1. Identify key concepts, skills, and essential understandings that you want all students to achieve. These elements become the basis for your on-level tasks.
2. Identify how you will cluster groups/activities. Although you can create multiple levels of tiers, keep the number of levels consistent with your group of students. Don't make three tiers if only two groups of students exist in your classroom—those students who are working at grade level and those students who are struggling, for example.
3. Select elements to tier. (See "Six Ways to Tier a Lesson" on page 9.)
4. Create your on-level tier.
5. Next, design a similar task for struggling learners. The task should make adjustments based on student readiness.
6. If needed, develop a third, more advanced activity for learners who have already mastered the basic standard or competency being addressed. Make sure the task actually requires higher-level thinking than the on-level tasks. The advanced tier shouldn't just be more of the same thing.

What Is Tiered Instruction?

Teachers use tiered activities so that all students focus on essential understandings and skills but at different levels of complexity, abstractness, and open-endedness.

By keeping the focus of the activity the same, but providing routes of access at varying degrees of difficulty, the teacher maximizes the likelihood that:

- Each student comes away with pivotal skills and understandings.
- Each student is appropriately challenged.

(Adapted from the work of Carol Ann Tomlinson and Tiered Instruction, a PowerPoint presentation from the Montgomery County Public Schools, Rockville, MD)

Tiered Instruction

Author Bruce Campbell's examples are organized from least complex to most complex (least challenging to most challenging). Keep in mind that when tiering lessons, there is no set number of tiers. There may be as few as two or as many as six tiers, according to Campbell.

Animal Farm Tiers:

1. Describe the novel's basic symbolism.
2. Explain direct correlations between the book and communism.
3. Discuss examples of current human behavior reflected in the book.

Pythagorean Formula Tiers:

1. Apply the formula to simple triangles.
2. Devise a real-life application of the formula and apply it.
3. Identify applications of the formula that are really used in the world of work.

Ancient Greece Tiers:

1. Identify the major dates, battles, and figures in the Peloponnesian Wars.
2. Explain important strategies used in the wars and the resulting effects.
3. Describe the impact the wars had on ancient Greek history.
4. Compare the Peloponnesian Wars with events in world history today.

As you review the tiers, notice that in order for students to accomplish a higher level, they must also have an understanding of the lower levels. For example, in order to compare the Peloponnesian Wars with events in today's world, students need to know the strategies used in the wars and some of the major battles.

Six Ways to Tier a Lesson

- Tier by challenge level (Bloom's Taxonomy)
- Tier by complexity (When you tier by complexity, you address the needs of students at introductory levels as well as the needs of students who are ready for more advanced work.)
- Tier by resources (When you choose materials at various reading levels and complexity of content, you are tiering assignments by resources.)
- Tier by outcomes (Students use the same materials but end products vary.)
- Tier by process (The end products are the same but the ways students arrive at those outcomes may vary.)
- Tier by product (Group by multiple intelligences or learning styles followed by assignments that fit those preferences.)
  (Diane Heacox, *Differentiating Instruction in the Regular Classroom*)

Sources:

Campbell, Bruce. "Using Tiered Activities to Differentiate." *2nd Annual SDE National Conference on Differentiated Instruction: Theory Into Practice.* Las Vegas, NV. 18 July 04-21 July 04.

Heacox, Diane. *Differentiation Instruction in the Regular Classroom: How to Reach and Teach All Learners, Grades 3-12.* Minneapolis, MN: Free Spirit, 2002, pages 91-96.

"Tiered Instruction." PowerPoint Presentation. Montgomery County Public Schools: Rockville, MD. Updated June 05. 26 June 06. <http://www.mcps.k12.md.us/curriculum/enriched/giftedprograms/docs/ppts/TieredInstr.ppt>.

Tomlinson, Carol Ann. *Fulfilling the Promise of the Differentiated Classroom: Strategies and Tools for*

---. *The Differentiated Classroom: Responding to the Needs of All Learners.* Alexandria, VA: ASCD, 1999, pages 83-87.

Wormeli, Rick. *Fair Isn't Always Equal: Assessing & Grading in the Differentiated Classroom.* Portland, ME: Stenhouse, 2006, pages 56-60.

Menus

A menu offers students a way to make decisions about what they will do in order to meet class requirements. A menu could be for a single lesson, a week-long lesson, or even a month-long period of study. Once the teacher has decided on what the essential understandings and/or skills are, she/he can begin to create a menu.

Steps:

1. Identify the most important elements of a lesson or unit.
2. Create an imperative or required assignment or project that reflects the minimum understanding you expect all students to achieve.
3. Create negotiables which expand upon the main dish or imperative assignment or project. These negotiables often require students to go beyond the basic levels of Bloom's Taxonomy. For example, they often include activities that require synthesis, analysis, or evaluation.
4. Create a final optional section that offers students the opportunity for enrichment. The optional section often reflects activities that students can use for extra credit.

Author Rick Wormeli suggests placing the menu options in a restaurant menu style (see below) that could include appetizers, a main dish, side dishes, and even desserts. He suggests the following format.

Appetizers (Negotiables)
- A list of assignments or projects
- Students select one item to complete

The Main Dish (Imperatives)
- An assignment or project that everyone must complete

Side Dishes (Negotiables)
- A list of assignments or projects
- Students select two items to complete

Desserts (Options)
- Optional but irresistible assignments or projects
- Options should be high interest and challenging
- Students choose one of these enrichment options

Sources:

Wormeli, Rick. *Fair Isn't Always Equal: Assessing & Grading in the Differentiated Classroom.* Portland, ME: Stenhouse, 2006, pages 62-65.

---. Workshop Presentation. *2nd Annual SDE National Conference on Differentiated Instruction: Theory Into Practice*. Las Vegas, NV. 18 July 04.

Menus

Todd County teacher, Deanna Brodkorb, adapted Wormeli's menu suggestions to fit the needs of her high school journalism class. Brodkorb included aspects of the Layered Curriculum® approach (see page 7) into her project menu choices. By completing just the Main Dish items students could earn a C. The Main Dish includes the basic information Brodkorb wanted all students to know, understand, and do. Brodkorb adapted the dessert portion and made it a requirement for an A grade.

The Journalism Café

Complete all items to earn a C grade.

- 1 newspaper story that includes a photograph, graphic, or video clip
- Your newspaper story converted into a broadcast story
- 2 PhotoShops, either a continuance of tutorials or original projects
- 4 journals (equal to ½ typed page)
- Participation in the production of all news videos

Side Dishes

Choose at least two side dishes to earn a B grade. If you wish to earn an A grade, you must complete five different side dishes.

- Additional PhotoShop
- Additional newspaper story
- Additional broadcast story
- Editorial
- Editorial cartoon
- Advertisement design
- Photograph/graphic

Dessert

Complete one for an A grade.

- Video tape an event
- PowerPoint (either stand alone or to be used in a video)
- Redesign of a newspaper masthead
- Sell advertisements
- Lay out two newspaper pages
- Write a script
- Create a personal video production

Cubing

Cubing requires students to look at a topic from six different angles. Teachers often create a visual cube that serves as a starting point when they want students to analyze or consider various aspects of a topic. Cubes can be used as an after-reading strategy that requires students to think critically about a topic. When students work with cubes, they apply information in new ways. Cubes can be differentiated by interest and readiness.

Introducing the Strategy to Students:

One of the best ways to introduce cubing is to apply the activity to a common or familiar object. For example, students enjoy learning to cube with a chocolate Kiss. Simply distribute the Kiss candies to students and then assign groups to look (or study) the Kiss from several angles. (Decide ahead of time when you are going to allow students to eat their candy.) Students work in assigned pairs or groups. If desired, the groups can be created by readiness levels since the cubing perspectives below begin at the least complex level and become increasingly complex. Using the Kiss as the topic, ask students to:

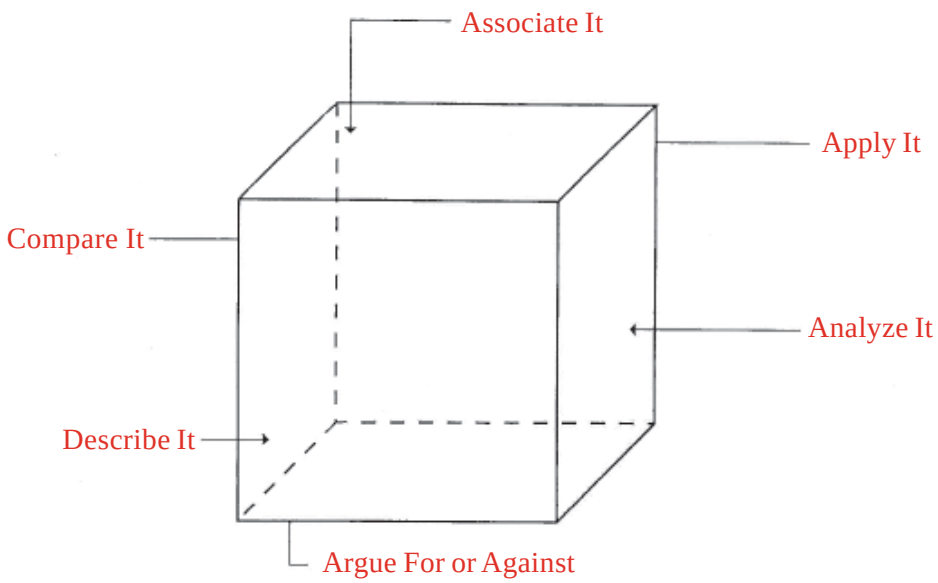
- Describe It: What does the Kiss look like?
- Compare It: Compare the chocolate Kiss with something else. What is it similar to or different from?
- Associate It: What do you associate chocolate Kisses with? What does it make you think about?
- Analyze It: Describe the Kiss's ingredients. What are its parts? How is it made?
- Apply It: What can you do with a chocolate Kiss? How can you use a Kiss?
- Argue For or Against It: Present an argument for or against chocolate Kisses.

Give students about 10 minutes to build a mini-presentation. One student in each group presents to the class.

Steps:

1. Select a topic. For example, the Civil War. Decide in advance how much time you want to devote to the cubing process. Informal cubing activities can easily be accomplished within a class period. However, activities can be extended if research is required.
2. Create groups based on readiness or interest.
3. Assign each group a perspective from which to explore the topic.
   - Describe the Civil War.
   - Compare the Civil War to another war.
   - Associate the Civil War with other issues, topics, or concerns.
   - Analyze the Civil War by discussing the events and decisions that led to the war.
   - Apply the lessons you've learned from studying the Civil War. How does learning about the Civil War help you understand events, issues, topics, and decisions that still exist today?
   - Argue for or against the Civil War. Should the war ever have been fought? Take a stand and list your reasons.
4. After the designated amount of time, ask representatives from each group to present their perspectives.

Cubing



Adaptations:

- Design cubes based on interest or learning profiles.
- Use the cubes for independent work. Require students to complete each element on the cube but allow them to pick and choose the order in which they complete the activities.
- Use the cubes as dice which students roll.
- In math, create problems for students to solve. One problem is printed on each side of the cube.
- Author Rick Wormeli suggests incorporating Bloom's Taxonomy:
  - Knowledge—Students recall and cite content.
  - Comprehension—Students demonstrate their understanding of the content.
  - Application—Students use their knowledge and skills in a different way or situation.
  - Analysis—Students break down topics into pieces and analyze them.
  - Synthesis—Students consider aspects that seem to contradict each other and form something new.
  - Evaluation—Students use their previous learning to judge the value or success of some thing. Students follow a specific criteria.

Sources:

Cowan, G., and E. Cowan. *Writing.* New York: John Wiley, 1980.

"Cubing: Reading Strategy of the Month." *Florida Online Reading Professional Development.* June 04. 26 June 06 <http://www.itrc.ucf.edu/forpd/strategies/stratCubing.html>.

Gregory, Gayle H. *Differentiating Instruction with Style: Aligning Teacher and Learner Intelligences for Maximum Achievement.* Thousand Oaks, CA: Corwin, 2005, pages 99-105.

Gregory, Gayle H., and Carolyn Chapman. *Differentiated Instructional Strategies: One Size Doesn't Fit All.* Thousand Oaks, CA: Corwin, 2002, pages 12-15, 94.

"Literacy Strategies: Cubing." *Literacy and Learning: Reading in the Content Areas.* Louisiana Public Broadcasting, Baton Rouge, LA. 26 June 06 <http://www.litandlearn.lpb.org/strategies/strat_cubing.pdf>.

Wormeli, Rick. *Fair Isn't Always Equal: Assessing and Grading in the Differentiated Classroom.* Portland, ME: Stenhouse, 2006, page 66.

Tic-Tac-Toe

Tic-Tac-Toe choice boards give students the opportunity to participate in multiple tasks that allow them to practice skills they've learned in class or to demonstrate and extend their understanding of concepts. From the board, students either choose or are assigned three adjacent or diagonal tasks to complete.

Choice boards address student readiness, interest, or learning preferences. They are easily adapted to a subject area.

Steps:

1. Identify the outcomes and instructional focus of a unit of study.
2. Use assessment data and student profiles to determine student readiness, learning styles, or interests.
3. Design nine different tasks.
4. Arrange the tasks on a choice board.
5. Select one required task for all students. Place it in the center of the board.
6. Students complete three tasks, one of which must be the task in the middle square. The three tasks should complete a Tic-Tac-Toe row.

Adaptations:

- Allow students to complete any three tasks—even if the completed tasks don't make a Tic-Tac-Toe.
- Assign students tasks based on readiness.
- Create different choice boards based on readiness. (Struggling students work with the options on one choice board while more advanced students have different options.)
- Create choice board options based on learning styles or learning preferences. For example, a choice board could include three kinesthetic tasks, three auditory tasks, three visual tasks.
- Author Rick Wormeli offers the following Tic-Tac-Toe board based on Gardner's (1991) multiple intelligences.

Interpersonal Task	**Kinesthetic Task**	**Naturalist Task**
Logical Task	**Student Choice**	**Intrapersonal Task**
Interpersonal Verbal Task	**Musical Task**	**Verbal Task**

Sources:

Heacox, Diane. "Promoting Student Independence and Responsibility in Academically Diverse Classrooms. *2005 ASCD Annual Conference*. Orlando, FL. April 2005.

Wormeli, Rick. *Fair Isn't Always Equal: Assessing & Grading in the Differentiated Classroom.* Portland, ME: Stenhouse, 2006, pages 65-66.

Tic-Tac-Toe

Tic-Tac-Toe Examples

Larisa Bailey, Lead-Deadwood Middle School, created the following Tic-Tac-Toe Choice Board for a 6th grade math unit on fractions, decimals, and percents. (See page 7 for Bailey's KUD elements.)

Define fraction, decimal, and percent. Draw a picture to illustrate each word.	Complete a chart of conversions for fractions, decimals, and percents.	Play the game Request or Request Challenge. (The game is like Go Fish, but you need to match up fractions, decimals, and percents.)
Complete lesson using equivalent fraction, decimal, and percent dominoes.	**All Notetaking Guide 5.7 5.8 8.5**	Illustrate ways in which fractions, decimals, and percents are used in everyday life. You need two examples for each.
Color equivalent squares to reveal a hidden picture of an endangered species!	Play the game Recall or Recall Challenge. (The game is like Concentration, but you need to match up fractions, decimals, and percents.)	Complete the Hidden Name Puzzle and then create a puzzle of your own.

Lead-Deadwood High School teachers Kim Fundaun, Laura Shuck, and Brook Kilian developed a choice board for a 9th grade general science unit on heredity and genetics. (See page 7 for their KUD elements.)

Summarize Facts or ideas which are important in determining genetics	**Classify** Dominant and recessive traits as they relate to Mendel's Pea Plants	**Draw** Meiosis and mitosis
Predict What a person might look like using the Punnett square	**Unit Test**	**Show** A model of a DNA strand with a key
Survey Genetics – hair color, eye color – graph your findings in a chart of your choice (Pie, bar, line, etc.)	**Interview** A person whose career or hobby deals with genetic/ reproduction	**Judge** 3 websites on genetics and heredity

Socratic Seminar

Socrates believed that helping students think for themselves was more important than filling their heads with "right" answers. In a Socratic Seminar, participants seek a deeper understanding of complex ideas through thoughtful dialogue, rather than by memorizing bits of information. A Socratic Seminar helps students build their critical thinking skills and improve their reading skills. The seminar fosters active learning as participants explore and evaluate the ideas, issues, and values in a particular text.

In a seminar, the instructor provides students with a text. After reading the text, students respond to thoughtful questions provided by the instructor or their peers. Seated in a circle, students explain their thinking and respond to the open-ended questions. Socratic Seminars consist of four basic elements.

Socratic Seminar's Four Elements

1. **Text:** Content related poems; stories; essays; primary or secondary source documents; problems; articles; pieces of art and music; and anything rich in ideas, issues, and values
2. **Questions:** High level questions created by participants and/or the instructor, open-ended questions that usually have no right answers
3. **Leader:** Plays dual role of leader and participant, frequently presents the opening question before moving into a participant's role
4. **Participants:** Study text in advance, actively listen, share ideas, refer to the text for support and clarification

Sources: Dodge and Swanson

Guidelines for Participants

- Refer to the text when needed to support ideas, issues, and values.
- Remember it's OK to "pass" when asked to contribute.
- When confused, ask for clarification.
- Stick to the point under discussion, make notes about ideas you want to return to at a later point.
- Don't raise hands; remember, you are participating in a conversation.
- Listen carefully.
- Speak clearly.
- Talk with each other, not just to the leader or teacher.
- Discuss ideas rather than opinions.

Adapted from "Socratic Seminars" found at
http://www.studyguide.org/socratic_seminar.htm

Socratic Seminar

Is It Dialogue or Is It Debate?

Because Socratic Seminars focus on dialogue not debate, it's important to establish guidelines and to make sure students understand the differences between dialogue and debate.

- Dialogue is collaborative: multiple sides work toward shared understanding.
- Debate is oppositional: two opposing sides try to prove each other wrong.

- In dialogue, one listens to understand, to make meaning, and to find common ground.
- In debate, one listens to find flaws, to spot differences, and to counter arguments.

- Dialogue enlarges and possibly changes a participant's point of view.
- Debate affirms a participant's point of view.

- Dialogue reveals assumptions for examination and re-evaluation.
- Debate defends assumptions as truth.

- Dialogue creates an open-minded attitude: openness to being wrong and an openness to change.
- Debate creates a close-minded attitude, a determination to be right.

- In dialogue, one submits one's best thinking, expecting that other people's reflections will help improve it rather than threaten it.
- In debate, one submits one's best thinking and defends it against challenge to show that it is right.

- Dialogue calls for temporarily suspending one's beliefs.
- Debate calls for investing wholeheartedly in one's beliefs.

- In dialogue, one searches for strengths in all positions.
- In debate, one searches for weaknesses in the other position.

- Dialogue respects all the other participants and seeks not to alienate or offend.
- Debate rebuts contrary positions and may belittle or deprecate other participants.

- Dialogue assumes that many people have pieces of answers and that cooperation can lead to a greater understanding.
- Debate assumes a single, right answer that somebody already has.

- Dialogue remains open-ended.
- Debate demands a conclusion.

(Adapted from *Focus on Study Circles*, Winter, 1993, page 9)

Socratic Seminar

Socratic Seminar Example for *The Pledge of Allegiance*

John Swanson, Socratic Seminar leader, offers the following suggestions for teachers planning a seminar. These steps provide a framework for the seminar process. He has used *The Pledge of Allegiance* as the example text.

1. Arrange the classroom as a **circle**.

2. Introduce Socratic Seminars to students as a way to talk and work together to understand different kinds of texts.

3. Distribute and discuss **Is It Dialogue or Is It Debate?** (See page 18.) Emphasize that Socratic Seminars are based on dialogue.

4. Assign students the following **prep work** for *The Pledge of Allegiance*, or a content-based text of your choosing.
   - Read the text carefully, as you would a love letter or a recipe.
   - Working in pairs and using a dictionary, define the following terms: pledge, allegiance, republic, nation, indivisible, liberty, justice.

5. Set the following **ground rules** for the seminar or develop ground rules of your own.
   - Only one person talking at a time.
   - No hand raising, this is a conversation.
   - Be respectful of others and their thoughts.
   - Base your thoughts on something in the text.

6. Begin the seminar with the following **opening question** or develop a question of your own.
   - How is *The Pledge of Allegiance* a duty, a dream, and a goal?

7. Facilitate the dialogue by asking probing and clarifying questions based on student responses and the text itself.

8. After bringing the seminar to a close, engage students in writing their responses to the following questions for **reflection**, or ones of your own.
   - How was today's Socratic Seminar the same as and different from other discussions we have had in this class?
   - How did your understanding of *The Pledge of Allegiance* change?
   - On a scale of 1 to 10, how well did the group do in following the ground rules?

9. Have students verbally share their reflections around the circle.

(Adapted from materials provided by John Swanson, Education Specialist, TIE.)

Sources:

Benjamin, Amy. *Differentiated Instruction: A Guide for Middle and High School Teachers.* Larchmont, NY: Eye on Education, 2002, page 6.

Dodge, Judy. *Differentiation in Action: Grades 4 & Up.* New York: Scholastic, 2005, pages 121-124.

"Socratic Seminars." *Studyguide.org: A Web Site for Mrs. Adams' English Classes.* Vestavia Hills High School, Birmingham, AL. 26 June 06 <http://www.studyguide.org/socratic_seminar.htm>.

Swanson, John. *Socratic Seminar Leadership Training.* Rapid City, SD: TIE, 2006.

Layered Curriculum®

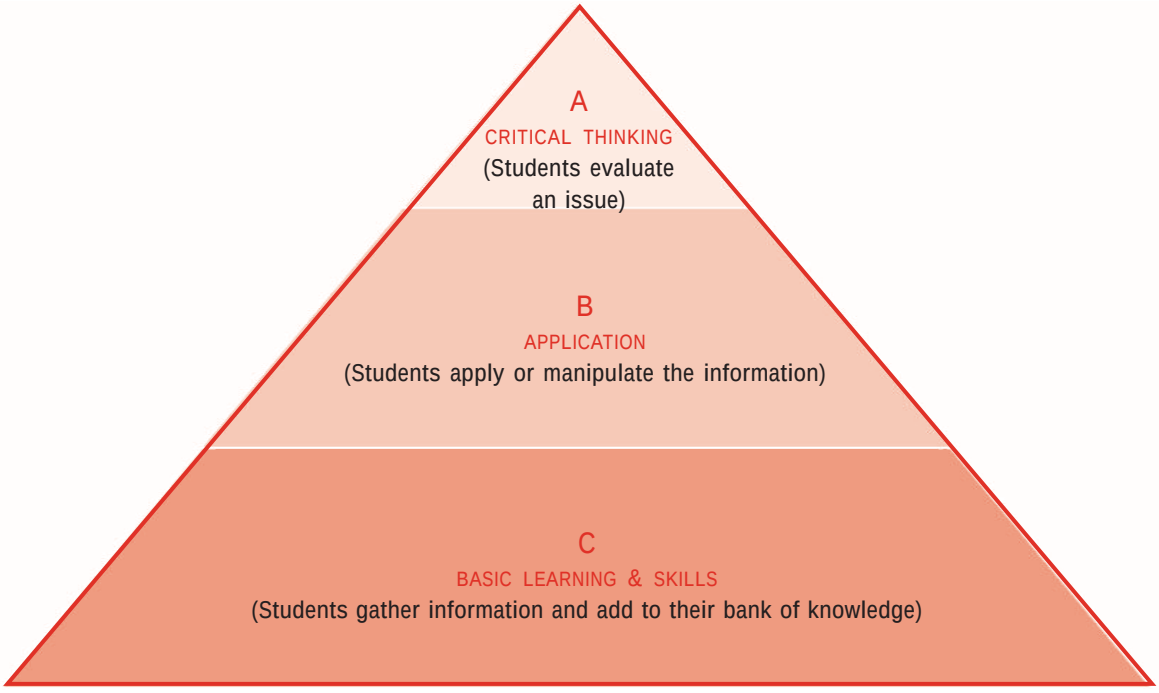
The Layered Curriculum® approach features a three-layer model that requires students to use higher level thinking skills as they work through the layers. Developed by educator and author Kathie E. Nunley, the approach came as a response to her classroom experiences with high school students.

Nunley connects the three layers to grades. The ***C layer*** is the basic layer of competency and reflects what all students must do. If students successfully complete the tasks required in the ***C layer***, they earn a C grade. ***C layer*** activities asks students to collect factual information.

The ***B layer*** provides students with the opportunity to apply, manipulate, and play with the information they gathered while completing ***C layer*** activities. Typically, the ***B layer*** requires students to apply, manipulate, discover, hypothesize and prove, demonstrate, or problem solve. Students who successfully complete the ***C and B layers*** earn a B grade.

Finally, the ***A layer*** or top layer asks students to think critically about an issue. Nunley says the purpose of the ***A layer*** is to teach students critical thinking skills and to apply their classroom learning into their daily lives. The ***A layer*** consists of questions that ask students to analyze a topic. Frequently, no right or wrong answer exists. Students who successfully complete ***C, B, and A layer*** activities earn an A grade.

Nunley emphasizes that all layers should provide students with some control over their learning. She suggests a menu-like approach (see related strategy on pages 10-11) to the tasks in each layer. The approach allows students to pick and choose from the available options provided by the instructor.



C level reflects what every student must be able to know, understand, and do.

Sources:

Nunley, Kathie E. *Differentiating the High School Classroom: Solution Strategies for 18 Common Obstacles*. Thousand Oaks, CA: Corwin, 2006.

---. *Layered Curriculum®*. 20 June 06. 2nd ed. Amherst, NH: Brains.org, 2004. <http://help4teachers.com>.

Differentiating Instruction with Technology

Marcia Torgrude
TIE Education Specialist

Today's world is different from the one in which we lived just ten years ago. To be truly prepared for the 21st century, our students need schools that reflect those differences. Today's students are digital and visual learners who thrive on collaboration through the use of computers, video equipment, audio equipment, digital cameras, and telephones.

If we think about differentiating the classroom content, product, process, and learning environment with the digital learner in mind, the students will become more actively involved in their learning. Multimedia applications combine video, sound, text, animation, and graphics which address the various learning styles of our students. Frank and Catherine Townsend identify six benefits of using multimedia based lessons to meet learning needs:

1. Multimedia reaches a variety of senses. This allows the individual to tailor or focus their learning to the individual style, whether it is verbal, auditory, or physical.
2. Multimedia projects validate self expression by allowing students to decide how they want to create a project or assimilate information.
3. Technology gives a sense of ownership to the user. The students actually create evidence of what they have learned, which can later become part of a portfolio.
4. Multimedia creates an active rather than passive atmosphere for learning, which requires student participation and makes students think.
5. Technology fosters communication among students as well as between student and teacher. They discuss the content, organization of content, and how to present it to others (topics which may not have otherwise been discussed).
6. The use of technology and multimedia makes sense because it is already built into the everyday life of all students. (Townsend, 1992)

The tables on the following pages reflect the use of multimedia to promote differentiation in the classroom. The three focus areas are the interactivity on the web, handheld technologies, and software. Each provides great resources to support choices in the classroom.

The web provides every aspect of interactivity for each learning style. Graphics, images, and video support the visual learner, while interactive tools support the kinesthetic learner. The auditory learner benefits from video and audio and the textual learner finds outlets for reading and writing that are more motivating than the paper/pencil format of the past.

Handhelds provide an array of uses. Students can use them for organization, writing, document reading, document sharing, data collection, visualizations, concept maps, calculating, assessing, and concept mapping. These devices are effective in active learning situations, where students ask questions, gather information, analyze information and share results. Most importantly, handhelds facilitate a collaborative learning environment. Students can share a document by beaming to each other, or they can upload or download documents to or from the web. Putting a palm-sized computer in the student's hand will enable educators to unleash learning opportunities afforded by this small, but revolutionary technology.

Software – A variety of software programs support differentiation. There is a cost for these programs, but they are well worth the expense as they open new avenues to our multi-modal digital learners.

Differentiating Instruction with Technology

As educators, we need to try to meet the needs of our students by providing a variety of lessons using various teaching methods. Technology and computers easily combine various media formats and can provide a variety of different learning opportunities. So by nature, technology based lessons lend themselves to teaching students of various learning styles. When designing lessons that incorporate technology we need to be sure to use various techniques and keep the needs of all learners in mind.

Examples for Creating Choices with Technology in the 4-12 Classrooms

Resource Type	Content Area	Descriptor
Interactivity on the Web - *Lessons are provided at each of the sites to support the use of the tools*	**All Curricula**	*MarcoPolo* provides seven content web sites with lesson plans, student interactive learning tools, video, audio, links to panel-reviewed Web sites and additional resources created by the nation's leading education organizations. These partners use multimedia throughout the content to support all the learning styles of students. http://marcopolo-education.org **All content on this site is free and specifically created for education.**
Interactivity on the Web	**Reading, Writing**	*The Plot Diagram* is an organizational tool focusing on a pyramid or triangular shape, which is used to map the events in a story. This mapping of plot structure allows readers and writers to visualize the key features of stories. http://www.readwritethink.org/student_mat/student_material.asp?id=40
Interactivity on the Web	**Reading, Writing, Social Studies**	*Library of Congress Learning Page* – The Learning Page is designed to help educators use the American Memory Collections to teach history and culture. It offers video, audio, pictures, activities, discussions, lesson plans and suggestions for using the collections in classroom curriculum. http://memory.loc.gov/learn/features/index.html#col_activities
Interactivity on the Web	**Reading, Writing**	*Venn Diagram, 3 Circles* – This interactive tool allows students to create Venn Diagrams that contain three overlapping circles. Students identify and record concepts that can be placed in one of the three circles or in the overlapping areas, allowing them to organize their information logically. Students may view and edit their draft diagrams, then print the finished diagrams for reference. http://www.readwritethink.org/student_mat/student_material.asp?id=32
Interactivity on the Web	**Writing**	*Blogging* – Teachers have known for a long time that students develop better communication skills when they are authentically communicating. This online blogging (web logging) tool is explicitly designed with teachers and students in mind, where the teacher can evaluate, comment on, and finally publish students' blog articles in a controlled environment. *http://classblogmeister.com/*
Interactivity on the Web	**Math**	*Lines of Best Fit* – This activity allows the user to enter a set of data, plot the data on a coordinate grid, and determine the equation for a line of best fit. http://illuminations.nctm.org/ActivityDetail.aspx?ID=146

Differentiating Instruction with Technology

Examples for Creating Choices with Technology in the 4-12 Classrooms

Resource Type	Content Area	Descriptor
Interactivity on the Web	**Math**	*Geometric Solids* – Manipulate various geometric solids. Color the solid to investigate properties such as the number of faces, edges, and vertices. http://illuminations.nctm.org/ActivityDetail.aspx?ID=70
Interactivity on the Web	**Math**	*Vector Investigation: Dual Vector, Airplane Storm Chaser* – Adjust the magnitude and direction of a velocity vector and a wind vector to "fly" a plane. http://illuminations.nctm.org/ActivityDetail.aspx?ID=43
Interactivity on the Web	**All Curricula**	*Thinkquest.org* – ThinkQuest is all about students thinking and learning together. Students work in teams to create the best educational websites using all learning styles of the team members that incorporate text, video, and interactivity. http://thinkquest.org
Handheld Technologies	**All Curricula**	*Modeling Handheld Use in the Classroom* – Integrating the tool within the lesson as a way of assisting students understand, collaborate, build their knowledge and expertise, and express their own creative thinking and problem-solving abilities is the ultimate goal. http://handheld.tie.net/integration/modeling.htm
Handheld Technologies	**Language Arts, Writing**	*Writing and Language Arts Quick Guide* – Writing can happen just as easily on a field trip or on the playground as it can in the classroom. Anywhere, anytime access to powerful software tools means all students can compose and communicate anytime the muse strikes. http://handheld.tie.net/pdf/quick_language1.pdf
Handheld Technologies	**Reading, Writing**	*ThoughtManager* is a powerful graphic organizer that may be used to brainstorm, organize thoughts, or retell the story in graphic format. Features include graphic brainstorming, outline in text, as well as drawing and note taking features. http://www.handshigh.com/html/thoughtmanager.html
Handheld Technologies	**Math**	*Education Quick Guide for Math* – Students can explore everything from fractions to fractals and plot graphs that help them understand how those numbers relate to their world, wherever they are. http://handheld.tie.net/pdf/quick_math1.pdf
Software	**Reading, Writing**	*Inspiration* – Inspiration® is the essential tool students rely on to plan, research and complete projects successfully. With the integrated Diagram and Outline Views, they create graphic organizers and expand topics into writing. This powerful combination encourages learning in multiple modes. As a result, students gain and retain a better understanding of concepts and demonstrate knowledge, improving their performance across the curriculum. http://inspiration.com/productinfo/inspiration/index.cfm

Differentiating Instruction with Technology

Examples for Creating Choices with Technology in the 4-12 Classrooms

Resource Type	Content Area	Descriptor
Software	**Math**	*Geometer's Sketchpad* – With the Geometer's Sketchpad, you can construct figures from simple textbook diagrams to working models of the Pythagorean Theorem, perspective drawings, tessellations, fractals, animated sine waves, etc. This program will let you experiment with complex geometrical constructions. http://www.chartwellyorke.com/sketchpad.html
Interactivity on the web	**All Curricula**	*netTrekker D.I.* – netTrekker® D.I. allows you to differentiate instruction with standards-based, educator-selected online resources aligned with state standards and organized by readability level to meet individual students' learning needs. This is a site that does have a fee attached, but many schools in SD have licenses to this program. SD State Standards are included in this site. http://school.nettrekker.com/frontdoor/

Sources:

Inspiration. Inspiration Software Inc., Beaverton, OR. 26 June 06 <http://inspiration.com/productinfo/inspiration/index.cfm>.

MarcoPolo Internet Content for the Classroom. Verizon. 26 June 2006 <http://marcopolo-education.org>.

Rosen, Dana. "Research Report for EdTec 596: Technologies for Decision Makers." 4 Dec. 1997 <http://edweb.sdsu.edu/courses/edtec596r/students/Rosen/Rosen.html>.

Townsend, Frank, and Catherine Townsend. "Meeting Learning Needs Through Multimedia. South Carolina: ERIC Clearinghouse (ERIC Document Reproduction Service No. ED 352969) 1992.

Torgrude, Marcia, and Londa Richter. 25 June 2006 <http://wwwhandheld.tie.net>.

Warlick, David. *ClassBlogMeister*, The Landmark Project. 26 June 06 <http://classblogmeister.com>.

Connections to Previous On Target Books

On Target: Reading Strategies to Guide Learning

ABC Chart, Pages 6-7
Students record their thoughts and ideas regarding a topic prior to beginning a unit of study. The strategy allows students to access background knowledge and to share ideas in a non-threatening format.

Word Splash, Page 9
The Word Splash provides students working in groups with the opportunity to categorize and organize content specific words.

On Target: Strategies to Help Struggling Readers

Three Facts and a Fib, Page 25
The strategy allows students to identify important information while trying to fool or trick their classmates. The Three Facts and a Fib works well with struggling students.

Name Card Method, Page 26
The Name Card Method encourages all students to participate in class discussions.

Exit Cards, Page 27
Exit Cards help teachers gather information on student readiness levels, interests, and/or learning profiles.

On Target: Strategies to Improve Test Scores

Yea or Nay/Why? Strategy, Page 20
Yea or Nay helps students develop a deeper understanding of vocabulary words.

On Target: Strategies to Help Readers Make Meaning through Inferences

Pairs Read, Page 10
Paired Reading gives students the chance to process material using their visual and auditory learning styles.

On Target: Strategies to Build Student Vocabularies

Synectic Comparisons, Page 21
Synectic Comparisons compare two different things and find similarities. The strategy encourages students to create comparisons using words and pictures.

Word Games, Pages 12-19
This booklet provides several word game activities that allow students to play with words while developing their understanding of content vocabulary words.

On Target: More Strategies to Guide Learning

3-2-1 Strategy, Pages 20-21
This strategy gives students the opportunity to pause and review their learning. The strategy helps students hone their synthesizing and questioning skills.

On Target: Bringing Writing into Content Area Classrooms

Think-Ink-Pair-Share, Pages 12-13
Think-Ink-Pair-Share helps students develop critical thinking skills in the following areas: making predictions, problem solving, decision making, and consensus building.

Websites to Explore

Best Practices: Pieces of the Puzzle
http://wblrd.sk.ca/~bestpractice/index.html

Washington and Lee Teacher Education Program on Differentiation
http://teachereducation.wlu.edu/courses/practicum/Differentiation.htm

Montgomery County Public Schools, Rockville, Maryland, Instructional and Management Strategies
http://www.mcps.k12.md.us/curriculum/enriched/giftedprograms/instructionalstrategy.shtm

A Different Place
http://www.adifferentplace.org/

4teachers.org
http://www.4teachers.org/

Odds 'n Ends: More Ways to Differentiate
http://www.gp.k12.mi.us/ci/diff/diff/oddsends.htm

Layered Curriculum®
http://help4teachers.com

Math Staff Development
http://jeffcoweb.jeffco.k12.co.us/isu/math/mathsd/index.html

ASCD: Education Topics/Differentiation Instruction
http://www.ascd.org/

Differentiated Instruction Resources
http://www.sde.com/Conferences/Differentiated-Instruction/DIResources.htm

Jim Moulton's Education Sites
http://www.jimmoulton.org/educator.html

Books for Further Reading

Benjamin, Amy. *Differentiated Instruction: A Guide for Middle and High School Teachers.* Larchmont, NY: Eye on Education, 2002.

Chapman, Carolyn, and Rita S. King. *Differentiated Assessment: One Tool Doesn't Fit All.* Thousand Oaks, CA: Corwin, 2004.

---. *Differentiated Instructional Strategies for Writing in the Content Areas.* Thousand Oaks, CA: Corwin, 2003.

Dodge, Judith. *Differentiation in Action.* New York: Scholastic, 2005.

Forsten, Char, and Jim Grant, and Betty Hollas. *Differentiating Textbooks: Strategies to Improve Student Comprehension and Motivation*. Peterborough, NH: Crystal Springs, 2003.

Gregory, Gaye H. *Differentiating Instruction with Style:Aligning Teacher and Learner Intelligences for Maximum Achievement.* Thousand Oaks, CA: Corwin, 2005.

Gregory, Gayle H., and Carolyn Chapman. *Differentiated Instructional Strategies: One Size Doesn't Fit All.* Thousand Oaks, CA: Corwin, 2002.

Gregory, Gayle H., and Lin Kuzmich. *Data Driven Differentiation in the Standards-Based Classroom.* Thousand Oaks, CA: Corwin, 2004.

---. *Differentiated Literacy Strategies for Student Growth and Achievement in Grades 7-12.* Thousand Oaks, CA: Corwin, 2005.

Feinstein, Sheryl G. *Secrets of the Teenage Brain*. San Diego: The Brain Store, 2004.

Heacox, Diane. *Differentiating Instruction in the Regular Classroom: How to Reach and Teach All Learners, Grades 3-12*. Minneapolis: Free Spirit, 2002.

Jensen, Eric. *Top Tunes for Teaching.* San Diego: The Brain Store, 2005.

Lambros, Ann. *Problem-Based Learning in Middle and High School Classrooms.* Thousand Oaks, CA: Corwin, 2004.

Northey, Sheryn Spencer. *Handbook on Differentiated Instruction for Middle and High Schools.* Larchmont, NY: Eye on Education, 2005.

Nunley, Kathie F. *Differentiating the High School Classroom: Solution Strategies for 18 Common Obstacles.* Thousand Oaks, CA: Corwin, 2006.

---.*Layered Curriculum: The Practical Solution for Teachers with More Than One Student in Their Classroom*. Amherst, NH: Brains.org, 2001.

Paterson, Kathy. *Differentiated Learning: Language and Literacy Projects that Address Diverse Backgrounds and Cultures*. Markham, Ontario: Pembroke, 2005.

Books for Further Reading

Tomlinson, Carol Ann. *Fulfilling the Promise of the Differentiated Classroom: Strategies and Tools for Responsive Teaching.* Alexandria, VA: ASCD, 2003.

---. *How to Differentiate Instruction in Mixed-Ability Classrooms*. 2nd ed. Alexandria, VA: ASCD, 2001.

---.*The Differentiated Classroom: Responding to the Needs of All Learners.* Alexandria, VA: ASCD, 1999.

Tomlinson, Carol Ann, and Caroline Cunningham Eidson. *Differentiation in Practice: A Resource Guide for Differentiating Curriculum, Grades 5-9.* Alexandria, VA: ASCD, 2003.

Tomlinson, Carol Ann, and Jay McTighe. *Integrating Differentiated Instruction and Understanding by Design: Connecting Content and Kids.* Alexandria, VA: ASCD, 2006.

Witherell, Nancy L., and Mary C. McMackin. *Graphic Organizers and Activities for Differentiated Instruction in Reading.* New York: Scholastic, 2002.

Wormeli, Rick. *Fair Isn't Always Equal: Assessing and Grading in the Differentiated Classroom.* Portland, ME: Stenhouse, 2006.

ESA Region 6

Serving schools in southcentral South Dakota. . .

Agar-Blunt-Onida
Harold
Lyman
Pierre
Stanley County

Education Specialist: Colleen Blake
cblake@tie.net 605-224-6287

Jones County
Midland
Winner
Kadoka
Wood

Education Specialist: Roxanne Everhard
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Bennett County
Todd County (11 schools)
White River

Education Specialist: Paula Kilonzo
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Executive Director
Randy Morris
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ESA Regions
6 & 7

ESA Region 7

Serving schools in the Black Hills area of South Dakota. . .

Northern Hills Area

Belle Fourche
Lead-Deadwood
Meade
Newell
Spearfish

Education Specialist: Pam Lange
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Haakon

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Southern Hills Area

Custer
Edgemont
Elk Mountain
Hill City
Hot Springs
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