

Welcome!

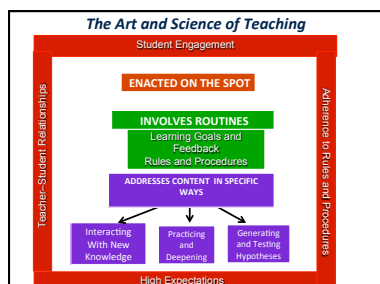
## *Differentiated Instruction*

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### Wenatchee Criterion #3

***The teacher has knowledge to design instruction for individual student learning needs and provides interventions to meet those needs.***

- 3.1 The teacher knows individual student learning needs to design instruction.
- 3.2 The teacher provides interventions to meet individual student learning needs.
- 3.3 The teacher plans and prepares for use of materials and technology.



### Dr. Marzano's Four Questions

- How Do I Feel?
- Am I Interested?
- Is This Important?
- Can I Do This?

### Table Family Brain Warm-Up

*Discuss the difference(s) between 'traditional' and 'differentiated' classrooms.*

### Comparing Traditional and Differentiated Classrooms

- Addressing student differences
- Use of assessment
- Use of student interest and learning style

### Comparing Traditional and Differentiated Classrooms

- Instructional format
- Assignment options
- Factors guiding instruction

*"The fact that all students in a particular classroom share a similar date of birth is no indication that they all learn at the same rate, in the same way, and with the same support systems."*

Sousa & Tomlinson (2011)

### Why Differentiate?

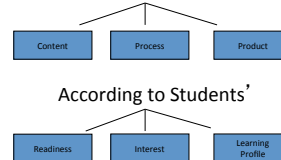
- All kids are different.
- One size does not fit all.
- Differentiation provides all students with access to all curriculum.



### What is Differentiation?

- A teacher's response to learner needs.
- The recognition of students' varying background knowledge and preferences.
- Instruction that appeals to students' differences.

### Teachers Can Differentiate



Adapted from The Differentiated Classroom: Responding to the Needs of All Learners (Tomlinson, 1998)

### Quality Curriculum is:

- Organized around essential content and goals
- Aligned with content goals, assessments, and learning experiences
- Focused on student understanding
- Engaging for all students
- Authentic

### Curriculum *Races* Are Not Brain-Friendly

- Working memory has a limited capacity
- Finding meaning in new learning requires time for reflection

### New Learning

Working Memory:

Old belief: **7 items**

New understanding: **4 items** (adolescents & adults); **less than 4** (preadolescents)

*The number varies depending on the learner's motivation and level of distraction.*

### When Working Memory is at Capacity

- Any additional information either will be rejected or will replace an item that is already there.
- As more items enter the lesson, the learner gets frustrated, and the chances that the item will be tagged for long-term storage decrease significantly.

### Long-Term Storage

- Requires Sense and Meaning
- Does this make sense?  
—Does this have meaning?

### Sense and Meaning

*Sense and meaning are independent of each other.*

- What is an example of a time that you remembered something because it made sense but had no meaning?
- What is an example of a time that you remembered something because it had meaning, but made no sense?

### Sense and Meaning

- Meaning has the greater impact on the probability that information will be stored.
- Teachers spend 90% of planning time creating lessons that make sense. *What if we focused more on establishing meaning?*

### Essential Learnings: Different Pathways to Common Goals

- Students spend time working individually and in small groups to concentrate on the specific skills and knowledge they need to move ahead.

### Differentiation Strategies

- All strategies are aligned with instructional goals and objectives
- Specific strategies are selected based on
  - Focus of instruction
  - Focus of differentiation

### Student Readiness

- Readiness is not a synonym for ability
- Readiness changes from topic to topic, skill to skill

### Zone of Proximal Development

- ZPD:
  - A task should be a little beyond the learners' current reach, and students should have a support system to scaffold their work and help them bridge the gap between what they can do at the outset of the task and what they need to be able to do as a result of the task.

### Readiness-Based Assessments

- Caution:
  - There are many students who struggle with fundamental skills but who understand the content accurately and are keen thinkers.
  - Scaffolding is important here
  - Do not allow one indicator to skew your understanding of a student's capacity to make sense of, apply, or transfer knowledge

### Proficiency Scales

Level 1 Beginning	Level 2 Progressing	Level 3 Proficient	Level 4 Advanced

### Scale

4	In addition to exhibiting level 3 performance, in-depth inferences and applications that go BEYOND what was taught in class
3	No major errors or omissions regarding any of the information and/or processes (SIMPLE OR COMPLEX) that were explicitly taught
2	No major errors or omissions regarding the SIMPLER details and processes BUT major errors or omissions regarding the more complex ideas and processes
1	With HELP, a partial knowledge of some of the simpler and complex details and processes
0	Even with help, no understanding or skill demonstrated

### Clean Refrigerator

- Entire refrigerator is sparkling and smells clean. All items are fresh, in proper containers (original or Tupperware, with lids), and organized into categories.
- Refrigerator is generally wiped clean. All items are relatively fresh, in some type of container (some plastic lids are missing or don't fit) and are sitting upright.

2 Some of the shelves are wiped clean, although there are some crusty spots. There are some suspicious smells. Items are in containers, but there seems to be some green stuff growing in some of the plastic containers.

1 Items stick to the shelves when they are picked up. The smells linger long after the refrigerator door is closed. Several items need to be thrown out—plastic containers and all.

### Differentiating Content, Process, and Product Based on Student Readiness

- **Content:**
  - Use video images to augment text
  - Offer demos during a lecture
  - Summarize key ideas for students
  - Bookmark a university website for those who are advanced
  - Provide partial notes for students

### Student-Readiness

- **Process:**
  - Increase or decrease the complexity of the task
  - Increase or decrease the number of variables in the task
  - Ask students to work with partners versus working alone
  - Provide additional models

### Student-Readiness

- **Product:**
  - Provide more check-in dates for students who need it
  - Provide more complex or less complex resources for students based on reading levels
  - Ask students to set personal goals (based on rubric/scale)
  - Use community mentors to support and extend

### Student Interest

- Interest refers to a feeling or emotion that causes an individual to focus on or attend to something because it matters to that individual.

### Discussion Questions

- How do you get to know your students' interests?
- How do you keep track of/remember these interests?
- How often do you ask students about their interests?

### Understanding Students' Interests

- Student surveys
- Informal conversations
- Periodic check-ins
- Others?

### Differentiating Content, Process, and Product Based on Student Interest

- **Content:**
- **Process:**
- **Product:**

### Student Learning Profiles

- How individuals learn:
  - Learning styles
  - Intelligence preferences
  - Culture
  - Gender

### Learning Styles

- Lighter vs. darker environments
- Silence vs. noise when working
- Cooler vs. warmer rooms
- Sitting up straight vs. reclining while learning
- Highly-structured tasks vs. open-ended tasks
- Predictable routines vs. variation
- Working at one time of day vs. another

### Intelligence Preferences

- Verbal-linguistic
- Logical-mathematical
- Visual-spatial
- Musical-rhythmic
- Bodily-kinesthetic
- Interpersonal
- Intrapersonal
- Naturalist
- Moral

### Proposed Intelligences

- **Analytical** (school house intelligence)
- **Practical** (street smarts/contextual intelligence)
- **Creative** (imaginative problem solving)

### Culture

- Continua of culture tendencies and beliefs:
  - Internal vs. external locus of control
  - External vs. internal clock
  - Fewer vs. many shared experiences
  - Direct vs. indirect communication
  - Logic of the head vs. logic of the heart
  - Goal is order and efficiency vs. goal is to enjoy life

### Gender

#### Gender shaped learning differences:

- Girls are more sensitive to sound than boys
- Girls listen better than boys
- Boys are more attuned to motion than girls are
- Girls are more sensitive to a range of bright colors than boys are

- Girls are more able to talk about feelings than boys are
- Boys engage in physically riskier actions than girls (boys tend to overestimate their physical skills while girls underestimate theirs)
- Girls are more likely than boys to try to affiliate with their teachers
- Girls are more likely than boys to do homework to please the teacher; boys will do homework if it interests them

- Girls enjoy being together to share ideas, secrets, and experiences; boys enjoy being together around shared interests
- Conversations are central to girls' friendships; action is central to boys' friendships
- Boys are more attracted to competition; girls, to collaboration
- Boys may learn better in somewhat stressful contexts; less likely to be the case for girls

- Boys are more adept at spatial/number-based tasks; girls are better at verbally based tasks
- Boys are more likely to read nonfiction than girls and to prefer books that involve action/struggle; girls do better than boys with fiction and tasks that relate to motives, behaviors, and reasons for actions

### What to Do?

- Be aware of and study differences in how individual students approach learning.
- Help students develop awareness of the ways people approach learning and of the particular approaches to learning that do and do not work for them as individuals.
- Provide opportunities for students to work often in modes that are comfortable as well as occasionally asking them to try a new approach.

- Teach in a variety of modes and offer varied approaches to learning as often as possible to make room for a variety of student learning preferences.
- Understand that effective learners will draw on a variety of strategies, depending on the subject, the learner's comfort with a particular topic or skill, and the time of day and year.

### Learning Styles

Think back to this morning, how did you give directions to your cross-town buddy as to where you live?

### Learning Style Quiz

- <http://people.usd.edu/~bwjames/tut/learning-style/stylest.html>

### The VARK Questionnaire

- <http://www.vark-learn.com/english/page.asp?p=questionnaire>
  - How Do I Learn Best?

### Thinking Caps

- **Blue** = values facts, information, data
- **Yellow** = intuitive, trusts his/her feelings, is concerned about the feelings of others
- **Green** = highly imaginative, creative, looks for innovative solutions
- **Orange** = practical, wants to bring people together to solve the problem
- **Red** = looks for problems and flaws (red flags) in suggestions, tends to be cautious

### Thinking Caps Discussion

Notecard: write name in color of the hat you represent; fold and use as reminder to group members

Discuss: Students talking while the teacher is talking...

### Differentiating Content, Process, and Product Based on Learning Profile

- Content:
- Process:
- Product:

### Students' Affect

- Attention to students' feelings and emotional needs

*As teachers become more competent and confident in adapting content, process, product, and **affect** in response to student readiness, interest, and learning profile, the likelihood of academic success and maximum students achievement grow exponentially.*

*Before we can teach children,  
we need to DELIGHT in them.*

### Mindsets

- Mindsets are the assumptions, expectations, and beliefs that guide our behavior and our interactions with others.
- If our attitudes, beliefs, or mindsets about teaching, learning, and our students go unexamined, the consequences can be harmful...

### The Effective Teacher's Mindset

- Teachers have a lifelong impact
- The classroom must feel safe and secure
- All students want to succeed
- The social-emotional needs of students must be met
- Empathy is very important
- Students should feel a sense of ownership of their education

### The Effective Teacher's Mindset

- Teachers should identify and reinforce each student's areas of competence
- Teachers should address fears of failure and humiliation
- Discipline is a teaching process

### Fixed and Growth Mindsets

### Self-Theory Survey

1. You have a certain amount of intelligence, and you really can't do much to change it.
- Strongly Agree
  - Agree
  - Mostly Agree
  - Mostly Disagree
  - Strongly Disagree

2. Your intelligence is something about you that you can't change very much.
- Strongly Agree
  - Agree
  - Mostly Agree
  - Mostly Disagree
  - Strongly Disagree

3. You can learn new things, but you can't really change your basic intelligence.
- Strongly Agree
  - Agree
  - Mostly Agree
  - Mostly Disagree
  - Strongly Disagree

### Results

Scores of 'mostly agree' to 'strongly agree'  
=  
fixed theory

## Dweck, Mindset: The New Psychology of Success, 2007



### Mindsets

Fixed Mindset	Growth Mindset
intelligence is a fixed trait	intelligence is a malleable quality, a potential that can be developed

### What Mindsets Do

#### Goals

Fixed Mindset Students Say	Growth Mindset Students Say
Looking Smart is Most Important <i>"The main thing I want when I do my school work is to show how good I am at it."</i>	Learning is Most Important <i>"It's much more important for me to learn things in my classes than it is to get the best grades."</i>

### What Mindsets Do

#### Effort Beliefs

Fixed Mindset Students Say	Growth Mindset Students Say
Effort is negative <i>"To tell the truth, when I work hard at my school work it makes me feel like I'm not very smart."</i>	Effort is positive <i>"The harder you work at something, the better you'll be at it."</i>

### What Mindsets Do

#### Strategies After Failure

Fixed Mindset Students Say	Growth Mindset Students Say
Helpless <i>"I would spend less time on this subject from now on." "I would try not to take this subject ever again." "I would try to cheat on the next test."</i>	Resilient <i>"I would work harder in this class from now on." "I would spend more time studying for the tests."</i>

**Fixed mindset:**  
talents are carved in stone

**Growth mindset:**  
qualities are things to be cultivated through effort and can change through application and experience

Dweck, Mindset: The New Psychology of Success, 2007

Bottom Line:

***I CAN GET BETTER  
IF I WORK HARD***

The view you adopt for yourself profoundly affects the way you lead your life.

### How shall we respond?

- Not... "Wow, you got eight of ten correct. You must be really smart."
- Instead— "You got eight right. That's a really good score, and you must have worked really hard."

Dweck, Mindset: The New Psychology of Success, 2007



### Changing Your Mindset

- Learn to hear your fixed mindset “voice.”
- Recognize that you have a choice.
- Talk back to it with a growth mindset voice.
- Take the growth mindset action.

### Activity: What if...?

- Fixed mindset teacher with fixed mindset student?
- Fixed mindset teacher with growth mindset student?
- Growth mindset teacher with growth mindset student?
- Growth mindset teacher with fixed mindset student?

### Questions for Reflection

- How comfortable are you with classes that group students by perceived ability?
- In what ways do you demonstrate to your students that they are in charge of their academic success—that their effort is the key to their success?
- In what ways do you show students that discoveries and insights almost inevitably stem from failures rather than from success?

### In a Nutshell...

- Teachers must be consistently mindful of three things:
  - How their content is structured for meaning and authenticity
  - Who their students are as individuals
  - Which elements in their classrooms give them degrees of freedom in connecting content and learners

### Next Steps:

- Study your students. See the classroom from their perspectives.
- Take notes as they work. Learn something new about several students each day. Connect with them. Ask for their input. Follow their lead.
- Set a specific goal for your self in becoming a more academically responsive teacher.

### Next Steps:

- Differentiate just one element in your classroom.
- Work with colleagues.

### Write Down YOUR Next Step:

### Thank you!

- Evaluations
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