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**“It’s not how smart you are, it’s  
how you’re smart!”**

(Diaz-Lefebvre)

(Multiple Intelligences & Teaching & Learning)

*facilitated by,*  
Jacquelyn Valerie Reza & Jessica Williams

## Gardener's Multiple Intelligences & Culture

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## Intelligence and Learning: Definitions and Assumptions

“I define intelligence as the inherent ability, which manifests itself in a variety of ways, to meet changing situations and challenges with fresh, appropriate responses. This definition is (I hope) free from class, racial, gender, and cultural biases and indicates the unlikeliness of being able to quantify intelligence. . . .It is the schools’ role to nurture human intelligence.”

“I define learning as the process of taking in new information from the environment, comparing and contrasting it to past experience and previously understood information, and evaluating, organizing, and storing the acquired information so that it is available for use in new situations.”

Julian Weissglass pg 7 & 8

### How We Assess Learning Today

Gardner’s method explores the way in which particular cultures value individuals and they way individuals create different products or serve their cultures in various capacities.

#### *How Our Definition of Intelligence has Changed*

Old View	New View
<ul style="list-style-type: none"> <li>• Intelligence was fixed</li> <li>• Intelligence was measured by a number</li> <li>• Intelligence was unitary</li> <li>• Intelligence was measured in isolation</li> <li>• Intelligence was used to sort students and predict their success</li> </ul>	<ul style="list-style-type: none"> <li>• Intelligence can be developed</li> <li>• Intelligence is not numerically quantifiable and is exhibited during a performance or problem-solving process</li> <li>• Intelligence can be exhibited in many ways (multiple intelligences)</li> <li>• Intelligence is measured in context/real-life situations</li> <li>• Intelligence is used to understand human capacities and the many and varied ways students can achieve</li> </ul>

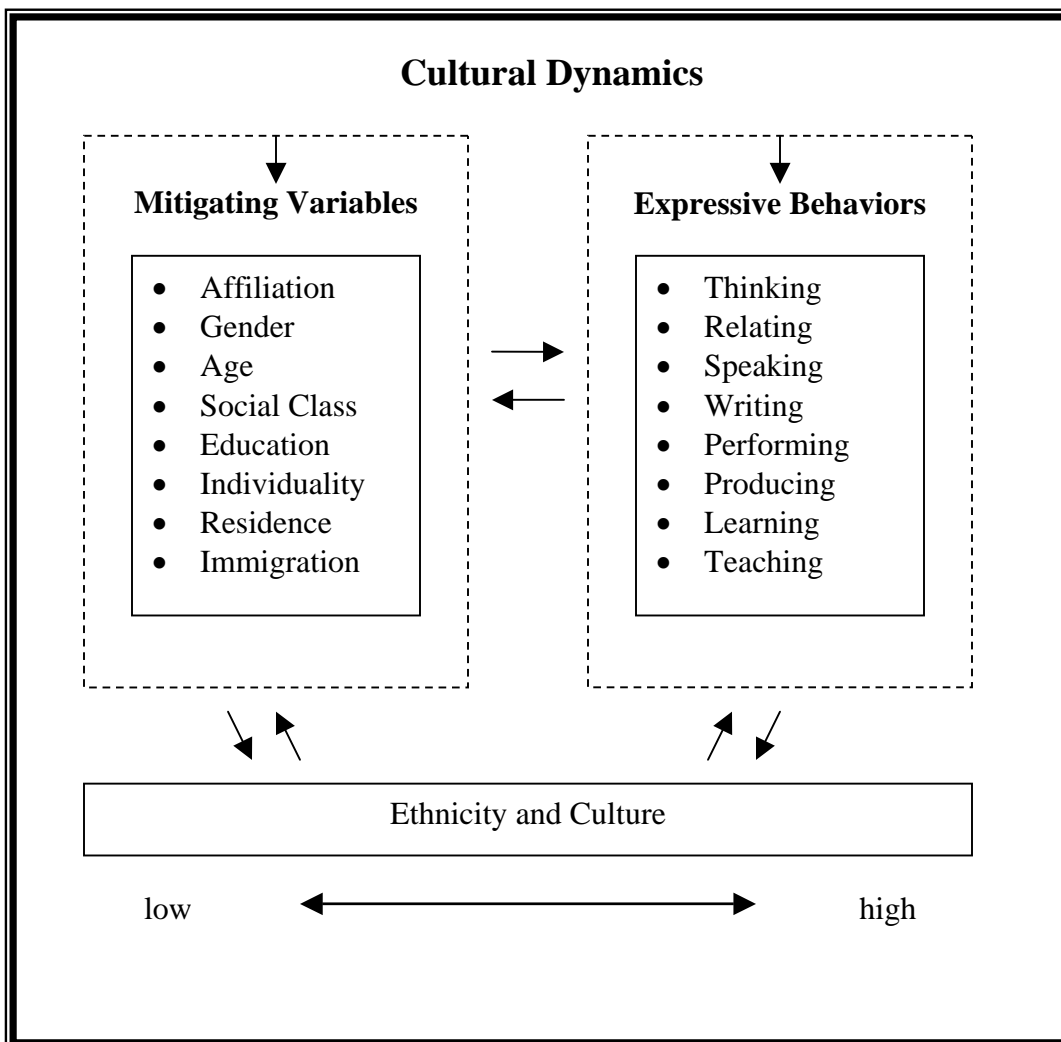
#### Why Should we use Multiple Intelligences?

<ul style="list-style-type: none"> <li>• Broader Curriculum reaches more learners</li> <li>• More positive model for viewing students “at promise”                             <ul style="list-style-type: none"> <li>• Supports authentic assessment measures.</li> <li>• Enhances self-esteem of all learners</li> <li>• Closes the gap between school and life.</li> </ul> </li> </ul>
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from Silver, Harvey, et. Al, So Each May Learning: Integrating Learning Styles and Multiple Intelligences, Association for Supervision and Curriculum Development, 2000, pg.7

## Busting Out Stereotypes

- **Culture. . .is multidimensional and continually changing.** . . . . As manifested in expressive behaviors, culture is influenced by a wide variety of factors, including time, setting, age, economics, and social circumstances.
- **This expressive variability does not nullify the existence of some core cultural features and focal values in different ethnic groups.**
- **Designating core or modal characteristics does not imply that they will be identically manifested by all group members.**
- **Nor will these characteristics be negated if some group members do not exhibit any of them as described.** How individual members of ethnic groups express their shared features varies widely for many different reasons. Some of the causes of this variance, and the relationships among them are depicted in the chart below: (pg. 10)



(Gay, Geneva, 2000, pg. 11)

## Pathways to Learning

Rate each statement: rarely = 1 sometimes = 2 often = 3 almost always = 4

Write the number of your response on the line next to the statement and total each set of 6 questions.

<p>1. _____ I enjoy physical activities.</p> <p>2. _____ I am uncomfortable sitting still.</p> <p>3. _____ I prefer to learn through doing rather than listening.</p> <p>4. _____ I tend to move my legs or hands when I'm sitting.</p> <p>5. _____ I enjoy working with my hands.</p> <p>6. _____ I like to pace when I'm thinking or studying.</p> <p>_____ <b>TOTAL for Bodily-Kinesthetic</b></p>	<p>25. _____ I listen to music.</p> <p>26. _____ I move my fingers or feet when I hear music.</p> <p>27. _____ I have good rhythm.</p> <p>28. _____ I like to sing along with music.</p> <p>29. _____ People have said I have musical talent.</p> <p>30. _____ I like to express my ideas through music.</p> <p>_____ <b>TOTAL for Musical</b></p>
<p>7. _____ I use maps easily.</p> <p>8. _____ I draw pictures or diagrams when explaining ideas.</p> <p>9. _____ I can assemble items easily from diagrams.</p> <p>10. _____ I enjoy drawing or taking photographs.</p> <p>11. _____ I do not like to read long paragraphs.</p> <p>12. _____ I prefer a drawn map over written directions.</p> <p>_____ <b>TOTAL for Visual-Spatial</b></p>	<p>31. _____ I like doing a project with other people.</p> <p>32. _____ People come to me to help them settle conflicts.</p> <p>33. _____ I like to spend time with friends.</p> <p>34. _____ I am good at understanding people.</p> <p>35. _____ I am good at making people feel comfortable.</p> <p>36. _____ I enjoy helping others.</p> <p>_____ <b>TOTAL for Interpersonal</b></p>
<p>13. _____ I enjoy telling stories.</p> <p>14. _____ I like to write.</p> <p>15. _____ I like to read.</p> <p>16. _____ I express myself clearly.</p> <p>17. _____ I am good at negotiating.</p> <p>18. _____ I like to discuss topics that interest me.</p> <p>_____ <b>TOTAL for Verbal-Linguistic</b></p>	<p>37. _____ I need quiet time to think.</p> <p>38. _____ When I need to make a decision, I prefer to think about it before I talk about it.</p> <p>39. _____ I am interested in self-improvement.</p> <p>40. _____ I understand my thoughts, feelings, and behavior.</p> <p>41. _____ I know what I want out of life.</p> <p>42. _____ I prefer to work on projects alone.</p> <p>_____ <b>TOTAL for Intrapersonal</b></p>
<p>19. _____ I like math.</p> <p>20. _____ I like science.</p> <p>21. _____ I problem-solve well.</p> <p>22. _____ I question why things happen or how things work.</p> <p>23. _____ I enjoy planning or designing something new.</p> <p>24. _____ I am able to fix things.</p> <p>_____ <b>TOTAL for Logical –Mathematical</b></p>	<p>43. _____ I enjoy being in nature whenever possible.</p> <p>44. _____ I would enjoy a career involving nature.</p> <p>45. _____ I enjoy studying plants, animals, forests, or oceans.</p> <p>46. _____ I prefer to be outside whenever possible.</p> <p>47. _____ When I was a child I liked bugs, ants, and leaves.</p> <p>48. _____ When I experience stress I want to be out in nature.</p> <p>_____ <b>TOTAL for Naturalist</b></p>

## What are Multiple Intelligences?

Howard Gardner's theory of multiple intelligences asserts that all people possess eight capacities for solving problems and creating projects (Gardner, 1983). According to Gardner, to understand means to be able to express information through a "performance of understanding." Which involves students giving presentations that demonstrate their knowledge of academic material. This gives them an opportunity to act as "mini-experts" on a subject and to teach their peers information they have learned themselves.

### PEOPLE WHO ARE PRIMARILY:

- **BODILY KINESTHETIC:** Enjoy expressing ideas and feelings and/or transforming things physically.
- **INTERPERSONAL:** Enjoy learning about people's moods, motivations, and feelings, and are sensitive to body language.
- **INTRAPERSONAL:** Enjoy introspection and are adept at evaluating their own strengths, weaknesses, and feelings.
- **LINGUISTIC:** Enjoy reading, writing and/or using words orally. They understand many dimensions of language and communication.
- **LOGICAL-MATHEMATICAL:** Enjoy working with numbers, graphs, logical patterns, computers, and abstract ideas.
- **MUSICAL:** Enjoy performing or listening to music and are sensitive to pitch, rhythms, melodies and harmonies.
- **NATURALIST:** Enjoy nature, collecting, categorizing, observing subtle changes, using microscopes and/or being outdoors.
- **SPATIAL:** Enjoy learning from pictures or videos or expressing themselves through art, collage or other visual mediums.

Key Points in Multiple Intelligences Theory
<ul style="list-style-type: none"><li>• Everyone has all 7 intelligences</li><li>• Most can develop all 7 to competence</li><li>• Intelligences usually work together</li><li>• There are many ways to be intelligent in each Category.</li></ul>

# Multiple Intelligences Skills & Learning Techniques

## Skills

### Verbal/Linguistic

- ❖ Analyzing own use of language
- ❖ Remembering terms easily
- ❖ Explaining, teaching, learning, & using humor
- ❖ Understanding syntax and meaning of words
- ❖ Convincing someone to do something

### Musical/Rhythmic

- ❖ Sensing tonal qualities
- ❖ Creating or enjoying melodies & rhythms
- ❖ Being sensitive to sounds and rhythms
- ❖ Using “schemas” to hear music
- ❖ Understanding the structure of music

### Logical/Mathematical

- ❖ Recognizing abstract patterns
- ❖ Reasoning inductively & deductively
- ❖ Discerning relationships & connections
- ❖ Performing complex calculations
- ❖ Reasoning scientifically

### Visual/Spatial

- ❖ Perceiving & formatting objects accurately
- ❖ Recognizing relationships between objects
- ❖ Representing something graphically
- ❖ Manipulating images
- ❖ Finding one’s way in space

### Bodily/Kinesthetic

- ❖ Connecting mind & body
- ❖ Controlling movement
- ❖ Improving body functions
- ❖ Expanding body awareness to all senses
- ❖ Coordinating body movement

### Intrapersonal

- ❖ Evaluating own thinking
- ❖ Being aware of & expressing feelings
- ❖ Understanding self in relationship to others
- ❖ Thinking & reasoning on higher levels

### Interpersonal

- ❖ Seeing things from others’ perspectives
- ❖ Cooperating within a group
- ❖ Communicating verbally & non-verbally
- ❖ Creating & maintaining relationships

### Naturalist

- ❖ Deep understanding of nature
- ❖ Appreciation of the delicate balance in nature
- ❖ Feeling most comfortable when in nature

## Learning Techniques

### Verbal Linguistic

- ❖ Read text & highlight no more than 10%
- ❖ Rewrite notes
- ❖ Outline chapters
- ❖ Teach someone else
- ❖ Recite information or write scripts/debates

### Musical/Rhythmic

- ❖ Create rhythms out of words
- ❖ Beat out rhythms with and or stick
- ❖ Play instrumental music / write raps
- ❖ Put new material to songs you already know
- ❖ Take music breaks

### Logical/Mathematical

- ❖ Organized material logically
- ❖ Explain it sequentially to someone
- ❖ Develop systems and find patterns
- ❖ Write outlines & develop charts & graphs
- ❖ Analyze information

### Visual/Spatial

- ❖ Develop graphic organizers for new material
- ❖ Draw mind maps
- ❖ Develop charts, & graphs
- ❖ Use color in notes to organize
- ❖ Visualize material (method of loci)

### Bodily/Kinesthetic

- ❖ Move or tap while you learn: pace & recite
- ❖ Use “method of loci” or manipulatives
- ❖ Move fingers under words while reading
- ❖ Create “living sculptures”
- ❖ Act out scripts of material, design games

### Intrapersonal

- ❖ Reflect on personal meaning of information
- ❖ Visualize information / keep a journal
- ❖ Study in quiet setting
- ❖ Imagine experiments

### Interpersonal

- ❖ Study in a group
- ❖ Discuss information
- ❖ Use flash cards with others
- ❖ Teach someone else

### Naturalist

- ❖ Form study groups of people with like interests
- ❖ Choose courses related to nature, when possible
- ❖ Connect ideas to what you know about nature

## Assessing Learning Through Diverse Intelligences

Most students are required to take **multiple choice tests**. This method of assessment requires students to be seated at a desk, complete the assignment in a fixed period of time and speak with no one during the exam. **This type of activity does not allow the diverse intelligences of our students to shine and become apparent.**

If, for example, the objective is for students to demonstrate an understanding of the character of Huck Finn in the Mark Twain novel, a multiple choice test might require students to respond to the following question:

Choose the word that best describes Huck Finn in the novel:

- a) sensitive
- b) jealous
- c) erudite
- d) fidgety

Such a **question demands that students know the meanings of each of the four words and that every student's interpretation of Huck Finn coincide with that of the test maker**. For instance, although "fidgety" might be the answer the testers are looking for, "sensitive" might actually be closer to the truth, because it touches on Huck's openness to a wide range of social issues. But, a standardized test provides no opportunity to explore or discuss this interpretation. Students who are not particularly word-sensitive might know a great deal about Huck Finn, yet not be able to show their knowledge on this test item.

### Multiple intelligences suggest a variety of ways in which students could demonstrate their understanding:

**Verbal-Linguistic Demonstration:** "Describe Huck Finn in your own words, either orally or in an open-ended written format."

**Logical-Mathematical Demonstration:** "If Huck Finn were a scientific principle, law or theorem, which one would he be?"

**Visual-Spatial Demonstration:** "Draw a quick sketch showing something you think Huck Finn would enjoy doing that's not indicated in the novel."

**Bodily-Kinesthetic Demonstration:** "Pantomime how you think Huck Finn would act in the current environment of our classroom today."

**Musical Demonstration:** "If Huck Finn were a musical phrase/beat/harmony/song, what would he sound like?"

**Interpersonal Demonstration:** "Who does Huck Finn remind you of in your own life (friends, family, other students, TV characters)?"

**Intrapersonal Demonstration:** "Describe in a few words your personal feelings toward Huck Finn."

**Naturalist Demonstration:** "Develop a categorical schema of the people Huck Finn meets in his journey."

