Multiple Intelligences and Instructional Technology

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Salem Public Schools

ASCD 2005
The Current State of Affairs

- Much technology has been sold to schools
- Many promises were made
- There is little evidence that integration of technology into instruction has made a measurable difference in achievement
The Current State of Affairs

- Technology needs to pay off for schools, or schools will no longer be able to justify investing in new technologies.
- The shift must occur in how we implement technology for instruction.
Dear Walter,

I am very glad I found your web page. I am fifty-six years old and retired. Could you help me with three observations I have?

• One, I think ALL the time but noise like T.V. and radio distract me.
• Two, I can look at anything and see it in three dimensions.
• And three, I always am looking on things that relate in forms and genealogies.

I want to believe I have some smarts. I am a dreamer, a visionary, a futurist, yet cannot use those talents to their fullest ability. Do you think I am different than the "normal" crowd and why. You answer is very important to me. Even if your answer is negative it cannot hurt my feelings.....

-Paul
Students like Paul never fit the “one-size-fits-all” ideal of the last century.

Their orientation to learning required tools that were not available.
M.I. would have had no relevance in the Agricultural Age

- A nation of farmers
- Most people were not educated and never strayed far from their place of birth
- Learning a skill was the standard
M.I. would have questioned the assumptions of the Industrial Age

- The assembly line became the metaphor for this era
- One size fits all
- Education was the means to provide a standardized citizenry
M.I. is the perfect learning paradigm for the Information Age

- Our eyes have been opened by brain research
- Technology is transforming how society functions
- There is no longer one “right” way to succeed
Survey Says...
A new age demands a new paradigm!
This New Paradigm.....

• Has to address students as they function in today’s society, even while preparing them for even more changes in their future

• A new definition of what it means to learn, achieve and be productive
This New Paradigm.....

“The ability to solve problems and create products that are of value in one’s own culture.”

-Howard Gardner
I think.....

therefore.....

I am!
I think.....

therefore.....

MI!
So why doesn’t one definition of intelligence or one technology address all the needs of the Information Age?
Because if the only tool you have is a hammer.....

.....everything around you looks like a nail.
Tools vs Resources
But.....

.....is technology just another tool for instruction?
Other Popular Tools

- Textbook
- Chalkboard
- Overhead projector
- Tape recorder/player
- TV/VCR
How is Digital Technology different?

• Addresses all facets of human cognition
• Accommodates multiple forms of communication
• Breaks down boundaries of time and space
• Can transform the classroom
In our hands, technology is not just another classroom tool; it connects all the intelligences and becomes a path to authentic learning.
5 Steps for Integrating MI and Technology in the Classroom
1. Map the process!

<table>
<thead>
<tr>
<th>Pre-Software</th>
<th>Experience</th>
<th>Post-Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read chapter 5 of <em>Sign of the Beaver</em></td>
<td>Have students work in cooperative groups to create Inspiration maps of predictions for the remainder of the book</td>
<td>Refer to maps in reading the rest of <em>Sign of the Beaver</em></td>
</tr>
</tbody>
</table>
True or False?

You should try and teach to all the intelligences in a lesson?
2. Use the Domains!
3. Follow the process!

Learner ➔ Objective ➔ Intelligences ➔ Technology
MI Survey Scoring Report

To graph your results, simply highlight the range B6:C22 and click on the Chart Wizard button.

<table>
<thead>
<tr>
<th>Category</th>
<th>% out of 30 items</th>
<th>Proportion out of 100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytic</td>
<td>37%</td>
<td>23%</td>
</tr>
<tr>
<td>Interactive</td>
<td>67%</td>
<td>43%</td>
</tr>
<tr>
<td>Introspective</td>
<td>53%</td>
<td>34%</td>
</tr>
</tbody>
</table>

Strongest Domain: 67%
MI Awareness
True or False?

You can tell what intelligence(s) a lesson stimulates based on what students are asked to do.
### Objective
Create maps on graph paper with a legend of symbols for doorways, windows, counters, closets and furniture.

### Procedure
Brainstorm map elements and then have students work in pairs to create original classroom maps.

### Product
Classroom maps which are evaluated for neatness and accuracy.

<table>
<thead>
<tr>
<th>Intelligences</th>
<th>Logical</th>
</tr>
</thead>
<tbody>
<tr>
<td>visual and naturalist</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bloom</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>synthesis</td>
<td>synthesis</td>
<td>comprehension</td>
</tr>
</tbody>
</table>
# Existing Instruction

<table>
<thead>
<tr>
<th>POMAT</th>
<th>V</th>
<th>M</th>
<th>V</th>
<th>K</th>
<th>R</th>
<th>IE</th>
<th>I</th>
<th>N</th>
<th>E</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Procedure</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td>Organizing, building, measuring, problem solving, working in groups</td>
</tr>
<tr>
<td><strong>Objective</strong></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Problem solving and building</td>
</tr>
<tr>
<td><strong>Materials</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hand tools, rulers, balsa wood, nails, screws, safety goggles, information books, paper, pencil</td>
</tr>
</tbody>
</table>
# Developing Units

<table>
<thead>
<tr>
<th>Goals(s):</th>
<th>Intelligence:</th>
<th>Technology:</th>
<th>Standard:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily Tasks:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Intelligence:
### 5. Assess Authentically!

#### Degrees

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Unsatisfactory 1</th>
<th>Satisfactory 2</th>
<th>Excellent 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project includes all required elements</td>
<td>2 or more elements missing</td>
<td>1 element missing</td>
<td>All elements included</td>
<td>2</td>
</tr>
<tr>
<td>Project is a working application of taught skills and/or concepts</td>
<td>Is not a working model or does not address taught skills/concepts</td>
<td>Is a working model and addresses some taught skills/concepts</td>
<td>Is a working model and addresses taught skills/concepts</td>
<td>2</td>
</tr>
<tr>
<td>Takes concepts and applies them at higher levels of thinking</td>
<td>Only operates at Knowledge and Comprehension</td>
<td>Operates at least an Application and Analysis</td>
<td>Operates at Synthesis and Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>Use of technology is critical in demonstrating learning</td>
<td>Technology is disjoint from project content</td>
<td>Technology is incidental to project content</td>
<td>Technology is a vital component in demonstrating understanding</td>
<td>3</td>
</tr>
</tbody>
</table>
Keep the dialogue going!

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