SAMR and Change

Ruben R. Puente, Ph.D.
Prelude: Metaphors
AS WE MAY THINK

A research center for augmenting human intellect

TO POLY :ANGLE :STEP
1. FORWARD :STEP
2. RIGHT :ANGLE
3. POLY :ANGLE :STEP
END

ON MAKING A THEOREM FOR A CHILD

A Personal Computer for Children of All Ages
The SAMR Model
**Substitution**
Tech acts as a direct tool substitute, with no functional change

**Augmentation**
Tech acts as a direct tool substitute, with functional improvement

**Modification**
Tech allows for significant task redesign

**Redefinition**
Tech allows for the creation of new tasks, previously inconceivable

Podcasts on iTunes U: http://tinyurl.com/aswemayteach
Literacy and Vocabulary
Marzano:
Six Steps to Effective Vocabulary Instruction

• Step 1: The Teacher Provides a Description, Explanation, or Example of the New Term

• Step 2: Students Restate the Explanation of the New Term in Their Own Words

• Step 3: Students Create a Nonlinguistic Representation of the Term

• Step 4: Students Periodically Do Activities That Help Them Add to Their Knowledge of Vocabulary Terms

• Step 5: Periodically Students Are Asked to Discuss the Terms with One Another

• Step 6: Periodically Students Are Involved in Games That Allow Them to Play with the Terms

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Opening Up the Math Candy Store
Fig. 2. Estimates by 160 gynecologists of the probability that a woman has breast cancer given a positive mammogram, before and after receiving training in how to translate conditional probabilities into natural frequencies.

Fig. 4. Lead-time bias. Even if the time of death is not changed by screening—and thus no life is saved or prolonged—advancing the time of diagnosis in this way can result in increased 5-year survival rates, causing such statistics to be misleading.
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SAMR and Assessment
<table>
<thead>
<tr>
<th>Teacher</th>
<th>Where the learner is going</th>
<th>Where the learner is right now</th>
<th>How to get there</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 Clarifying learning intentions and criteria for success</td>
<td>2 Engineering effective classroom discussions and other learning tasks that elicit evidence of student understanding</td>
<td>3 Providing feedback that moves learners forward</td>
</tr>
<tr>
<td>Peer</td>
<td>Understanding and sharing learning intentions and criteria for success</td>
<td>4 Activating students as instructional resources for one another</td>
<td></td>
</tr>
<tr>
<td>Learner</td>
<td>Understanding learning intentions and criteria for success</td>
<td>5 Activating students as the owners of their own learning</td>
<td></td>
</tr>
</tbody>
</table>

### Substitution: Sociology Online Discussion Rubric (Evans, 2010)

<table>
<thead>
<tr>
<th>Content</th>
<th>4 Points</th>
<th>2 Point</th>
<th>0 Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>You show that you can apply or extend the idea you are discussing.</td>
<td>Some of your messages analyze, interpret, or apply the material well, but some do not. This might either be because the analysis was not done well, or because it was not attempted (that is, was simply opinion or hearsay).</td>
<td>Your messages generally show little evidence of analysis, consisting instead of opinion, feelings and impressions.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Accuracy</th>
<th>2 Point</th>
<th>0 Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>You accurately represent the concepts discussed.</td>
<td>You generally represent the concepts accurately, but you do not do so in all cases.</td>
<td>You have significant issues with regard to accurately representing the concepts.</td>
</tr>
</tbody>
</table>

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<tr>
<th>Use of material</th>
<th>2 Points</th>
<th>1 Point</th>
<th>0 Points</th>
</tr>
</thead>
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<tr>
<td>You use and cite sources, including the text and articles and/or bring in an outside source, all of which clearly add significantly to the discussion.</td>
<td>You clearly refer back to a definition, example or concept from the reading or lecture.</td>
<td>You do not bring in or refer to any material from the text, outside sources, or lectures.</td>
<td></td>
</tr>
</tbody>
</table>

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<tr>
<th>Sociological Analysis</th>
<th>2 Points</th>
<th>1 Point</th>
<th>0 Points</th>
</tr>
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<tbody>
<tr>
<td>You focus on the sociological implications of the issue at hand (e.g., social meaning, the outcomes for society or groups, the social function served).</td>
<td>You touch on some sociological issues, but focus also on individual ones.</td>
<td>You focus primarily on individual issues.</td>
<td></td>
</tr>
</tbody>
</table>

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<tr>
<th>Responses</th>
<th>2 Points</th>
<th>1 Point</th>
<th>0 Points</th>
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<td>You extend or politely question the post of another person in a way that advances the discussion.</td>
<td>You add new examples that continue the idea created by another person.</td>
<td>Your responses are primarily agreement.</td>
<td></td>
</tr>
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<tr>
<th>Participation</th>
<th>2 Points</th>
<th>1 Point</th>
<th>0 Points</th>
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<tr>
<td>You write at least three or more substantive comments (using the above criteria) based on the discussion assigned.</td>
<td></td>
<td>You write fewer than three substantive comments.</td>
<td></td>
</tr>
</tbody>
</table>

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<tr>
<th>Time of Posting</th>
<th>2 Points</th>
<th>1 Point</th>
<th>0 Points</th>
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<td>Your posts are spread widely during the discussion.</td>
<td>You post at two significantly different times.</td>
<td>Your posts are clustered within a short period of time.</td>
<td></td>
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<tr>
<th>Posts Read</th>
<th>2 Points</th>
<th>1 Point</th>
<th>0 Points</th>
</tr>
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<td>You have read at least 75% of the posts in the discussion.</td>
<td>You read at least 50% of the posts in the discussion.</td>
<td>You read less than 50% of the posts in the discussion.</td>
<td></td>
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<th>Clarity</th>
<th>2 Points</th>
<th>1 Point</th>
<th>0 Points</th>
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<td>You use standard grammar and spelling and your meaning is clear.</td>
<td>Your posts have some grammar or spelling mistakes or your meaning is not entirely clear.</td>
<td>Your posts have significant grammar or spelling mistakes or your meaning is not clear.</td>
<td></td>
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Augmentation: A Branching Rubric for Writing (Hedrick, 2010)

Three Features  Dichotomous Rubric
(Focus, Elaboration/Details, Organization)

Level 4: everything in place
Level 3: most things in place
some lapses
Level 2: a few things in place
but not everything
Level 1: very few things in place

Yes, the topic is clear.

Are there supporting
details written in a
sequence that makes
sense?

Yes, some interesting
sentences that could
be developed into
paper with clear topic
No go to 1

Yes, There seems to
be no topics or
thoughts for
development

Yes. Some
details support
topic, but it is
confusing.
Reader cannot
figure out order
of details.
No go to 2

No, topic is
vague or
unclear.

No focus is
established

Are there some
interesting thoughts,
even though topic is
not clear?

Yes, the details
support the topic
and are well
developed. The
order of details
makes sense.
No, go to 3

Yes, some interesting
sentences that could
be developed into
paper with clear topic
No go to 1

Developed by Vickie Hedrick

Hedrick, V. Continuous Improvement in the Language Arts Classroom. Quality Press (2010)
Modification: ConcepTests (Mazur, 1997)

ConcepTest (~1-2 minutes)

Brief Lecture or Group Discussion (~10 minutes)

ConcepTest (~1-2 minutes)

Fewer than 30% of students answer correctly
- The instructor revisits and explains the concept

Between 30-75% of students answer correctly
- Peer Discussion: students try to convince each other (~2-3 minutes)

More than 75% of students answer correctly
- The instructor explains remaining misconceptions

ConcepTest (~1-2 minutes)

Redefinition: *Designing for Wiki Learning* (Beasley-Murray, 2008)

Wikipedia:WikiProject Murder Madness and Mayhem
SAMR, the iPad, and AAC
Three Key Characteristics of Mobile Devices

- Ubiquity
- Intimacy
- Embeddedness
Two Key Metaphors

• The Lively Sketchbook

• The Curiosity Amplifier
A SAMR Ladder for AAC

- Substitution
- Modification
- Augmentation
- Redefinition
Epilogue: The TPCK Model
Additional Resources
Resources – Part 1

Metaphors:

SAMR and TPCK:
Resources – Part 2

Defining Mobile Devices/The Lively Sketchbook


The Curiosity Amplifier

Photo Credits

• *iPad in Subway*: Takashi M

• *YouTube + iPad + Hanalei = Happiness*: Wayan Vota

• *Parcours-jeu multimedia : Les métiers du musée*: Jean-Pierre Dalbéra
Hippasus

Blog: http://hippasus.com/rrpweblog/
Email: rubenrp@hippasus.com
Twitter: @rubenrp

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